

**KNOWLEDGE MANAGEMENT APPLICATION IN TOWNSHIP SCHOOLS: A  
CASE STUDY OF EMALAHLENI CIRCUIT 1, 2 AND 3**

By

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## DECLARATION

I, Bongani Innocent Nkambule, student no. 63552809 solemnly declare that the thesis, *Knowledge Management Application in Township Schools: A Case Study of Emalahleni Circuit 1, 2 and 3*, submitted in fulfilment of the requirements for the Doctor of Philosophy at the University of South Africa, is my own original work and has not previously been submitted to any other institution of higher learning. Due credit has been given to all the cited or quoted authors throughout this body of work- in a form of a comprehensive list of references.



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Signature

02-11-2020

.....

Date

## DEDICATION

My heartfelt gratitude goes to my late mother, Ellah Kholiwe Radebe, who nurtured me with love and instilled in me the hunger for education. Despite having two sons at an early age, she did not give up on her studies. I thank her for choosing to go back to school as this made it possible for me to realise my educational dreams and life aspirations. I remember how hard at times it was for her as a single parent to put me through university. Against all odds she endured the ordeal. These are the fruits of her labour of love, and I love her so much for that.

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## ABSTRACT

The looming transition from the industrial era to the technologically driven knowledge era has implications for the practice of Knowledge Management (KM) for all organisations across various employment sectors. My awareness of the paucity of empirical accounts documenting how schools, particularly those situated in townships, apply KM exacerbated the need for a social inquiry to determine the extent to which the selected schools leverage KM in their operations. This study was conducted in three education circuits of Emalahleni, Mpumalanga Province, South Africa. The qualitative study to investigate KM application in township schools largely drew on the theoretical lenses of Wenger's (1991) Communities of Practice (CoP), and Rodrigues and Pai's (2005) Eight Dimensions of KM Enablers and Activators, supplemented by home-grown epistemologies of Ubuntu and Batho Pele Principles. Designed as a case study, the study employed semi-structured interviews to gather data. Responses were solicited from twenty participants comprising of teachers, Heads of Department (HODs), administrative clerks and principals in their varying capacities of knowledge work. Document analysis was done for purposes of triangulation. The study found that, despite a myriad of constraints, the selected schools apply KM sufficiently but not efficiently to meet their constitutional mandate of providing an educational service to learners. In two of the schools where principals practised laissez-faire and transactional leadership styles respectively, organisational cultures were characterised by one-way communication, limited knowledge sharing platforms, dissonance between subordinate staff and School Management Teams (SMTs). In the third school whose principal practised a democratic leadership style, the organisational climate was conducive for knowledge sharing and knowledge creation transactions among subordinate staff and the SMT. However, teachers of this school expressed the need to re-energise the formation of CoPs.

In the midst of the cited constraints, personnel's inclination to do their jobs and their adherence to the gazetted performance standards were found to be major propellants of KM application. The study also indicated that principals' leadership determines the efficiency of KM application. The main recommendation thereof was that principals must begin to pay equal attention to the knowledge shared by both the subordinate staff and the SMT.

**Key words:** Knowledge Management, explicit knowledge, tacit knowledge, knowledge creation, knowledge sharing, knowledge workers, township schools.



## ISIFENYEZO

Ushintsho oluzinze kumontho wezezimboni kufikela kumnotho ozinse kwezobuqepheshe lunethmelela engagwemeki kwindlele izinkampani zikahulumeni kanye nezangasese zisebenzisa ngakhona izinhlelo zokuthulwa, zokwakhiwa kanye nokutholakala kolwazi mapheqelesi i Knowledge Management (KM). Ngemva kokuqaphela kwami ukuthi kunokwentula kolwazi olujulile ologxile kusayensi, mayelana nedlela izikole ikakhulukazi ezaseMalokishini zisebenzisa ngakhona i KM kuzinhlelo zazo zangemihla nge mihla; ngakho ke ngiye ngabona kungumqondo ophusile ukuba ngi phenye ngaloludaba. Ngiye ngagxila ukwazi kabanzi ngezikole ezintathu engizikhethile ngaphansi komnyango wezumfundo ehhovisini lasesigodini saseMalahleni esifindazweni saseMpumalanga eNingizimu Afrika. Loluphenyo oluzinze kwi *qualitative method* lisebenzise umbono ka Wenger (1991) owaziwa ngokuthi yi *Communities of Practice (CoPs)*, kanye nombono ka Rodrigues and Pai (2005) obizwa nge *Eight Dimensions of KM Enablers and Activators*. Kanti futhi, Ubuntu ne Batho Pele, zasetshenziswa ukusekela lemibono emibili ephothulwiwe. Abasebenzi ababandakanyaka kulolu phenyo bangama shumi ambili emikhakheni ehluhahlukene ezikolweni njengo thisela nabaphathi babo, omabhalane kanye nabo thishanhloko. Ukuthola ubufakazi obungangabazeki ngiye nga qathanisa ulwazi oluphume kwimibono yabasebenzi nalena etholakale emaphepheni amumethe ulwazi mayelana nezinhlelo ze KM kuzo zontathu izikole. Ngaphandle kwezinsalelo ezimbadlwana, akungabazekanga ukuba zontathu izikole zinazo izinhlelo ze KM. Futhi kuye kwabonakala ukuthi lezikole zihambisana nemiqathango yomthetho sisekelo wokuhlinzeka ngemfundo. Esikolweni sokuqala uthishanhloko wakhona utholakale esebenzisa ubuholi be-*Leissez-faire*. Kanti esikolweni sesibili uthishanhloko wakhona utholakale esebenzisa ubuholi be *transactional*. Kuzo zombili lezikole kusobala ukuthi kunezinsalela ezinemithelela engamihle kahle ekwabiweni kolwazi kanye nase kusungulweni kwama qembu wokwakha ulwazi phakathi kwabasebenzi abangenazikhundla nalobo abanezikhundla. Abasebenzi abanganazikhundla ikakhulukazi othishela nabomabhalane baye bazwakalise isikhalo sabo sokungabandakanywa uma izinqumo zezinhlelo ze KM zithathwa. Kanti esikoweni sesithathu lapho uthishanhloko wakhona ebesebenzisa ubuholi bentando yeningi (noma i *democratic leadership*), kuye kwabonakala ngaphandle kwamathandabuzwa ukuthi abasebenzi abangenazikhundla kanye nabanazo, basebezisana ngokukhulu ukuhloniphana. Yigakho ke isimo salesi sikole sikulungele ukwakhiwa kanye nokwabelwana kolwazi phakathi kwabobonke abasebenzi. Yize noma izinhlelo eziningi ze KM zihamba ngomumu kulesisikole, kodwa othishela bakhona

bayebanxusa ukuba kubuye kukhushulwe izinga lokusungula amaqembu wokwabelana nokwakhiwa kolwazi ngaphakathi kwabasebenzi. Kusobala ukuthi ikhono kanye nokuzimise kwabasebezi emisebenzini yabo linemithelela ethize kwizinhlelo ze KM. Nobuholi bothishanhloko bunemithelela ethize ekuthuthukisweni kwezinhlelo ze KM. Othishanhloko bayacetshiswa ukuthi bamukele ngesasasa elikhulu imibono kwinhangothi zombili zabasebezi, bayeke ukubuka ulwazi oluphuma ohlangothini lwalabo abanezikhundla kuphela.

**Amagama abalulekile:** ukwabelana kolwazi, ukwakhiwa kolwazi, uboholi, izikole zase Malokishini, othishela, omabhalane, othisha nhloko.

## OPSOMMING

Die dreigende oorgang vanaf die industriële era na die tegnologie-gedrewe kennis era het implikasies vir die praktyk van Kennisbestuur vir alle organisasies oor verskeie indiensnemingssektore. My bewustheid van die stilte van empiriese rekeninge wat dokumenteer hoe skole, veral dié wat in townships geleë is, pas toe dat Kennis bestuur die behoefte aan 'n maatskaplike ondersoek vererger om die mate waarin die geselekteerde skole-hefboom Kennis bestuur in hul operasie gebruik, te bepaal. Hierdie studie is gedoen in drie bane van Emalaheni, Mpumalanga Provinsie, Suid-Afrika. Die kwalitatiewe studie om kennisbestuur in lokasie skole te ondersoek, het grootliks getrek op die teoretiese lense van Wenger se (1991) Gemeenskappe van Praktyk (CoP), en Rodrigues en Pai's (2005) Agt Dimensies van Kennisbestuur-instaatstellers en Aanwysers, aangevul deur tuisgroeiepistemologieë van Ubuntu en Batho Pele beginsels. Die studie het semi-gestruktureerde onderhoude gebruik om data in te samel. Reaksies is van twintig deelnemers in hulle wisselende vermoëns van kenniswerk versoek. Dokumentanalise is vir doeleindes van driehoeking gedoen. Ten spyte van 'n magdom beperkings het die studie bevind dat die gekose skool Kennisbestuur voldoende toepas, maar nie doeltreffend om hul grondwetlike mandaat te ontmoet om 'n opvoedkundige diens aan leerders te lewer nie. In twee van die skole waar skoolhoofde laissez-billike en transaksionele leierskapstyle onderskeidelik beoefen het, is organisatoriese kulture gekenmerk deur eenrigtingkommunikasie, beperkte kennisverdelingsplatforms, besluitneming tussen ondergeskikte personeel en skoolbestuurspanne (SMT's). In die derde skool wie se skoolhoof 'n demokratiese leierskapstyl beoefen het, was organisatoriese klimaat bevorderlik vir kennisverdeling en kenniskeppingstransaksies onder ondergeskikte personeel en die SMT. Te midde van die aangehaalde beperkings is personeel se neiging om hul nakoming van die prestasiestandaarde

te doen, bevind dat groot skroewe van Kennisbestuur aansoek is. Die studie het ook aangedui dat skoolhoofde se leierskap die doeltreffendheid van Kennisbestuursaansoek bepaal. Die aanbeveling daarvan was dat skoolhoofde moet begin om die kennis wat kom uit lae arbeidsmag op dieselfde vlak te waardeer dat hulle die kennis wat van KMO's kom, waardeer.

## LIST OF ABBREVIATIONS AND ACRONYMS

AC	Administrative Clerk
ADB	Asian Development Bank
AL	Autocratic Leadership
ATP	Annual Teaching Plan
AIVS	Africa's Indigenous Values Systems
APO	Asian Productivity Organisation
BPP	Batho Pele Principles
CAPS	Curriculum Assessment Policy Statement
CoP	Communities of Practice
DBE	Department of Basic Education
DIKW	Data Information Knowledge Wisdom
DL	Democratic Leadership
DPSA	Department of Public Services and Administration
EMIS	Educational Management Information Systems
HOD	Head of Department
HRM	Human Resources Management
IL	Instructional Leadership
ICT	Information and Communication Technology
IKS	Indigenous Knowledge Systems
IQMS	Integrated Quality Management System
IT	Information Technology
KM	Knowledge Management

LFL	Laissez Faire Leadership
NEEDU	National Education Evaluation and Development Unit
NEIFP	National Education Information Policy
OC	Organisational Culture
OECD	Organisation for Economic Co-operation and Development
OL	Organisational Learning
PAM	Personnel Administrative Measures
PGWC	Provincial Government of Western Cape
SA-SAMS	South African School Administration Management System
SDA	Skills Development Act
SECI	Socialisation, Externalisation, Combination and Internalisation
SGB	School Governing Body
SL	Situational Leadership
SMT	School Management Team
TFL	Transformational Leadership
TRL	Transactional Leadership
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNPAN	United Nations Public Administration Network
4IR	Fourth Industrial Revolution

## 1.1 INTRODUCTION AND BACKGROUND

Twenty-first century technologically-oriented innovations permeate all aspects of our lives (Mdlongwa, 2012:1). One such innovation is Knowledge Management (KM). Within this context, KM can be viewed as a process of utilising information technology alongside primitive methods of collecting and retrieving data to consolidate and diversify organisational knowledge. KM has widely been accepted as the epitome of progressive innovation and development which is useful across various occupational fields or disciplines. The wide appeal of KM is demonstrated by Girard and Girard (2015:3-7) who mention that KM is an operational concept within various occupational disciplines, most notably in: “accounting, archival sciences, defence, development, education, energy, engineering, finance, public science, health, human resources management, library and information management”. The never-ending demands of the fourth industrial revolution (4IR) have seen both the first and the developing nations (i.e., Malaysia, Thailand, Canada, India, Iran and Botswana, to mention but a few) beginning to embrace the reality that a knowledge-based economy – as opposed to a resource based economy – has better future prospects.

The vociferousness of the erosion of globalisation on both the developing and developed nations’ racial, cultural, religious, gender and geographical orientations (Van Der Merwe, 2005:37) exacerbated the “globalisation of knowledge” and the popularisation of its significance in today’s dealings (Burbules and Torres, 2000; Slabbert, 2003; Swanepoel, 2003; Van Der Merwe, 2005; Moloji, Gravett and Petersen, 2009). Resultantly, world’s emerging and developed economies increasingly gravitate towards “knowledge” based transactions (Asian Development Bank, 2007:1). There is a perception that globalisation foregrounds the beckoning of the knowledge era across all societies including those situated in the Global South (which also houses Sub-Saharan African nations). Martell (2017:148) defines globalisation as a process of assimilating developmentally needy countries into a “world economic competition” and open trade. While due consideration is given to the positive impact of globalisation on today’s life (cf. Aizeman, and Jinjarak, 2009; Mihajlovic and Krzelj-Colovic, 2014; Shiaub, Ekeria and Ogedengbe, 2015; Solarin, 2018; Koengkan, Poveda and Fuinhas, 2020; Meyer, 2020), pockets of scholars argue that globalisation has worsened the living conditions among societies in the Global South. For example, Stiglitz (2002) concluded that globalisation disorients some aspects of our lives. He argues that globalisation under-estimates the bearing that economic policies have on the productivity of the government and its role thereof, thus widening the gap between the rich and the poor (ibid). A study conducted by Heinz (2020), which investigated the impact of globalisation on the fashion industry in

developing countries, whose findings detailed how despite reducing poverty among developing nations by providing employment to their citizens, globalisation failed to direct the studied countries to real economic stability, it thus exposed people at the production level of fashion chains to unbearable employment conditions (ibid). Martell's (2017) study explicated that globalisation empowers multi-national companies belonging to wealthy elites to handsomely benefit from poorer nations whilst subjecting them to unreasonable compensatory settlements and unfriendly labour practices. In Ethiopia, Birdsall's (2003) study established that although Green Revolution increased the sustainability of food production, it aggravated social tensions. Klapinsky (2013) calls for the drafting of legislations whose nobility favours the developing nations' widespread economic development and poverty alleviation. In a broader sense, Moloji et al. (2009:278) state that no country whether rich, stable or poor is immune from the obstinancy of globalisation. Resultantly, the prevalence of the socio-economical impact of globalisation on every nations' life dynamics (Moloji et al., 2009:278) prompted governments the world over to embrace the incorporation of KM in their policies (Cong and Pandya, 2003:25). Luterbach and Brown (2011); Hosseini, Bathaei and Mohammadzadeh (2014) maintain that the effectiveness of KM has been heightened by the existence of Information Technology (IT) because it alleviates constraints associated with accessing, retrieving and storing information. In the same breath, Chiu and Chen (2016:2) extrapolate that the growing appeal of transactions induced by information technology are fast becoming a worldwide phenomenon. These aforementioned narratives rationalise the surging interest of public sector organisations in KM.

Increased public sector organisations' adoption of KM is said to be already yielding resounding outcomes. For example, Best, Moffet and McAdam (2016:1004) observed that "public sector" organisations' knowledge sharing efforts have since become more diverse and sophisticated. Gxwati (2011) noted that knowledge capturing transactions in the administration of public schooling system have greatly improved ever since. Having the public sector rapidly coming on board is a far cry from the past few decades when KM was exclusively practised by the private sector (Mphahlele, 2010:8). However, despite these noble developments with regard to public sector organisations' acceptance of KM, literature (i.e., Cong and Pandya, 2003; Riege, 2005; Riege and Lindsay, 2006; Kimani, 2013; Massaro, Dumay and Garlatti, 2015; Chawuke, 2018) illuminates wide ranging inefficiencies in how KM is currently being applied. Taking KM application to greater heights (Kimani, 2013; Chawuke, 2018) holds for public organisations across the society, including the schooling system, as discussed below.

In keeping up with the innovation brought forth by constant emergence of information technologies (Masoti and Masheka, 2017:107; Tondeur et al., 2017:462) schools need to rethink their ways of operation. The constant enactment of policies that are meant to improve education operations (Chilisa and Preece, 2005:40) has according to Petrides and Guiney (2002); Petrides and Nordene (2003); Edge (2005); Reynalds (2005); Chu et al. (2011); Kurniawan (2014); Ferdinandus et al. (2015); Tyrteou (2016) impelled schools to warm up to the idea of KM. In its report entitled *Reviews of National Policies for Education*, the Organisation for Economic Co-operation and Development (OECD, 2008:3) states that since the dawn of democracy in 1994, educational reforms became a top priority of South African legislators. The pressure mounted on schools is immense, for the reason that politicians tend to align their successes to the achievements of the schooling system. The *National Senior Certificate (NSC)* examination results, the *Scholar Transport Programme* and the *National Feeding Scheme* programme are examples of the flagship programmes that the government uses to bolster its image and to campaign for votes. In relation to the contentious issue of the grade twelve (matric) results, in an interview with Sunday Times, the former Minister of Education, Kader Asmal expressed the view that “whether we like it or not, school results in the *National Senior Certificate* are viewed by parents and politicians (and by newspaper editors) as the most important indicator of school performance” (Sunday Times, 2001). In a constitutional democracy, political influence can never be understated because the governing party almost unilaterally masterminds the legislative direction the country ought to take. In that regard, Mutton, Louw and Strydom (2013:31) lament the subtleness of a political will in transforming the schooling system landscape. This therefore leaves previously disadvantaged schools and their designated district or regional education governance to fend for themselves on a shoe string budget. In her interview with eNews Current Affairs, Ramphela (2013) raised a similar concern in expressing that the absence of political will curtails the development of the education and training sector, particularly the schooling system. Absence or lack of political will refers to the lip service that political principals pay towards making good on their promise to 1) adequately fund schooling system’s programmes; 2) provide infrastructure that is fit for purpose; and 3) look into capacitating teachers with skills that are equal to the task of providing quality education for every South African child. I personally also hold a firm view that a political intervention would be good in this case, seeing that South African youth – most of whom are plagued by poverty – see education as their last glimmer of hope. (I will later in Chapter 2, Sections 2.12 and 2.13 elaborate on these issues). In the next paragraph I turn back to a discussion about KM application, with the schooling system as the focus of attention.



## **1.2 LITERATURE REVIEW**

### **1.2.1 The Concept of Knowledge Management**

The term KM is complex and loosely interpreted by many scholars. Suknunan (2014:1) argues that there are numerous definitions of KM. Gurteen (1999:4) points out that there is a plethora of literature aimed at defining KM. It is evident that the discourse on KM is contentious and elicits contrasting viewpoints from scholars of this discipline. Authors such as Rumirezen (2002); April and Izadi (2004); Prior (2010) and Stuhlman (2012) perceive KM as a coordinated exercise practised by values-driven organisations in order to create, share, and retrieve knowledge gainfully. Sillance (2007); Wu and Lee (2017) and Shabrina, Soesanto, Kurniawati, Kurniawan and Andrawina (2018) perceive KM as a philosophical – rather than a managerial – approach of motivating people to unleash their knowledge dispositions for the greater good of the organisation. Yaacob, Jamludin and Jussoff (2010:14) define KM as a “process” of locating and recording the organisation’s “collective expertise” from various sources (i.e., databases, papers, or people). Additionally, Munafu (2016:9) and Okeke and Okeke (2016:19) see KM as a systematic effort geared towards ensuring that organisational knowledge is effectively shared, created, stored and applied by the organisation. From all these definitions I resonate mainly with Okeke and Okeke (2016:19) who consider KM as “a set of processes that deals with collective understanding of optimising knowledge activities that are embedded in the routines of a group of people which are relevant in their knowledge economy, as such, enhances their construction and use of knowledge”. Here, Okeke and Okeke highlight that in terms of indigenous conceptions of knowing, knowledge-generation is considered as a collective enterprise. (Cf. also Kaniki and Mphahlele, 2002; Saade, Nebebe and Mak, 2011; Chilisa, 2019; Maisiri, 2020).

The knowledge discourse is generally underpinned by two types of knowledge commonly referred to as tacit and explicit. Gyaase, Anane and Armah (2015:8) posit that tacit knowledge is housed in the minds of the people who possess it and requires both the effort and the willingness of its possessors to make it known to other people. Explicit knowledge pertains to the kind of knowledge that one can physically see, read, touch or send to another person. It is articulated in verbal, written, documented, data coordinated, or computerised form. Sanchez (2005:194) argues that explicit knowledge creates space for using other means of structured learning such as “experiments and forum discussion” to bridge gaps and improve organisational mechanisms.

What makes KM hard to define is its orientation which spans a multiplicity of disciplines (Jackson, Shen, Nikolic and Xia, 2020). On the basis of their overview of earlier KM works, Steyn and Kahn (2008:45) also noted that KM is entrenched in many occupational practices. Omona (2014:17) joins in on the debate by asserting that the “interdisciplinary nature” of KM is not about to renounce its propensity to perennially incorporate more occupational disciplines. The educational sector’s realisation about the savviness of KM in consolidating organisational knowledge might as well have one of the core reasons that precipitated its adoption of KM as a viable strategy for safeguarding and enhancing their knowledge capacity. In the light of “Africa being a developing continent”, KM should underpin our current programmes whilst building up a momentum to sustain the “future” of the continent (Suknunan, 2014:3)

### **1.2.2 Schools as Knowledge Organisations**

In academic establishments such as schools I argue that one cannot see “knowledge” as a separate entity to “education” (or vice versa). To qualify this point, Ozmen (2010) and Kumar (2011) argue that education is a coordinated effort which justifies and dispels what is commonly known as believable knowledge or information. Their argument stems from the concept that education encapsulates a systematic mode of utilising peers, tutelage, consultations and reading to process data and information into a body of knowledge, which can be applied in specific life and professional contexts. Ozmen (2010:1860) similarly argues that educational institutions are “knowledge intensive” in their dealings. They are “the cradle of innovative knowledge” as they contain vast quantities of “intangible assets” (Omigie, Ikenwe and Idhalama, 2019:21). This goes to show how knowledge is the school’s core commodity. In fact, all educational establishments apply knowledge to advance pedagogical and administrative undertakings. I draw on Marry (cited in Robert, 2014:10) who asserts that schools cascade pedagogical knowledge for purposes of empowering learners with an insight into the world they live in so that they can rationalise what they experience on a daily basis. On the level of the administrative undertakings in schools, KM includes documenting volumes of information pertinent to the school’s functions. Vu (2019:2065) posits that administrative aspects of knowledge have a bearing on organisational effectiveness. The build-up process to knowledge creation requires people to rationalise data and information. Hoq and Akter (2012:96) note that literature has long established a linkage between data, information and knowledge. Information is largely seen “as processed data, and knowledge as processed information” (Hoq and Akter, 2012:93). While processing information into knowledge may seem like a mammoth task, certain people possess the competency required to execute these tasks. “Knowledge workers” as Hoq and Akter (2012:92) call them, include a collage of ranks

within the teaching and administrative ecology of the school (Petrides and Guiney, 2002:1714). Broberg (1999, 2013), Shlechty (2011) and Sokół and Figurska (2017) indicate that we can classify learners and students among knowledge workers. However, in this study I deliberately excluded learners (although they are said to be co-creators and sharers of knowledge in the classroom context) because one of my study's concerns was to *find out from teachers how they cultivated the culture of knowledge sharing and reproduction in their dealings with learners*.

In the next paragraph I define the term knowledge worker. I also discuss the events which precipitated the move (across the globe) to infuse KM at the heart of organisations. In the subsequent paragraphs I touch on organisational learning as the gift of adopting KM, and I consider, from an empirical perspective, the success rate of KM efforts across the spectrum and what this means for KM application in previously disadvantaged schools, which are still affected by past inequalities.

Knowledge workers are people who mostly rely on “convergent and divergent thinking” (Reinhardt, Schmidt, Sloep and Drachsler, 2011:151), that is, they need to be able to synthesise information/viewpoints from a range of sources while handling (and incorporating in their thinking) divergent ways of interpreting information as part of learning processes undertaken with others. This is all part of the process of what Debowsky (2006:18) calls strategies of accumulating, “applying” or transferring knowledge. Scholars give reasons of what could have possibly led to the adoption of KM at the heart of organisations. King (2009:3) purports that people's infallibility in exhaustively bringing forth the nectar of knowledge stored in their brains gave credence to the adoption of KM as a tool to consolidate the organisational flow of knowledge. Prusak (2001:1002) avers that the need to find a better way of unbundling data and reconfiguring information could be the reason why we today talk about KM. The journey towards the recognification of information and unbundling of data translates are deeds that immerse knowledge workers in a trial and error type of a learning process, which gradually enhances their potential, as they try to find task based solutions. This process is referred to as “organisational learning”. Popova-Nowak and Cseh (2015:299) define organisational learning as a process which entails workers' reflections on processes that went wrong in a bid to finding a better approach for future application. According to Garvin, Edmundson and Gino (2008:110), a learning organisation is an establishment where staff members thrive at producing, accumulating and exchanging “knowledge”. This requires that preconditions must be set for actors to embrace a “learn by doing” type of arrangement especially in cases where learning outcomes are meant to stimulate actors' analytical skills and cognitive abilities, as they engage with others around ways of approaching their tasks/actions (Almeyda-Ibanez,

Ballester-Panelli and Bruguerras-Fabre, 2018; Bojovic, Sabatier and Coblenca, 2019; Cortini, 2020). Zhou (2006:16) posits that “learning to do” is one of the most effective ways of mastering the skill of doing something.

I purposefully use the word “actors” to refer to stakeholders (i.e., teachers, HODs, administrative clerks, principals) affected by KM and the learning process. For example, when teachers experiment with the newly added chapters in the curriculum that they have never encountered before, in trying to make sense of the content covered in the chapter, they will have to go through a multiplicity of learning curves (or practice) before finally being able to grasp it effectively. Also, administrative clerks and principals perform a mixture of routine and non-routine tasks. In the course of performing these tasks, it is inevitable that in some instances, they will go through phases of confusion as they try to make sense of their duties, but through further experimentations and collective engagements, they eventually develop the technical know-how of carrying out these tasks. On these grounds I argue that, throughout the ecology of the school, learning through “trial and error” leads to innovation and knowledge reproduction. But at the heart of this endeavour lies employees’ commitment to their assigned duties so that teaching and learning processes occur alongside properly coordinated support systems (Kelly, Luke and Green, 2008; Moloi, 2010).

For organisational learning to prosper, there must be conditions attached to its occurrence. These conditions pertain to collegial willingness to share knowledge, and the creation of an organisational climate that is conducive for mutual learning. But for as long as South African schools generally have a problem with the sharing aspect of knowledge, we will remain incapable of meeting these expectations. A glimpse into the severity of this problem is outlined in a study by Kalema et al. (2016), which established that experienced teachers are reluctant to share knowledge with their junior counterparts. It has also come to light that this is a world-wide phenomenon which does not only occur among teachers but across all levels of staff in school ecologies. This was stressed in the Organisation for Economic Co-operation and Development’s (OECD) (2010) report which largely labelled schools as bad knowledge sharers. The conception that often schools do not fully take advantage of the knowledge possessed by “teachers, administrative staff”, and education stakeholders (Flores and Pérez, 2010; Min, 2017; Perez-Soltero et al., 2019) leads to daily operational glitches in schools (Dowling, 2003; Ashraf et al., 2018). This status quo has to change as a matter of urgency, especially in light of studies such as those of Hammer, Leonard and Davenport (2004) and Akhavan, Jafari and Fathiam (2005) which point out that 70% of KM initiatives that appear to be conceptually noble often fail at the implementation phase. These statistics are disturbing,

and uninspiring to say the least, and they imply that, in order for school programmes to flourish, including KM, schools have to look past the nostalgia about past injustices which rendered township schools dysfunctional. Khumalo and Mji (2014:1524) mention “poor infrastructure, inadequately qualified teachers, learner failure rate, poverty and lack of resources” as some of the many problems that engulf the so-called previously disadvantaged schools. At worst, some of these schools are not equipped with “library, electricity” (Moloi, 2010:622) computer laboratory and web connectivity (Moloi, 2010; Gyaase et al., 2015). All these problems are prevalent across the spectrum of rural and township schooling environment. All the cited problems are directly felt by our children who turn to education as a way of acquiring life skills and academic content in preparation for better future prospects. It is against this background that this study aims to find out how— despite operating “under difficult and ill-resourced contexts” (Moloi, 2010:621) —the selected schools intensify their efforts to apply KM meaningfully. In a broader view, the findings of the study can be useful for purposes of benchmarking standards for effective KM application.

The hope that South African schools can be enabled to apply KM meaningfully is drawn from studies conducted under similar contexts (e.g., Kurniawan, 2014; Ferdinandus et al., 2015; Arumina and Pakkerrappa, 2018; Perez-Soltero et al., 2019). Such empirical accounts seek to affirm that, through a coordinated effort and the institutionalisation of a conducive culture, schools can leverage KM despite the abundance of infrastructure or the lack thereof.

### **1.3 RATIONALE FOR THE STUDY**

KM has widely been accepted as the epitome of organisational success. But in relation to sectors like education where knowledge distribution is of pivotal value, the scope of KM is relatively under-researched, specifically in developing countries (Arumina and Pekkeerappa, 2018:109) such as South Africa. I, for one did not know much about KM until 2014 during my tenure as a full-time Master’s student in Indonesia where I was asked by a fellow student to assist with translating a small section of her dissertation (an abstract) from the Indonesian language to English. But the defining moment happened in the first quarter of 2017 when I attended a course in India and socialised frequently with a Kenyan classmate in our free time. He mentioned that he had just completed his doctoral studies and was co-writing an article on KM; I immediately requested him for free tutelage on KM – a request to which he gladly agreed. The flair with which he articulated his views on KM sparked my desire to embark on a reading crusade, whereupon I perused numerous publications on KM with the view of

deepening my understanding on the topic. For example, I read Gurteen (1999); Spiegler (2000); Petrides and Nordene (2003); April and Izadi (2004); Edge (2005) and Mbhalati (2010). Upon reading the literature, it dawned on me that KM with specific reference to the public sector remains an under-researched area, particularly within an African context. Moreover, I realised that although authors discussed KM in terms of the private, and to a lesser extent, the public sector, there was no focus of attention on issues such as the schooling system. This lacuna applied specifically in the African context, where discussions tend to tackle this topic from the private sector perspective and my topic remains unexplored. Chen and Hsieh (2015: 813) generally talk about public administration and this applies also to the administration of schools. I observed that the majority of KM researchers overlook Africa's schooling systems, despite literature (cf. Chapter 2), proving that developing countries such as ours benefit from systematically applying KM in their schools. There and then, I had an epiphany that this topic (i.e., KM application in township schools) was worth exploring at a doctoral level.

Vundla (2011) emphasises that “we have so many untold stories and it is our duty as South Africans to tell the world about them”. I hold the view that my exploration of KM application in the township context did not only elucidate the level at which the selected schools apply KM, but also contributed to the expansion of Africa's public sector KM repository. To draw out credible data, I paid attention to “the interpretative element” of what constituted the “knowledge of a collective group of people” (Okeke and Okeke, 2016:20) having borne in mind the homogeneity of the context of the study (i.e., schools) and the rules of engagement that applied within that context. My study was intended to establish a “rapprochement which is not adversarial” (Romm, 2017:22) between the Western ways of knowing and Indigenous epistemologies as a strategy to probe and solve research problems. Using Wenger's (1991) *Communities of Practice (CoP)*, Rodrigues and Pai's (2005) *Eight Dimensions of KM Enablers and Activators*, supplemented by homegrown epistemologies of *Ubuntu Philosophy and Batho Pele Principles (BPP)* to investigate KM application in schools, I exemplified Serpong's (2019:67) call for African communities to begin to infuse indigenous knowledge assertively with management activities to ascertain how it can engender the development of our continent.

With regard to fieldwork, my proximity to the context of application as a teacher in a township school made it convenient to collate data sufficiently and to embark on prolonged fieldwork when the need arose. All the reasons that I furnished to rationalise my study were heartfelt and carefully thought out, and through them I envisioned a creation of a body of work that would encourage more professional and lay KM scholars to study the phenomenon along the lines of how it affects schooling system(s). Ideally, my study should form the basis upon which further

studies on this topic can be explored not only within the local setting but also in other parts of the developing world with due contextualisation. Faring well in a knowledge driven economy means that school operations should be embedded in the development of a “qualified, agile, adaptive and responsive” personnel (Asbari, Wijayanti, Hyun, Purwanto and Santoso, 2019:228) to execute knowledge work which is increasingly becoming “less routine” but “more analytical and collaborative” in nature (Cheng, 2015:50). And as such, this study acknowledges that in order for school operations to be attuned with global trends of applying KM, people’s (i.e., teachers, HODs, administrative clerks and principals) interface with technology and processes ought to be examined. The inclusion of all four key occupational categories, contributes a broader perspective to how KM is being applied across the school ecology.

#### **1.4 PROBLEM STATEMENT**

My desire to conduct this study was sparked by several factors, but chief among those was the realisation that there is an influx of KM related literature bearing little value to the public sector. I realised that many researchers shied away from exploring some of the most compelling topics that are pertinent to the growth and development of public sector organisations (Kaya and Dey, 2016:6) let alone the schooling system. This tendency is demonstrated by Massaro et al., (2015), who analysed 180 scientifically tested papers and found that often researchers tend to overindulge in specific public sector research topics while leaving other themes of the public sector under-investigated (Massaro et al., 2015:530). Motivated by the idea that the possession of knowledge is the nucleus of every organisation, Chen and Hsieh (2015: 813) suggest that this status quo (the broad neglect of public sector research themes) should change as a matter of urgency.

As I continually perused literature the more it became apparent that there was a dearth of literature treating the schooling system(s) as the focal point of investigating KM (Cheng, 2015; Raudeliuniene, Tvaronaviciene and Blazyte, 2020). Among the few available ones on *public sector* KM, I searched for a handful of those that were authored by African scholars (e.g., April and Izadi, 2004; Gaffor and Cloete, 2010; Mbhalati, 2010; Mphahlele, 2010; Mosoti and Masheka, 2010; Gxwati, 2011; Wamundila and Ngulube, 2011; Jain and Jepperson, 2013; Omona, 2014; Omona et al., 2014; Ramohlale, 2014; Suknunan, 2014; Gyaase, Anane and Armah, 2015; Massaro et al., 2015; Nguyo, Kimwele and Guyo, 2015; Dewah and Mutula, 2016; Kalema et al., 2016; Munafu, 2016; Okeke and Okeke, 2016; Moshia, 2017; Kabilwa,

2018; Mhlongo, 2018; Ndaba, 2018; Nengwi, 2018; Kazeroony, 2019; Suknunan and Maharaj, 2019; Wamuyu and Ndiege, 2019).

Upon analysing the content of the above mentioned corpus, I was discontented to discover that there were even more fewer studies (i.e., Gxwati, 2011; Nyariki, 2013; Gyaase et al., 2015; Kalema et al., 2016; Ngozi, 2018; Kaya, 2020; Ildhalama and Echedom, 2021) investigating the prospects of KM within the realm of the schooling system(s). According to Kaya and Seleti (2013:32) this situation is worsened by Africa's lack of her "own educational theoretical and methodological framework for knowledge production and sustainable development". Concerned African scholars including Pretorius and Steyn (2005); Kaya and Seleti (2013) and Kazeroony (2016) advocate for the development of contextually relevant theoretical frameworks that are equal to the task of transforming how the continent interacts with knowledge management and reproduction exercises. The few empirical studies based on KM in Africa's schooling systems (i.e., Gxwati, 2011; Nyariki, 2013; Gyaase et al., 2015; Kalema et al., 2016; Ngozi, 2018; Ildhalama and Echedom, 2021) did not make up for substantial depiction of the phenomenon. Hence I had to embolden the discourse formation by looking at other world contexts that bore similar (though not necessarily identical) characteristics. This led to the perusal of studies by Awang et al. (2011); Liebowitz (2012); Kurniawan (2014); Ferdinandus et al. (2015) and Arumina and Pakkeerappa (2018), which primarily explored the impact of KM on the education sector from the perspective of developing countries. To a lesser extent, I also drew on empirical accounts from the perspective of the developed world as a measure to bolster my arguments on how KM generally works in the schooling system. Scholars whose scholarly work was taken into account in this study are Hargreaves (2002); Petrides and Nordene (2003); Edge (2005); Daud, Rahim and Alimun (2008); Chu et al. (2011); Thambi and O'Toole (2011); Cheng (2013; 2015); Memisoglu (2016); Tyrateou (2016) and many others. From this corpus, Tyrateou's (2016) study immeasurably invoked in me a sense of creativity and understanding as I immersed myself in her depiction of how Nonaka and Takeuchi's (1995) Socialisation, Externalisation, Combination and Internalisation (SECI) model interfaces with school operations. All these scholarly works contributed an empirical basis for the study and harnessed the meaningfulness of the study. Also, my perusal of their scholarly works helped me gauge the extent to which literature on KM within the context of schooling systems generally lacks, not only in Africa but across all economies of the world. With that in mind, I continually ensured that although my research explored KM within a South African schooling context, it should in some way, also adopt a universal appeal by demonstrating how schools whose contexts bear similar resemblance, can use its ideologies and recommendations to apply KM (often with different configurations) that are practical to



their respective schooling systems. Thus the study endeavors to narrow the literature gap that emanates from the scantiness of some basic understanding on the critical nature of schooling systems in the knowledge economy, which is also arguably related to the political economy of education that shows the educational divide in different societies. Generally, the study also illuminates how the beckoning of the knowledge era facilitates the schooling sector's final lap of transition from "resource based" economy to "knowledge based" economy. During the process, the study provides answers—by qualifying or disqualifying—the empirical basis (cf. Capozzi, Lowell and Silverman, 2003; Lietieri, Borga and Savoldeli, 2004; Chigada, 2014; Given, Forcier and Rothi, 2014; Maalaoui, LeLoarne-Lemaire and Razgallah, 2020; Meso and Smith, 2020) that in "social services" the former (i.e., *resource based economy*) is foregrounded on the belief that in as much as the abrasiveness of the intangible assets (such as people, organisational culture and policies) can be complementary to the organisation's productivity, but the most crucial enabler of organisational productivity remains its exploitation of the available financial/physical assets and the expansion of these resources; while the latter (i.e., *knowledge based economy*) does not down play the essence of the adequacy of financial/physical assets, it simply overstates a belief that even in contexts where financial/physical assets are minimal (or not in abundance) but equal to the task for which they were meant to perform, organisations can still remain sufficiently productive if they are attentive to the development of their non-financial/intangible assets such as people, organisational culture and policies—purporting that in so doing, a sense of motivation, trust and compliance will pave a way for people's on going participation in mutual dialogues and the conversion of information into knowledge. The underlying belief is that a reconciled utilisation of the so called "non-financial/intangible assets" is the actual indicator of the organisation's productivity.

In practical terms, the findings of this study contribute a model detailing how schools; particularly those situated in indigenous contexts can possibly coordinate their KM operations whilst bearing in mind some aspects of the adopted theoretical frameworks—as they prepare to be operationally relevant in the knowledge era. I now specify the sites of the study and the format of questions and objectives that underpin the study. Field work for the study was carried out in three schools (spread across three education circuits) of Emalahleni. This translated into one school per circuit. My study was framed around the main research question and sub questions, as stated below:

### 1.4.1 Research Questions

#### Main Question:

- In what regard is KM being applied at selected township schools?

#### Sub questions:

- How do teachers, HODs, administrative clerks and principals at the selected township schools understand tacit and explicit knowledge?
- In which ways do HODs' supervision enhance KM application at the selected township schools?
- How does the administrative clerks' utilisation of technical skills and personality traits affect KM application at selected township schools?
- How do teachers facilitate their tacit and explicit knowledge effectively within a classroom environment so that learners learn to create and exchange new knowledge among themselves?
- What leadership style best characterises the principal's role in facilitating KM application at selected township schools?
- In which ways do teachers, HODs, administrative clerks and principals draw on African Indigenous Values Systems of Ubuntu Philosophy and/or Batho Pele Principles to effect KM application at selected township schools?

### 1.4.2 Aims and Objectives

#### Main objective:

- *To examine KM application at selected township schools;*

The main objective generates the following **sub-objectives**:

- To investigate the understanding of teachers, HODs, administrative clerks and principals regarding tacit and explicit knowledge.
- To explore HODs' ways of supervising KM application at selected township schools;
- To gain a deeper understanding into how teachers facilitate their tacit and explicit knowledge within a classroom environment so that learners learn to create and exchange new knowledge among themselves.

- To understand the depth at which administrative clerks' utilisation of technical skills and personality traits affect KM application at selected township schools.
- To delineate and provide an account of the kind of leadership style which characterises the principal's role in effecting KM application at selected township schools.
- To establish different ways in which, teachers, HODs, administrative clerks and principals draw on Africa's Indigenous Values Systems of Ubuntu Philosophy and/or Batho Pele Principles to effect KM application at selected township schools.

## **1.5 RESEARCH METHODOLOGY AND DESIGN**

### **1.5.1 Research Paradigm**

This study is embedded in a social constructivist paradigm, which according to White (2004:31), is a philosophical concept founded on the premise that an understanding of this world is formed by people's sense-making and their reflecting together upon life events. The social constructivist paradigm, as for instance spelled out by Lincoln and Guba (2013: 39-41), focuses on people's ways of constructing meaning, and also admits that researchers, in engagement with participants, are involved in the meaning-construction. That is, the researchers, like participants, are involved in interpretive activities as they interact with others (in this case, research participants). Rampana (2015:48) posits that a constructivist paradigm gives the researcher the liberty to venture deep into the field to develop accounts of the researched phenomenon through exploring meanings together with participants. This paradigm required that more attention be given to "the interpretative element" of what constituted the "knowledge of a collective group of people" (Okeke and Okeke, 2016:20) and ways in which things are done in the context being studied, while also considering carefully my ways of engaging with the participants. To that effect I delved deep into the heart of the township to conduct a social inquiry which foregrounded the issue of whether and how KM was applied in the schools (as expressed by the selected participants in the selected schools during the research). This also meant that the participants were prompted to reflect on matters that they may not have reflected upon before, so that the interviews generated data through my prompting a discussion around the application of KM. This consultative approach in terms of this paradigm was more a matter of data *generation* (cf. Romm, 2018: 449).

### 1.5.2 Research Design

Peete (2016:48) extrapolates that a research design entails the format of data generation that the researcher perceives to be effective in articulating the meaningfulness of the findings of his/her study. Having realised my desire to deliberate about my social experience as well as that of my participants during fieldwork, I chose not to align myself with the positivist tendency of statistically quantifying and correlating research findings. I wanted to develop a narrative which included participants' feelings, attitudes, body-language and verbal utterances. Narrative inquiry became an obvious choice for me as it became apparent that this method had the impetus to facilitate my intentions of generating data. Wolgemuth and Agosto (2019:1) briefly define the narrative inquiry as an approach drawn from qualitative research that is intent on understanding cultural, societal and people's experiences on how a particular or recurring problem affects them. Savin-Baden and Van Niekerk (2007:459) define it as a method of generating data by means of documenting or listening to a series of lived and told stories. In both definitions it is apparent that a narrative inquiry uses people's utterances about a variety of factors that in some way, affect their interface with other dynamics (i.e., culture, religion, education, poverty, gender, crime etc) across different life contexts. Proper application narrative inquiry is known for its creation of a climate that is conducive "for profound relational form" of engagements (Clandinin, 2006: xv). Proper application of a narrative inquiry would mean that due consideration is taken for context specific rules of engagement. On that basis I consciously forwarded the spirit of Ubuntu throughout my engagements with participants of this indigenously oriented study. This is coherent with Bangura's (2005:32) emphasis that "within its peculiarity, individuality and historicity, Ubuntu inspires us to expose ourselves to others, to encounter differences of their humanness in order to inform and enrich our own". Borrowing from Towers, Takeuchi, Hall and Martin's (2017: 163), I submit that the narrative inquiry's scope of flexibility in how responses are given effectively addressed the main objective of the study (i.e., understanding the regard in which KM was being applied at the selected township schools) and also the phenomenon (i.e., knowledge management application) under investigation.

Whilst Clandinin (2006); Savin-Baden and Van Niekerk (2007); Towers et al.(2017); Wolgemuth and Agosto (2019) respectively argue in support of the narrative inquiry, Fish (2004:40) forwards an opposite view, expressing the need for scholars across all scientific sectors that apply qualitative research to adopt an "anti-narrative" format through which "the possibility of hesitancy, circularity and incoherence" are embraced as a way of acknowledging

the preciseness of the reality that transpires in the contexts being studied. Be that as it may, I find apt the narrative inquiry's anti positivist sentiment on researcher positionality –as it allowed for my “authorial voice” (Strunk and White, 2000; Hyland, 2002; Bachelor and Di Napoli, 2006; Olivier, 2017) to be heard and highlighted in my interpretation of the participants' lived experiences. This method also presented moments for self reflections (i.e., researcher reflexivity); during which I was able to (re)consider the effectiveness or lack thereof my role on the merits of the study and the impact my actions might have had on participants' social dynamics. Its practical value to the study was such that it afforded me the luxury of generating an abundance of data from which I was able to highlight overriding matters that were worthy to be reported. The reciprocal feedback I generated from participants became another advantage that would not have been plausible through employment of other means of data generation. Thus it precipitated an atmosphere of spontaneity under which ongoing two-way interactions inhibited one from pre-empting participants' feedback, as they aired their experiences (Silverman, 2016:7). Besides having reaped personal benefits through adoption of the narrative inquiry I also noted that participants benefited from it too, for example, it was evident that participants' responses were shaped by their reflection on the specific questions that I posed so that the results of the interview were a product of our mutual interaction (Lincoln and Guba 2013: 40; Romm, 2018: 449). I consider that the reciprocal nature of engagements between myself and the participants might have had an influence in their decision to grant me permission to see them once again for member checking (cf. Guba and Lincoln, 1985; Lincoln and Guba, 2013) so that the way in which I finally presented data was intersubjectively checked with the participants. See Chapter 4 for more details.

### **1.5.3 Data Generation**

Data generation is essential in research due to its invaluable contribution in creating a better understanding of a theoretical framework (Bernard, 2002). In order to achieve symmetrically balanced data, I used multiple sources. This procedure is sometimes referred to as triangulation, which according to Patton (2002), empowers the researcher to generate thick layers of data whilst allowing the cross-checking of the findings. Some authors (e.g., Richardson, 1995, 1998, 2000; Maree, 1999; Denzin and Lincoln, 2000; Sattlage, Southerland, Johnston and Sowell, 2005; Stewart, Gapp and Harwood, 2017) prefer not to speak of “triangulation” as it implies that only one story will emerge from the “cross-checking” process and it does not provide the opportunity for researchers to recognise alternative ways of engaging with the data. Alternatively, the term “crystallisation” is used to point to the multi-layered and complicated nature of the phenomenon under investigation.

They (Richardson, 1995, 1998, 2000; Maree, 1999; Denzin and Lincoln, 2000; Sattlage, Southerland, Johnston and Sowell, 2005; Stewart, Gapp and Harwood, 2017) also consider that the concept of *crystallisation* signals a more ethical approach as it admits the role of the researcher in actively engaging with the data. In Chapter 4, I offer in-depth deliberations on the meanings associated with triangulation and crystallisation, and how I dealt with triangulation/crystallisation in the context of my research. Furthermore, I illustrate how the research was conducted from an ethical point of view in that I recognised that I as the researcher was engaging in a human encounter with participants as part of the process of gathering and analysing data in their natural environment (Bergh and Van Wyk, 1997; Wellington, 2000). The ensuing section provides an overview of how I generated data.

#### *1.5.3.1 Document Analysis*

According to Jansen (2016:88), there are many written and electronic documents from which prospective researchers can choose, such as sources published and unpublished documents, company reports, memoranda, agendas, administrative documents, letters, reports, e-mail messages, faxes, newspaper articles, journals, memoirs, or any document that is connected to the investigation. Bowen (2009:30) extrapolates that these documented sources contain a detailed orientation of the problem by means of providing its historical perspective, and they often come in a combination of official and unofficial documents (Chauke, 2018:64-65). Scrutiny of documents puts the researcher in a better position to understand the state of affairs of the context(s) he/she studies. Hence Chauke (2018), Jansen (2016) and Bowen (2009) are insistent on the point that document analysis heightens the credibility of the research. Similarly, through document analysis I was able to get a broader glimpse into processes, glitches and readiness of township schools pertaining to KM application. I specifically was able to understand exactly what sort of infrastructure, resources, tools and techniques are used to share, retrieve, store and create knowledge on a daily basis.

For my study I specifically perused official documents including SA SAMS application guidelines, memos, departmental circulars, newspaper articles, internal and departmental training schedules and infrastructural readiness documents. With regard to legislation I refer to the following table for explanation:

**Table 1.1: The analysed documents**

<b>No</b>	<b>Legislation</b>	<b>My Intention</b>
1	Curriculum Assessment Policy Statement	Understanding the breakdown of curriculum content knowledge and the stipulated weekly, monthly and quarterly timeframes to which teachers are expected to adhere. I also wanted to determine the extent to which the document affords learners the opportunity to engage in their own knowledge creation and sharing activities.
2	Annexure 5 of the revised Personnel Administrative Measures (PAM)	Understanding duties that staff members (as knowledge workers) in their respective capacities have to perform in order to fulfil their terms of employment and the sustainability of KM efforts.
3	National Education Information Policy (NEIFP), (DoE) 2005	Understanding the core principles of this policy and how these principles enhance KM application in schools as informed by policy.
4	SA-SAMS Manual	Getting the gist of it in order to support or refute scholastic claims and to form a personal opinion.
5	Skills Development Act (SDA) 97 of 1998	Understanding whether schools exercise stipulated skills development delivery interventions to capacitate their staff whilst at the same time enhancing organisational learning through encouraging a continuous collegial dialogue and the formulation of CoPs.

6	Knowledge Workers' Portfolio	This entailed a file that was brought by all the participants I interviewed to share with me the kind of duties they typically perform in their varying capacities of employment. The main reason behind this was to understand the scope and the jurisdiction of knowledge work that every category of staff carried out at their respective schools.
7	The Batho Pele White Paper	To understand the depth at which the BPP furthers the ethos of Ubuntu Philosophy in the workplace.

Document analysis contributed to the rigour of my study as I was able to triangulate views I regarded as compelling together with other means of data generation, specifically interviews.

#### *1.5.3.2 Interviews*

The undertakings of data generation were underpinned by the view that interviews are a viable way of accumulating qualitative data (Ryan, Coughlan and Cronin, 2009:311). A semi-structured interviewing format was adopted due to its capacity to achieve credibility, transferability and dependability (Todd, 2006; Koch, 2006). One-on-one interviewing which was supplemented by document analysis served as the primary data generation strategy (Parag, 2014:90). I based the process of interviewing participants on three principles. The first principle was that I would use my questioning skills to elicit or draw out participants' perceptions/reflections (which were reflected upon during the course of the interview) about KM application in a natural setting where they work. Apparently, "studying people's understanding of the meaning in their lived world" (Kvale, 1996:105) makes conducting interviews a valid strategy in a qualitative inquiry. Coming to the second principle, in concurrence with the views of Koch (2006), and Todd (2006), I regarded qualitative interviews as a means of achieving research rigour. The third and final principle had to do with my awareness of the importance of using interviews as a platform to generate as much data as possible. Hence I grasped the value of interviews, while realising that I should also compare interview data with other forms of data generation (Yin, 2009; Merriam, 2002).

Interviews were held at schools in accordance with the mutually agreed upon "interview time schedules" (Chauke, 2018:16). Before commencement of every interview, I ensured that my



voice recorder, pen and note pad were at hand because I always took field notes during the interviews (Gjerde, 2016:69). Drew (2014:78) cautions interviewers to refrain from dominating the process and from encouraging participants to give answers that they believe will be “acceptable” to the researcher. Likewise, I avoided asking leading questions, upon realising that the phrasing of my questions might affect participants’ answers, I set myself to ask probing questions to ensure that participants shared their experiences and views in detail.

#### **1.5.4 Sample Size and Participant Selection in Three Emalahleni Township Schools**

##### *1.5.4.1 Sampling Method*

Qualitative research is premised on the conception that its sampling method has to be fit for purpose. Samples in a qualitative study are generally smaller than those of a quantitative study; as a result almost all the time, sampling in qualitative study is purposive (White, 2004:53). The primary reason for this is that very often people are not keen to endure time-consuming engagements and the tediousness caused by the in-depth inquiry orientation of a qualitative study (White, 2004:53). I employed purposive sampling due to its propensity to allow the researcher freedom to utilise only participants who matter the most. I considered that the participants who would best serve the purpose of the study were teachers, HODs, administrative clerks and principals. These participants were suitable according to what I deemed to be the richness of their experiences in relation to the topic under investigation (as explained below). I chose these participants from three schools in the three different Circuits of Emalahleni so that the township schools in Emalahleni were “represented” in some way. Therefore, I regarded teachers, HODs, administrative clerks and principals across township schools in Emalahleni as the population. In qualitative research, “representation” of a population is not achieved through statistical means (Onwuegbuzie and Leech, 2007). Ultimately readers have to judge to what extent the results of my analysis from the three schools may extend beyond the sample identified. This judgement rests on the readers’ familiarity with conditions in other schools and the ability to compare the richness of my discussion of the contexts in the three schools with other contexts (Flyvbjerg, 2006). This is the basis for what is called “transferability”, as discussed in Chapter 4, Section, 4.8.2.

##### *1.5.4.2 Sample Size*

The size and constitution of the sample varied. In school A and school B, it comprised of two teachers, two HODs, two administrative clerks and one principal. In school C the sample comprised of two teachers, two HODs, one administrative clerk (as opposed to two) and one principal. A total number of twenty (20) participants across all four categories of employment

constituted the sample for the study. In one of the selected schools, I can be deemed to be an “insider” researcher as I am a teacher in this school, where I have worked for over six years. In Chapter 4, Section 4.5.3, I offer a detailed discussion around how I see my role as a researcher in terms of the insider-outsider perspectives.

#### *1.5.4.3 Participant Selection*

Schools were selected in accordance with circuit demarcations. Emalahleni (also known as Witbank) is demarcated into three circuits. This necessitated equal representation of all three circuits. On that basis one school from each of the three circuits was chosen to represent the wider population of other schools situated in that particular circuit. In my liaisons with school principals prior to actual data gathering, I stipulated the criteria for the selection of participants. Based on the criterion I had set, they assisted in choosing suitable participants whom they felt would contribute favorably to the study. The selection process only affected teachers and HODs because in that category, there were more than two employed in those schools. With regard to administrative clerks and principals, their numbers were limited to those employed in the respective schools (as it was apparent with the cases of school A and B with each one of them being serviced by two administrative clerks, and also with school C which only had one administrative clerk that was gainfully employed).

### **1.5.5 Data Analysis**

I employed content analysis (Mohlokoane, 2004:97) as my strategy through which I was able to identify, code and categorise data according to themes. The study relied on interviews and documents as primary sources whose data were analysed over two stages. The preliminary process unfolded while the research was still pending; and entailed identification of primary data by means of a synthesis of pre-existing as well as the incoming data.

To optimise data analysis, I drew on a combination of sources of evidence that were gathered most notably: reviewed empirical studies, perused documents and the interviews; all of which formed the basis upon which I was able to interpret the make-up of data and to identify clusters. To realise this, I acted in accordance with Esterberg (2002:158) who stipulates that one has to systematically cross-examine the data so as to “identify themes and categories that seem of interest”. In similar fashion, Neuman (2006:460) avers that the process of coding ascertains what data are most valuable versus that which do not really matter. At that juncture I heavily relied on an audit trail to sustain the credibility of data (Gjerde, 2016:74) and to “analyse an account of all decisions and activities” (Carcary, 2009:15). Data analysis was both a formal and informal undertaking which was carried out on an on-going basis (Lincoln and Guba,

1985:14) and this precipitated the need for constant review of incoming data to bolster primary themes of data. I also relied on member checking, which is a research technique to enhance the integrity and credibility of the data collected. I carried out member checking after the transcripts were made and after I had located themes in relation to all of them. Pertinent themes were presented to the participants for checking. For this purpose, I returned to all participants in all the schools and asked them to check transcripts. In two cases, participants suggested some content modifications, which I took into account. Member checking enabled me to verify my data with the participants to ensure that their views were faithfully represented as provided in the interviews or if they felt that some modifications were necessary (Mohlokoane, 2004:97).

Firstly, I commenced with transcribing the views of the participants. Once the demanding exercise of transcribing (Thorne, 2000:1) was completed and the audio-recorded data as well as arranging that data according to specified or decided upon themes was over, I began to analytically mould the data such that they mirrored the sequence of events as they unfolded and the participants' views exactly as they had expressed them (which was checked with participants). This is coherent with Thorne's (2000:2) suggestion that researchers must deliver a narrative that resonates with reality as it transpired (or as it was expressed during interviews) – substantiated with believable factual occurrences and if needs be, whose body of evidences can be availed to a reader through audit trails.

## **1.6 TRUSTWORTHINESS**

As qualitative research becomes increasingly recognised and appreciated among communities of scholars, it is imperative that it must be composed in a manner that promotes an ethical response to the contribution of new body of scientific knowledge (Nowell, Norris, White and Moules, 2017:2). Korstjens and Moser (2018:120) maintain that for rigour to prevail, there must be a criteria or a tool for judging the quality of a qualitative investigation. This criteria/tool helps the researcher to account for how he/she strove to deal with issues of quality and truthfulness when conducting research (ibid). This study was conducted in consideration of research evaluations, namely: credibility, transferability, dependability and conformability as stipulated by Guba and Lincoln (2001:6-7). The following table outlines how I applied these considerations.

**Table 1.2: Ethical Measures**

No	Consideration	Evaluation Tools
1	Credibility	<p>Allocation of ample time during interviewing process, to ensure that participants had the <i>opportunity to relay their experiences in depth</i> (Carcary, 2009:14). At the point of transcription, I studied each “transcript” that I was constructing while carefully “listening [and re-listening] to the audiotapes” (Dodge, 2011:55) so as to arrive at a completed transcript. I conducted <i>member checking</i> of the final synthesis with the participants (that is, of the transcript plus some identified themes which I felt were applicable). I was keen that participants would feel comfortable with my rendition of the transcript and my location of some themes. <i>Triangulation</i> (or crystallisation) <i>also played a significant role</i> in establishing credibility in that I triangulated participant expressions with relevant documentation which I studied.</p>
2	Transferability	<p><i>Purposive sampling</i> was employed to drive the agenda of transferability, which according to Ditsele (2015:48) draws a plethora of information in any given context and allows readers to consider whether the data can be transferred to similar contexts with which they are familiar. That is, the richness of the data allows judgements regarding the extent to which “transfer to other contexts might be contemplated” (Anney, 2014: 278)”</p>
3	Dependability	<p><i>Audit trail</i> comprises a historical inscription of all due processes taken throughout the life cycle of data generation. In line with Carcary’s (2009:15) suggestion, I also made provisions for readers of this study to get a sense of what was done during fieldwork (as attached in the appendices).</p>

4	Confirmability	This was enhanced through an <i>audit trail</i> which offers some evidence of engagement with the data rather than the researcher simply “finding” what the researcher already presumed to know/expect. I relied in this regard on my own <i>reflexive journal and triangulation/crystallisation to create syntheses across the data sources</i> (Bowen, 2009:307). Readers can consider my way of synthesising in relation to the data as detailed in Chapter 5.
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## 1.7 RESEARCH ETHICS

Due processes were followed to obtain permission to conduct research. Before I could publicly declare my interest in conducting research I had to submit my research proposal for ethical review. Thereafter, I declared my interest in writing to the Mpumalanga Provincial Department of Education. I was then asked to submit the documentation (i.e., letter of request for permission, researcher proposal, proof of registration and the ethical clearance approval letter) for their perusal. After this, I was given permission to establish contact with the proposed schools for data generation. I subsequently approached the schools and obtained their permission.

Prior to the actualisation of data generation I had brief meetings firstly, with the principals of the selected schools, and later on with the participants as selected by the principals. I informed the participants about the purpose, methods and intended use of my research as well as their voluntary participation and freedom to withdraw at any time. The anonymity issue was covered by the assurance that their identities and those of the schools would be kept confidential by the allocation of a code or letter of the alphabet. I obtained written consent from the participants where they signed the letter formalising what their participation would involve. All sources consulted have been acknowledged when compiling this study.

## 1.8 EMPIRICAL JUSTIFICATION OF THE APPLIED WRITING STYLE

The world’s surging reliance on scientific research has implications for how scholars use words or texts as a tool to communicate experiences of their involvement in research projects. I adopted the underpinings enshrined in social constructivism to frame constructions of how KM is being applied at selected township schools. Guba and Lincoln (1989); Lincoln and Guba (2001, 2013); Gergen (2021) argue that social constructivism puts authors at liberty to

determine how best they can imprint their own interpretations/constructions of reality using texts that implicate their involvement in research. Hyland (2008:1-4) adds that author's self-awareness and adoption of persuasive rhetorical conventions in texts foreground a convincing narrative. In that sense, the author's *stance* (i.e., textual voice) and involvement in the process come across in the discourse (ibid). To legitimise and imprint my active involvement in the study (Hyland, 2008:3) and thus clarify and strengthen the narrative (Duke Writing Studio (DWS, 2021:3) I decided to use the first person style of writing. Using the first person style of writing enables readers to fathom that "I am not purporting to have distilled my own value-imbued concerns" from my participation in the study. Similarly, Wessels and Pauw (2006:166) state that first person writing style demonstrates the author's acceptance of what he or she writes.

Based on my reflections on the linguistic outlook of a corpus I perused throughout my research journey, I underscore that this style of writing is fastly gaining popularity among contemporary authors. The American Psychological Association (APA, 2010) and the University of Chicago (2003) prescribed the use of first person writing style citing that it addresses issues of ambiguity and accuracy in the narrative. However, despite there being a corpus (i.e., Kirsch, 1994; Strunk and White, 2000; Knox, 2006; Turabian, 2007; Hyland, 2008; APA, 2010; Shelton, 2015; Rivombo, 2018; Romm, 2018; DWS, 2021; Gergen, 2021) advocating for widespread adoption of the first person style of writing, Wessels and Pauw (2006) and DWS (2021) have noted that some professors, research supervisors, higher education institutions and editorial boards of scientific journals tend to dissuade prospective authors from using it. According to Wessels and Pauw (2006:166) using a third person style of writing in a qualitative inquiry resembles the impersonal nature of outdated positivism. It is generally accepted among critics of third person stlye of writing to caution that it understates the value that the researcher's personality contributes to the narrative. Addressing the question of "practitioner identity" (Midgely et al., 2007:233) is something that cannot be achieved when a researcher distances him/herself from the process. Strunk and White (2000:70) dissuade doctoral students from using the third person style of writing on the notion that it tends to expose the researcher's insensitivity, mood and temper towards experiences of others. Hence, in qualitative research, using "*the researcher*" instead of "*I*" fails to take responsibility for the researcher's subjective interpretation/construction of the meaning (Kirsch, 1994:482). This impersonal posture makes a qualitative researcher's involvement in a research processs seem like a task as opposed to an experience or a journey. Rivombo (2018); Romm (2018) and Gergen (2021) maintain that using a third person style relegates the researcher to a gate keeper position in the narrative. The

absence of personal voice often epitomises lack of researcher’s embracement and command over ideas and constructions (Knox, 2006:5).

Interestingly, the first person style too, when not appropriately employed, can jeopardise the gravitas of the narrative. Worth noting is the assertion illuminated by Raymond (1993) and Kirsch (1994) that the use of the first person style of writing needs one to exercise caution. Because not all authorial “*I*” carry equal weight (Raymond, 1993:480), unguarded use of first person style of writing, especially the authorial “*I*” can give rise to “self indulgent, parochial, or confessional writing or to writing that forgets its subject” (Kirsch, 1994:382). Also, irrational use of first person style of writing often results in a researcher falling prey to being too personal when constructing the narrative (Knox, 2006; DWS, 2021). In any event, one also needs to avoid the impression that results or observations are unique to the researcher’s perspective without having been checked in some way ([www.wordvice.com](http://www.wordvice.com)). In light of this information I continually reflected on the pros and cons of using the first person style of writing, which I consider to have moderated my positionality and insider-outsider perspectives throughout the life cycle of communicating the meaningfulness of the study. Lastly, the gist of how I facilitated the reporting of the study is rooted on the empirical posture forwarded by Strunk and White (2000), Hyland (2002), Bachelor and Di Napoli (2006) as well as Olivier (2017) in stating that doctoral students need to imprint their presence in the research by asserting their authorial voice in a manner that can effectively draw readers’ attention to the meaningfulness of the study.

## 1.9 CHAPTER SUMMARY

**Table 1.3: Chapters outline**

Chapter 1	Outlines the proposed format of the study. An overview or background about the phenomenon being studied is elaborately discussed. Thus research questions and objectives as well as methodological approaches, reliability and ethical issues are explicated.
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Chapter 2	Presents conceptual and empirical accounts from various authors with regards to philosophical constructs of knowledge, types of knowledge and their characteristics, historical overview of the evolution of KM up to a point where it was incorporated into a management concept. Also a historical background of South Africa's education system is discussed in relation to how it affects educational reforms and the preparedness of school programmes including KM application.
Chapter 3	Discusses theoretical conceptions that this study adopted. Wenger's Communities of Practice and Rodrigues and Pai's eight KM enablers and indicators framework were explored to justify the merits of assimilating them into the study.
Chapter 4	Primarily discusses the research design and methodology. An in-depth discussion on the sample, sampling procedure and data gathering techniques that are employed (i.e. semi-structured interviews, and document analysis) is presented. Methodological processes such as rigour in the development of credible findings and ethical aspects are also brought to light.
Chapter 5	Illuminates the utterances made by the participants during the interviewing phase. Also the findings of documents perused are discussed supported by empirical accounts. Content analysis is discussed building up to my justification of the coding method used in the study.
Chapter 6	Presents the summary of the findings of the study followed by recommendations building up to conclusion. Limitations of the study also form part of this chapter.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

In this chapter I corroborate, contrast and compare a variety of literature on KM. To navigate through this academic pursuit, my first point of departure is a discourse on philosophical orientation of knowledge followed by a narrative comparing the concepts of knowledge, information and data. A large part of this chapter pertains to how Indigenous conceptions of knowledge and knowing relate to the other themes as identified in the literature. Besides discussing different forms of knowledge (tacit and explicit) I also highlight how knowledge interfaces with organisations and how this makes KM feasible in the education sector. The narrative advances to a point where I discuss different types of school-based knowledge workers. Lastly, I discuss a host of challenges that pervade township schools and the impact these challenges have on the future of learners in the affected schools.

#### **2.2 THE PHILOSOPHICAL DISCOURSE AND CONSTRUCTS OF KNOWLEDGE**

“Knowledge is power” is a popular proverb that is used to affirm that knowledge supersedes physical strength and that no significant strides can be made without knowledge. Regardless of how easy it may seem to interpret the above-mentioned proverb, in an academic terrain knowledge is still an elusive concept which draws parallels between science, psychology and *philosophy* (which is the discipline that will form a large part of this discourse). Rosenberg (2018:1) points out that philosophy is a complex subject open to many interpretations, which seeks to establish logic or the lack thereof and to justify what is deemed “good, bad, right or wrong”. Scholars of knowledge are commonly referred to as epistemologists. “Epistemologists study what makes up knowledge, what kinds of things can we know, what are the limits to what we can know, and even if it’s possible to actually know anything at all” (Pardi, 2011). For various reasons some scholars indicate why they prefer not to spend time trying to define knowledge. Snowden (1998:17 cited in Botha, Kourie and Snyman, 2008:17) states that spending time trying to define knowledge is unnecessary. The logic behind Snowden’s reasoning, as pointed out by Lewis (1996:594), lies therein that knowledge is truly a difficult concept to capture.

The fluidity associated with the understanding of knowledge elicits diverse views from different schools of thought. Hislop (2013) postulates that in an objectivist perspective, knowledge can be perceived as a commodity or an asset at the disposal of individuals which can also manifest without an influence of the “human factor in a codified way”. On the contrary, constructivists firmly believe that the lived experiences and people’s participation in constructing meaning in society generate a body of knowledge about a particular event or occurrence. In constructivist practices, current knowledge is used by people to gauge the acceptance of new knowledge. According to them, what constitutes new knowledge is dependent on whether the supposedly new idea befits the existing practice as interpreted by participants (Monteith, 2009:118). Right from the beginning of “aiming to develop knowledge”, our engagement in crafting “realities should be regarded as a relevant concern” and we should give the benefit of trust to other scholars who endeavour to contribute a supposedly systematic new body of knowledge to what we consider a well-established discourse (Romm, 2002:247). However, as noted by Chilisa and Preece (2005: 24), in the positivists’ worldview (where positivists strive to remove subjectivity from the knowing process, which aligns them closely with an objectivist perspective as outlined above) it is conceivable to observe social events and generate scientific reactions to knowledge and know how it is to be perceived without cultural and philosophical considerations. They are more fixated on applying logic to connect observations to knowledge creation. Adding to the debate around processes of knowledge construction, Goldkuhl (2012:2) posits that pragmatists whose school of thought is less prominent in comparative terms, tend to put an emphasis on action and transformation as well as the interaction between knowledge and action.

The influence that knowledge has in societies is immense and cannot be understated. All the extrapolations from different schools of thought (i.e., constructivism, positivism and pragmatism) bear testimony to Odora-Hoppers’ (2002:8) assertion of knowledge being a universal commodity and resource which is, nevertheless, heterogeneous and thematic in nature. What makes it relevant is its contextual construct and manifestation. Ajibade (2007:643) attributes the heterogeneity of knowledge systems to the different regional settings. Nkondo (2012) contends that initially, all knowledge is localised but only becomes universal through the passage of time. To that end, Folke’s (2005) study emphasises that indigenous groups contribute a unique dimension of knowledge that is rooted in their own locally established practices of resource use. Regrettably, in other contexts, as is usually the case with many developing countries, documented accounts of knowledge sharing systems are not in abundance (Ndwandwe et al., 2017:265). Be that as it may, through generational story telling/

oral traditions, key cornerstones of indigenous practices are still very much entrenched in how these societies or communities live and act. Hence in Africa and in other traditional societies across the world, there is a concept of indigenous knowledge systems (IKS), which in the main, looks at traditional ways or means of knowledge production. Odora-Hoppers (2005:3) gives an elaborate perspective of African Indigenous Knowledge Systems (AIKS); these function on two harmonious segments, namely the *empirical* level and the *cognitive* level. The former can be divided into (i) natural (ii) technological and (iii) socio-cultural spheres (Odora-Hoppers, 2005:3). The natural sphere incorporates ecology, biodiversity, soil, agriculture, medicinal and pharmaceutical spheres (Odora-Hoppers, 2005:3). The second (i.e., technological and architectural) sphere entails all the crafts such as metallurgy, textiles, basketry, food processing, building, and so forth; whereas the third sphere is that of socio-cultural aspects of life including social welfare, governance, conflict resolution, music, art, and many others (Odora-Hoppers, 2005:3). However, Kaya and Seleti (2013:31) express their concern that African authors are yet to provide their “own clear” comprehension “of the knowledge concept”. Botha (2008:18) asserts that generally in Africa, both the developed and developing nations are complicit in this rather unfavourable trajectory. Botha (2008:18) rightly points to these two world’s inability to embrace the “political and socio-economic values of IKS” and thus to devise means to apply it alongside the so-called “westernised” knowledge. Nkondo (2012) attributes this trajectory to “western cultural and intellectual arrogance”. In the same tone, Lander (2000) and Chavunduka (1995) argue that western knowledge methodologies and practices always lacked clear orientation of others’ indigenous patterns of “knowing and knowledge” creation. This justifies why post-colonial period, Africa does not have its “own educational theoretical and methodological framework for knowledge production and sustainable development” (Kaya and Seleti, 2013:32). This is indicative of how easily indigenous capital can either perish or “get misappropriated” (Battiste, 2002:13) when “local communities or insiders” (Kaya and Seleti, 2013:33) undermine “their own knowledge and wisdom” (Battiste, 2002:13).

However, there is a glimmer of hope around this matter (at least in the long run), as some scholars such as the likes of Ntuli (1999); Vilakazi (1999) and Odora-Hoppers (2001) believe that this situation can be changed. Seleti and Kaya (2013:32) suggest that Africa must vigorously begin to augment her capacity and determination to construct “indigenous capital” and discard all the detrimental elements to her growth, progress, sustainability and livelihood. I fully endorse this notion on the basis that cultural activists across a multiplicity of African communities need to consolidate their indigenous capital effectively – largely in communities

where the majority of the people experience abject poverty and remain in the low socio economic band. In such situations, Smith (2002:238) advocates for indigenous solutions and argues that the adoption of western “social theories” and viewpoints are not conducive as they tend to overlook “the views and concerns of underprivileged social groups”. In considering the contributions of IKS, Shivji (2003:32) takes the position that we can integrate IKS with other ways of knowing. Apparently, as he points out, IKS “humanises western knowledge” (Shivji, 2003:32). I presume that Shivji applied his mind after having observed the bias of the “Western knowledge systems” embedded on the paradigm of “positivism”, which denotes that the most reliable source of knowledge is “information” generated “by the senses and verified by logical, scientific, or mathematical testing” (Dunn, 2014). Unlike Western knowledge, Indigenous knowledge draws its strength from metaphysical beliefs and tends to perceive knowledge as having various sources, without prescribing how people should go about acquiring it (Dunn, 2014). Scholars of IKS make the point that there are various methods to facilitate what a person can learn and rationalise about the world and its environment (Ryser, Whitaker and Bruce, 2017; Dunn, 2014). Another dimension to this discourse is added by Masemula (2013:112) who avers that western knowledge which in the main, is generated and recorded “through scientific methods” tends to contribute knowledge even if its context bears little or no tangible benefit at all to the needs of communities from a different social pattern; whereas IKS has since time immemorial always been intent upon contributing knowledge to address various community needs.

Harmonising “indigenous knowledge” with “modern knowledge systems into the curricula, instructional materials, and textbooks will equip “learners” and render them fit to occupy a space in the “greater world” (Kante, 2004:31) in which possession of critical knowledge means power. The best way for Africans to create knowledge unique to their situations (Masemula, 2013: iv) rests upon engaging in a meaningful dialogue to establish “rapprochement between alternative styles of knowing” (Romm, 2017:22). I sympathise with the notion of immersing ourselves in discursive engagements to decide on how, as a country blessed with a collage of people from diverse world views, we want to characterise our ways of knowing going forward. On the basis that the “society is a projection of the knowledge transmitted by its education system” (Masemula, 2013:42) I endorse Kante’s (2004:31) assertion of entrenching the values we want the world to know about us in the educational curriculum. I have thus learnt (through reviewing literature) that processes of infusing IKS with scientific knowledge are already underway. Odora-Hoppers (2015) affirms the seriousness with which South Africa takes the promotion of IKS:

We are focusing on the development of indigenous knowledge systems and the protection of it. That means that from the grassroots, up to the policy level, to the institutions, up to the UN agencies and so on. They have to know that this time ... this time, we are not joking.

The issue of protecting and assimilating IKS into the curriculum generates the attention of many African scholars, one of whom is Pitiki Ntuli, a South African sociologist and academic. He remarks that despite being out of colonisation for quite some time now, “we do not see ourselves really as Africans, we are constructs of the western world, western philosophies, and western education” (eNews Channel Africa, 2019). He appeals for indigenous societies to demand their space in the production of knowledge whose geography and surroundings they are familiar with. By so doing, Odora-Hoppers (2009:23) reckons that our education system will cease to anchor “employment” at the expense of “human development”. Her statement has made me realise the need for a well-rounded education system which does not only take from western values but also indigenous values systems. Through her statement I noted that, although there are challenges with regard to the scarcity of resources and adequately qualified teaching staff in some parts of the country, currently our education system is geared to empowering one with self-reliance, self-efficacy and independent thinking skills, but fails dismally on transmitting the kinds of values that are sought after in our context. The words “self” and “independent” correlate with “I” (individualism) and that is why today there is so much inequality mostly as a result of successful people’s unwillingness to share with the less fortunate ones. Although self-efficacy, self-reliance and independent thinking stimulate one’s intellectual prowess and capability to succeed, I consider that if those traits are not underpinned by the “We” mind-set and the values of putting others first and being of greater good to humanity as espoused in Ubuntu Philosophy, they also lead to arrogance, selfishness and greed. Ideally, our education system should infuse the needs and the knowledge of the society as pointed out by Lundgren (2007:35):

Education can be understood as the genetics of society. It is through education that we produce, from one generation to the next, our values, habits, attitudes and knowledge. It is through education that we create the conditions for cultural and economic growth. This insight is fundamental for educational planning, and thus for governing and monitoring education.

This bears testimony to the truism “that education is the bedrock of the society”; this also validates the conception that the inclusion of IKS at all levels of education can also deliver the kind of education that complements learners and students’ “own inherent perspectives, experiences, language, and customs” (Seleti and Kaya, 2013:37). “Socially acceptable”

methods of teaching (Dixon, 2011:63) which transmit “nuggets” of generational “knowledge and heritage” (Malinga, 2019), are essential in crafting a way forward particularly in this era where the decolonisation of the school curriculum is a much talked about issue in South Africa. However, Mhlongo (2018:66) cautions that the incorporation of IKS into other programmes should not be an impulsive virtue but a conscious one. This discourse has made it obligatory for me to explore in my study the extent to which the selected schools harmonise indigenous epistemologies with other knowledge systems when dealing with curriculum, managerial and administrative activities.

The aforementioned narrative on IKS, society and education was not a diversion from my main theme, but another dimension highlighting the complexity of the knowledge discourse and its philosophical constructs – essentially demonstrating that knowledge pursuits move with the times to inculcate a variety of new themes and latest developments across a multiplicity of social settings that are often ideologically diverse. This also alludes to earlier discussions on the theory of “thought processes” wherein I refer back to the constructivists’ perspective which draws on the influence of social settings and culture as agents of knowledge creation. Social settings are influenced by the latest ways of life, underpinned by developments such as technology, infrastructure and changing attitudes. Basically, this implies that knowledge production usually takes into consideration the changes affecting how people live. Thus, my deeper sense concludes that there is synergy between knowledge and evolution; I consider that through the passage of time, knowledge goes through transformation by fusing its old-self with current trends in order to redefine its new context and the appropriateness of how it is to be conjured. For instance, in today’s world the practicality of knowledge has evolved to incorporate “personal experiences, education, training, and belief systems” alongside daily exposure to information (McNally, 2010:17).

In this millennium the concept of knowledge has been diversified by the influx of “data and information” (Daraban, 2016:2). Often knowledge becomes reduced to data and information, and knowledge means that information is interpreted as meaningful. If people are oriented to learn from one another, they could benefit from different perspectives of information as part of knowledge production. Continuous human interaction and learning from one another may eventually precipitate the accumulation of wisdom. In the same spirit, Hung (2006), Nielsen (2005), and Hills, Hybels and Singh (2000) assert that knowledge is embedded in the formation of relationships. These authors probably made this pronouncement as an acknowledgement that through a consolidation of every actor’s information within these relationship formations

or networks, a plethora of knowledge can be harvested. After reading their studies I conjured a definition of KM as a coordinated mechanism of managing the process of people's interactions and learning. This concurs with my statements earlier (Section 1.2) of the importance of focusing on learning when examining KM. In section 2.5 I will pay more attention to the definition of KM taking into consideration additional scholars' interpretations.

In a world which demands societies to solve problems through applying their conceived knowledge, many authors suggest that we should conflate knowledge with wisdom (e.g., Clayton 1983; Staudinger, Smith and Baltes, 1992; Stenberg 1998; Baltes and Kunzmann, 2004; Brown and Greene, 2006). "Knowledge helps make a living and wisdom helps make the future" remarked Sandra Carey (cited in Mengel, 2006:35). I refer in this regard to a quote by Benjamin Franklin (n.d.) "the doorstep to the temple of wisdom is a knowledge of our ignorance" (cited in the Brainy quotes.com) as a means to illustrate that (whether consciously or subconsciously) in our minds, we generally see knowledge in relation to wisdom—hence we often use the word "wise" to refer to people we regard as having an abundance of knowledge. Davenport and Prusak's (1998:5) inference suggests that there is vagueness in how we have come to understand the actual meaning of the term knowledge. Utterances like these forward a view point that knowledge is subjectively defined by individuals based on their frame of reference on what they consider might constitute knowledge. The definition of knowledge is not simple or neat but a combination of "fluid and at the same time formally structured elements", intuitive and hard to breakdown in accurate words or comprehend in a sensible manner (Davenport and Prusak, 1998:5). Nevertheless, Drucker (cited in Shabrina, 2018:3) praises the transformative attributes of knowledge in saying that "knowledge is information that changes something or someone". Daraban (2016:1) argues that the origin of knowledge owes its being to "philosophy" and has been a contentious issue from the initial stages of "humankind". Knowledge is an elusive concept (Lewis, 1996:549) and thus, during the last two decades (Ardelt, 2004:257), several scholars (e.g., Riley, 1996; Lewes, 1996; Odora-Hoppers, 2003, 2005; Nel, 2005; Rhode, 2006; Hess and Ostrom, 2007; Botha, 2008 and Maxwell, 2013) have engaged with this issue in a bid to better understand and reconfigure the meaning of knowledge.

It remains to be seen, if at all, there will come a time in future when there is a universally accepted version of the definition of knowledge. In the interim, the different logic behind the practicality of the conceptions of knowledge are not always reconcilable and the definition of "knowledge" is best treated as a subjectively interpreted philosophical construct. What is clear

though, is that the term “knowledge” is derived from two Greek words, the first one being *episteme* which simply means *knowledge* and the second one being *logos* which means *a word or reason* (Pardi, 2011).

### **2.3 THE CONVERGENCE OF INDIGENOUS AND WESTERN WAYS OF KNOWING**

I now venture to add further detail regarding conceptions of indigenous ways of knowing and their importance for “knowledge management”. What is important to note about IKS is that processes of deliberations take ample “time” to bring to finality, because they make provision for discursive engagements between very many people who meet on a regular basis (Karlsen and Larrea, 2016:75). Collective knowing is the nucleus of discourse formation in IKS, meaning that together we can achieve and learn more than we can when we work in isolation. Hence in most instances “we” as opposed to “I” is used to report the constructs. “We” in indigenous communities, means that the amalgamation of people’s individual thoughts become everyone’s learning process. In view of, and extending the literature on KM, I propose that this arrangement when applied in all school operations can herald growth and stability in how people relate to one another as they attempt to share knowledge. My study in the selected schools explored, *inter alia*, this contention.

Although the majority of South Africans are characterised as “indigenous”, we should recall that apartheid policy entrenched socially identified racialised groupings (as socially constructed groupings with policy implications – cf. Romm, 2010: 12). Therefore, if we do not act radically to define our situation as a country, then things are likely to remain the same in future. Acting radically means that academics should join forces with indigenous communities, the government and cultural agencies and begin to work towards crafting our own unique ways (orientations) to knowing, by merging the two worlds (i.e., Eurocentric ways of knowing and Indigenous ways of knowing). To indicate what I mean by merging both worlds, I refer to the Batho Pele White Paper (Public Service Commission, 2000), which through proper implementation can even work better than it already does alongside a characteristically westernised bureaucratic system. “But this rapprochement requires a dialogue which is not set up as adversarial” (Romm, 2017:22). This is the domain of KM as an enterprise of sharing through dialogue.



## 2.4 THE DIFFERENCE BETWEEN KNOWLEDGE, INFORMATION AND DATA

"Where is the Life we have lost in living? Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in the information?" (T.S Elliot, 1934)

In rudimentary terms it seems acceptable to use the concepts of “data”, “information” and “knowledge” interchangeably. However, in logical terms data, information and knowledge differ. Tuomi (1999); Gevorgyan and Ivanovski (2009); Annell and Wu (2013), and Doyle (2014) all attest to this because they have closely monitored this fallacy of equating data and information. The reason for this is that the synergy between knowledge, information and data is so compact that novices and passive scholars may not find it easy to construe. In my bid to illustrate the difference between the three concepts, I am drawing on other scholars’ interpretations of these concepts.

Jones and Sallis (2002:8) equate knowledge to “information in use”. Upon reaching the human mind, information goes through a radical rationalisation process, after which it is transformed by the mind into knowledge, and its application is embedded in procedures and conceptualisations of thoughts, which allow us to “frame ideas and mental models and tell us how to do things” (Grotzer, 2015). Prior to its refinement, “information” is more like a conglomeration of data. Holmes (2004:91) avers that information is closely linked to a “human” extraction of resolutions taken after they have completed their interpretations and observations. Similarly, Ahmed, Lim and Zairi (1999:305) posit that vital information is conceived through a blend of “data and exists at a lower order than knowledge”. Unlike information ‘data’ (the plural for “datum”) can be juxtaposed to unprocessed ‘facts’ which can either manifest qualitatively or quantitatively. Once data have been processed meaningfully, they transform into what is referred to as information. Doyle (2014) cautions us to refrain from using the words “data and information interchangeably because they are not the same thing.” He even goes as far as unpacking the root of the word “data”. His interpretation of data is that these are “raw” and need to be fine-tuned before they evolve to become information (Doyle, 2014). In addition, Annell and Wu (2013:5) point out that the purview of data is such that the word becomes ineffective when it is taken out of context. Data is grounded on the acquisition of “facts” that come as a result of having engaged in either “direct observation or from actual

records” (Lai and Chu, 2000; Rowely, 2007). For the purpose of contrasting data, information and knowledge, I refer to the following pyramid called DIKW adapted from Ackoff (1989:2).



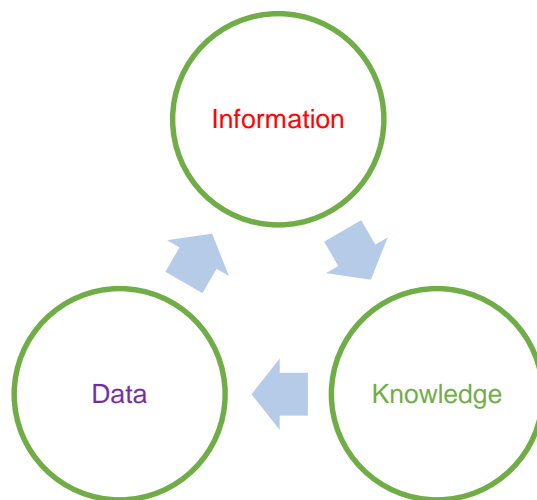
**Figure 2.1: DIKW Pyramid (Ackoff, 1989:2)**

The pyramid provides a hierarchical evolution of data as they evolve to what can be called “knowledge”. It is by far one of the most preferred structures to depict strata or levels of knowledge evolution. It also cements the synergistical relationship between data, information, and knowledge through to the ultimate stage (wisdom). By implication, “data are a prerequisite for information, and information is a prerequisite for knowledge” (Tuomi, 1999:103). Despite Ackoff’s (1989) theory (depicting sequence of the pyramid) being endorsed by several scholars (i.e., Ahmed et al., 1999; Maponya, 2005; Doyle, 2014); others (McDermott, 1999; Braganza, 2004) are not in favour of it. They posit that the pyramid should be the other way round (vice versa). To them, knowledge is the generator of information and in return information is a prerequisite for the accumulation of data (ibid). They also argue that without prior knowledge (theoretical conceptions), no information would be embraced as meaningful. They thus prefer Ackoff’s earlier version of the pyramid on the premise that it took into cognisance all four levels, namely: wisdom, knowledge, information and data (as opposed to the recent version which mainly depicts data, information and knowledge whilst downplaying wisdom).

Weinberger (2010) criticises Ackoff’s manner of developing his theory depicting the relationship between data, information, knowledge and wisdom. He argues that what appears to be a sensible “progression” in the DIKW pyramid turns out to be “a desperate cry for help” because in reality the “info-to-knowledge” transition is way more tedious “than the data- to-info one” (Weinberger, 2010). He argues that there are far too many loopholes which compromise the rationality of the pyramid. Although Ackoff’s depiction of knowledge as an “actionable refinement of information” (as specified in the DIKW discourse) is a noble business conception, it is contrary to the “over 2500-year history” of Plato’s widely accepted conception

of knowledge being more of an umbrella of "justified and believable beliefs" (Weinberger, 2010). Rowley (2007) observed that the recently published academic materials on the DIKW do not expressly cover wisdom. Thus, there is no consensus drawn on "the description of the processes that transform elements lower in the hierarchy into those above them" (Liew, 2007; Rowley, 2007).

Empirical evidence stipulated that Ackoff is not the founding father of the model. Prior to his theories several scholars (Kenneth Boulding, Nicholas Henry, Yi-Fu Tuan, Daniel Bell, Mike Cooley and Zeleny in 1955, 1974, 1982, 1980, 1987 respectively) touched on it. Ackoff has been credited for it (Rowley and Hartley, 2006:6) because he made the discourse accessible to wider audiences through his seminary discussions and publications. It also inspired the creation of Gevorgyan and Ivanovski's (2009:6) version (which also depicts the synergy between data, information and knowledge in a circular form) which I tend to prefer better than that of its predecessor (i.e., Ackoff's pyramid). Theirs is called the "knowledge circle" as indicated below in Figure 2.2.



**Figure 2.2: Knowledge Circle (Gevorgyan and Ivanovski, 2009:6)**

My appraisal of the literature indicated that although data, information and knowledge are used interchangeably, their configurations appear to be different and yet are reciprocal in nature. Although both diagrams referred to use different formats (i.e., pyramid and circle) to illustrate the synergy between data, information and knowledge, they both are agreeable in some sense. They extrapolate in their own unique ways that data, information and knowledge feed into each other, and the progression of these symbiotic elements culminate in the discovery of wisdom (which is the supreme state of awareness or enlightenment). According to my understanding,

data are the agent of information, whereas information is the nucleus of the body of knowledge. However, I wish to express that having an abundance of information does not automatically translate in the production of *meaningful knowledge*, because abundance of irrelevant information often leads to what Mhlongo (2018:2) deems “information famine”. Therefore, the secret to knowledge production lies in *selecting and processing the right kind of information* (Mhlongo, 2018:2, own emphasis). I am now left with the perception that only when information is tactfully sourced out (using a variety of sources), is it likely to conceive *knowledge*. Furthermore, I note that the majority of studies I perused indicate that although wisdom is the supreme state of awareness or enlightenment, the attainment of knowledge is already a good enough disposition for one to produce effective outcomes in any endeavour. Wisdom is just a plus and is usually experienced-based. (Refer to Section 2.2 for further deliberations on wisdom and knowledge).

## **2.5 THE INTERFACE BETWEEN KNOWLEDGE AND ORGANISATIONS**

Creating, sharing and preserving knowledge is crucial to the growth of every organisation. Tyrteou (2016:17) maintains that the term “organisation” does not exclusively represent the “business” sector but also covers “educational” institutions. Girard and Girard (2015:1) posit that knowledge has transcended beyond an academic terrain into a formidable element of “organisational life”. Ahmady et al. (2016:393) cite Drucker who asserts that knowledge has become the cornerstone of “21<sup>st</sup> century organisations” far beyond “money, wealth and technology”. This implies that organisations are no longer oblivious to the fact that, in pursuit of efficiency and productivity, managing knowledge puts them in good stead to realise their goals. Gonzalez (2004) argues that half of what is at our disposal today was non-existent a decade ago. In addition, Siemen (2005:3) avers that knowledge is growing in leaps and bounds. Hence the formation of strategy to control the influx of knowledge has become a necessity. This strategy is referred to as KM. Cranfield and Taylor (2008:87) extrapolate that KM has generated multitudes of definitions derived from various fields, thus making it hard to define in a manner acceptable to everyone. Presently most organisations treat KM as their key component (Mosoti and Masheka, 2010:107), albeit that its definition may still be unclear.

From the long list of definitions, a concise few were chosen for the purposes of my study. Mphahlele (2010:13) defines KM as the mission of recording, distributing and applying knowledge with the intent of remaining “innovative” and globally “relevant”. According to Kaya and Dey (2016), KM is a process geared towards realising the creation and formulation

of channels conducive for the flow of knowledge. The last definition chosen is that of Chiu and Chen (2016:33) who perceive KM to be the application and enhancement of the organisation's knowledge assets in order to realise desirable "organisational goals". They believe that organisational goals can be agreed upon by organisational actors. That in itself is contentious, as will be explained later and explored in my study of the selected South African schools.

It is clear that at this juncture, there is no fixed term used to define KM; consequently, the term remains a thorny and debatable issue among scholars. To get to the bottom of this, I selected two operative words namely; *system* and *process* to detect the frequency of similarities in the way scholars define KM. It then transpired that a substantial number of empirical studies perceive KM as a system of creating, storing and sharing knowledge (Demarests, 1997; Burton, 1998; McKenna, 1998; Kucza, 2001; Cong and Pandya, 2003; Wickramasinghe, 2003; Wiig, 2004; King, 2005; Serrat, 2009; Smith, 2009; Frost, 2010; Prior, 2010, Sbafani, 2010). Meanwhile, other studies (Christensen, 2003; Botha, 2004; Levinson, 2007; Daud et al., 2008; Uriarte, 2008) refer to KM as a process of managing the creation, distribution and preservation of organisational information. Through it all, I realised that these scholars use different operative words but with the same connotation to characterise the concept of KM. After synthesising their definitions, the best that I could come up with is *KM is the exercise of ensuring that activities of knowledge creation, storing, reusing and distribution are facilitated systematically to emulate the organisation's best practices*. Every organisation needs to breathe life into their KM systems "in order to adapt to change, in order to survive and grow the organisation" (Botha, Kourie and Snyman, 2014:33). The literature indicates that over and above the tangible attributes of KM such as technology, managerial processes and people involvement, other abstract factors play a pivotal role in the success of KM. Accordingly, Shabrina et al. (2018:1) posit that knowledge materialises as a result of values, experience and intuitively generated information that enables an organisation to evaluate and syndicate newly acquired "information". Rusell (2005:4) argues that "the kind of specialised knowledge"—whether technical or theoretical – that is required to perform tasks has "little to do with wisdom". In essence this proves that, although wisdom is higher on the hierarchy than knowledge, in a practical context like in the workplace, knowledge prevails. The know-how characteristic of (tacit) knowledge typifies skills and expertise and those are exactly what is needed to cope with work-related assignments. Further, KM is not only about work-related assignments but also about ways in which people manage to interact with each other in view of varied perspectives that they may bring to bear on the conversation. This view succinctly explicates the interface between knowledge and the organisation.

Although dissecting wisdom is not the primary focus of this study, I consider it important in the context of this thesis to observe its description relative to African orientations to knowledge. For instance, in IKS, wisdom is the ultimate state of knowing beyond task orientations but also about *learning to live in a community* and to create a sense of togetherness. This is contrary to the western notion on knowledge which has come to be too task oriented at the expense of the wisdom of knowing and acting in relation to others. This is a typical depiction of the contrast between the western approach to knowledge production and IKS production. With regard to indigenous epistemologies, knowledge production is “a source of livelihood” (Mhlongo, 2018:48), which has always been embedded in collaborative, circular and holistic orientations (Chilisa, 2012, 2019; Goduka, 2012). An individual actor in this instance, is not detached from the context because “knowledge is relational”, meaning that it may not be the property of the individual unless it relates to the “environment to which he/she belongs” (Mhlongo, 2018:48). Relational accountability is a trait of indigenous knowledge (Wilson, 2001), which is rooted in embracing the crossing of paths “between knowledge” and societal dynamics (Mhlongo, 2018:48).

## **2.6 POLANYI’S CONTRIBUTION TO THE KNOWLEDGE DISCOURSE**

In the context of this study, it is important to note that organisational knowledge manifests itself in two forms, namely: *explicit* and *tacit*. The two knowledge types feed into each other by way of conversions from tacit-explicit and explicit-tacit and other variations configured from these two forms of knowledge. According to Nonaka and Takeuchi (2001:67), *tacit* knowledge experiences are practical, physical and personal in nature, yet they are interpretable when converted into *explicit*, metaphysical or objective forms. Through the literature review I established that not every scholar takes pride in the way the knowledge discourse is oriented. A cadre of scholars (i.e., Schmidt, 2012; Nielsen, 2002; Adler, 1996) is clearly not content with the status quo. They criticise the founding fathers of knowledge as a discourse, moreover Polanyi. For instance, Schmidt (2012:2) critiques both Michael Polanyi’s “tacit” and “explicit” knowledge and Gilbert Ryle’s “knowing how” and “knowing that” on the basis that they institutionalised how we today understand knowledge. Another critic of Polanyi’s theory is Adler (1996:2) who posits that Polanyi’s notions of knowledge were ill informed and as a result presented a “static contrast” of the two knowledge types. He argues that knowledge is not “static” by nature. Defending Polanyi’s views on tacit and explicit knowledge is Grant (2007). To disqualify the views of Polanyi’s critics, he found that a review of 60 accredited journals

confirmed that most scholars think “Polanyi’s work has frequently been misinterpreted” (Grant, 2007:103).

Among the many critics is Schmidt (2012:2) who claims that Polanyi’s portrayal of tacit knowledge has effectively removed what is deemed “pure science” away from the scrutiny of “external parties”. Schmidt thus criticises Polanyi for coining the terms tacit and explicit knowledge (Schmidt, 2012:2). Apparently, tacit knowledge “is problematic” because it limits our perceptions “in terms of forms of symbolism” and bars us from interrogating “actual work practices” (Schmidt, 2012:2). Nielsen (2002:3) supports Schmidt’s perspective, arguing that tacit knowledge does not take into considerations the entire spectrum of how knowledge experiences naturally unfold. However, Schmidt and Nielsen’s criticisms of Polanyi do not augur well with some scholars. For example, Fruehauf et al. (2014:104) contradicted both Schmidt and Nielsen’s views on the basis that Polanyi contributed a uniquely special dimension to the knowledge discourse, which eventually opened doors for other scholars to contribute meaningfully towards reshaping the discourse to what it has since become. My overall supposition on Schmidt’s assertion on Polanyi is that he may have looked at the phenomenon from a more positivist stance than a constructivist stance.

Grant (2007:173) commends Polanyi’s contribution to the knowledge discourse, by reminding us that his work is still applicable to today’s life. I support his view on Polanyi’s contribution because it became a cornerstone of brilliant ideas that were yet to come, most notably works by Nonaka and others. Polanyi’s journey “of knowledge analysis” presents us with two major dimensions to knowledge: tacit and explicit (Tyrteou, 2016:16). The “know-what to know-how, and from tacit to explicit” that we talk about today has redefined the essence of knowledge in organisations (Chu et al, 2011; Nonaka, 1994).

## **2.7 EXPLICIT KNOWLEDGE**

Wang et al. (2014: 223) identify explicit knowledge as the kind that takes a symbolic or written form. Additionally, Dalkir (2013:8) extrapolates that *explicit* knowledge essentially refers to the information that is manually and visually captured such as “words, audio recordings, or images”. Easy access to explicit knowledge (i.e., “manuals of procedures, policy documents, files, computer memories and databases”) resulted in others (April and Izadi, 2004:22) calling it “simple knowledge”. Also, Afolayan, White and Mason-Jones (2016:8) note that explicit knowledge is “easily codifiable and easy to share”.

Smith (2001:315) points out that its codification requires familiarity with technical application, which in most instances may require one to have undergone “formal training or structured study”. Tacit knowledge also offers an invitation for the adoption of other forms of structured learning such as “experiments and forum discussion” (Sanchez, 2005:194). I would add that the costs associated with the production of explicit knowledge vary according to the purpose it is meant for. For instance, when a high school learner writes a note to his/her friend, the learner will not require any financial resources to share the knowledge with his/her friend. However, for school administrators to duplicate examination papers for all the learners, *appropriate tools* (i.e., photo-copying machine, reams of papers, ink, staples and so forth), *financial resource* (i.e., money to cover utility bills, to replace the exhausted items, and maintain the equipment) as well as *people’s competency* (i.e., administrative clerks’ skill) are required.

In the era in which we live, Smith (2001), Cong and Panday (2003), April and Izadi (2004), Sanchez (2005), Cranfield and Taylor (2008), and Chigada and Ngulube (2015) see information technology as a catalyst of explicit knowledge production, storing, distribution and replication. To deepen my perspective on explicit knowledge I located a pocket of studies (Brown and Duguid, 1999; Bukowitz and Williams, 1999, Cook and Brown, 1999). I use the word pocket of studies to express the general dearth of literature on explicit knowledge – a point which Seidler-de Alwis, Hartmann and Gemünden’s (2004:2) vehemently deny. They maintain that literature on explicit knowledge outweighs that of its counterpart. Nevertheless, Brown and Duguid (1999), Bukowitz and Williams (1999), and Cook and Brown (1999) argue that importance of explicit knowledge does not come close to that of its tacit counterpart. It may well be that they are of the view that explicit knowledge is “simpler in nature” and does not encapsulate the “know-how” element (Hajric, 2017).

I find apt the position that there should be no antagonistic comparisons between tacit and explicit knowledge. Their sameness or differences become irrelevant in this knowledge era where both of them are needed to work side by side, as enshrined in Nonaka and Takeuchi’s SECI model and Nonaka and Konno’s Ba model. I further argue that their reciprocal transformations of these knowledge is of paramount importance to our daily dealings. Hypothetically speaking, if tacit knowledge did not transform to become explicit knowledge, (tacit) knowledge would have remained static and obsolete, and of no use to human development. It would exclusively remain its possessor’s disposition, which would eventually cease to exist once its possessor passes away. I thus presume that mutual learning would have not existed, therefore, educational institutions would not have been in existence, because



teaching and learning would not have constituted any meaning to our existence as human beings. Thus manuals, books and databases would not have been a conception in the first instance. At the heart of knowledge creation lies tacit and explicit knowledge (Nonaka and Konno, 1998:42). This is all the more reason we should pay homage to the existence of both types of knowledge.

## **2.8 TACIT KNOWLEDGE**

Fruehauf, Kohun and Skovira (2014:104) label tacit knowledge the “holy grail of knowledge management theory”. The tangibility of explicit knowledge makes it easier to access, while the intangibility of tacit knowledge is a factor that makes it a mission to access. *Tacit* knowledge tends to rest in the minds of the knowers, is often personalised by individuals and can only be converted into an explicit form through dialogue and codification (recording) of some sort. Nonaka and Takeuchi (1995) regard tacit as a critical source leading to the creation of a resourceful body of knowledge mainly due its “knowing how” and “knowing why” nature. For tacit knowledge to be codified into explicit knowledge and passed from one person to the other, there must have been a sharing experience mainly in a form of a verbal interaction, know-how “exteriorisation” as well as teaching (Politis, 2002:187). Tacit is also known as “complex knowledge” because it is not easy to control, manage and articulate (April and Izadi, 2004:24). The fact that tacit knowledge cannot be shared in an electronic form, frequently leads to it being underrated and perceived as of less significance when compared to explicit knowledge (Smith, 2000:237). The personalised orientation of tacit knowledge makes it a precious disposition of its possessor, which he or she is at liberty to share or keep. That is why organisations need to institute proper mechanisms to ensure that tacit possessors are encouraged to share it. Encouraging its possessors to share it would lead to a situation whereby it is “converted into explicit, objective or public knowledge through public expressions including speech, writing, the creation of images or performances” (Rowley and Hartley, 2017:7). Rowley and Hartley’s statement comes in the wake of a realisation that volumes of tacit knowledge gets monopolised. This trajectory repeats itself across the spectrum of the schools, where often than not, experienced teachers hoard knowledge; even when they see that their novice counterparts could benefit from it when it is being transferred to them. When left unabated organisational knowledge will not evolve to inculcate the culture of continuity when the knowledge hoarding teachers have left the school.

There is an urgent need for radical transformation of how schools treat the relationship between experienced and novice teachers. What is clear to me is that research has timeously explicated

that novice teachers identify the scarcity of support mechanisms especially induction, mentorship, peer support, and professional development as contributing factors to their struggle to grasp the content they teach in class (Garcia and Weiss, 2019:9). Against this backdrop, Sanchez (2005:198) cautions us against failure to come up with mechanisms to draw out tacit knowledge from the minds of skilled persons, which can lead to the loss of crucial knowledge. He states that organisations must work tirelessly to record individuals’ tacit knowledge because there comes a time when they will either be declared unfit to work, poached by other organisations, or go on retirement. Smith (2000:243) adds another dimension, stating that collaborating with tacit knowledge possessors is a good exercise for attracting and keeping a crop of talented, committed and goal driven individuals whose organisations would be loath to lose to other organisations.

A large number of scholars are drawn to issues relating to tacit knowledge. To clarify this point, I cite Schmidt (2012:1) who states that “tacit knowledge” literature is massive (“more than 100,000 hits in Google Scholar”). He thus posits that tacit knowledge is vast in scope as it straddles across diverse fields of study: “Philosophy of Science, Sociology of Science, Theology, Philosophy of Sociology, Knowledge Management, Organization Theory, and many more”. On the contrary, Seidler-de Alwis et al. (2004:2) remain unconvinced by the claim that tacit knowledge literature is massive. Instead, they aver that a lot more still needs to be done to expand the rate of empirical cases about “the management of tacit knowledge.”

After much deliberation on the views of scholars whose works I perused, I argue that the multidisciplinary scope of tacit knowledge is its appeal to professional and lay researchers such as myself. I also now better understand the logic behind Schmidt’s (2012:2) referral of tacit knowledge as “a conceptual muddle”. Although I understand his labelling of tacit knowledge, I cannot say the same about his criticism of its characteristics.

The fundamental differences between tacit and explicit knowledge are characterised as follows (Table 2.1):

**Table 2.1: Tacit versus Explicit Knowledge (Armit, 2000 cited in Kazaure et al., 2016:163-164)**

<i>Characteristic</i>	<i>Tacit</i>	<i>Explicit</i>
<b>Based on nature</b>	Tacit tends to be personal and contextually specific	Explicit can be codified and explicated

<b>Formalisation</b>	Tacit is hard to formalise, document, encode or articulate	Explicit can easily be codified and transmitted systematically and linguistically
<b>Development process</b>	Learn by doing or trial and error oriented practices	Explication of tacit understanding and interpretation
<b>Location</b>	People's mind	Documents databases, Web pages, e-mails, etc.
<b>Conversion processes</b>	Converted to explicit by means of a metaphorical or analogical externalisation	Converted back to tacit through understanding and absorption
<b>IT support</b>	Difficult to manage, share, or support with IT	Adequately supported by existing IT
<b>Medium needed</b>	Thrives in a rich communication medium	Transferable through conventional electronic channels

## 2.9 KNOWLEDGE MANAGEMENT IN THE PUBLIC SECTOR

Omar Sharifuddin bin Syed-Ikhsan and Rowland (2004:238) are concerned about the dearth of “information” on KM within the context of the developing world. Prior to the release of their own book in 2013, *The Asian Productivity Organisation* (APO, 2013:1), they state that there had been no book on public sector KM in Asia. I consider that Africa is also not immune to this as I located a only a handful of books published on public sector KM, such as those by April and Izadi's (2004) and Pol and Nederlof (2010). I, however, do not rule out the possibility of having overlooked a few others during the time I was mining for literature. Be that as it may, what is already clear is that there are only a handful of books dedicated towards the course. My hope was nonetheless resuscitated by having noticed that despite the scarcity of books, over the last decade or so, there has been an upward trajectory in to other forms of scientific contributions dedicated towards this course. These contributions go a long way towards

shaping the public sector KM discourse and they include several scholars mainly from Africa (i.e., April and Izadi, 2004; Cameroon, 2009; Cloete, 2010; Mbhalati, 2010; Mphahlele, 2010; Mossoti and Masheka, 2010; Gxwati, 2011; Wamundila and Ngulube, 2011; Jain and Jepperson, 2013; Omona , 2014; Omona et al., 2014; Ramohlale, 2014; Suknunan, 2014; Gyaase, Anane and Armah, 2015; Massaro et al., 2015; Nguyo, Kimwele and Guyo, 2015; Dewah and Mutula, 2016; Kalema, Motsi and Motjoloane, 2016; Munafu, 2016; Mosha, 2017; Okeke and Okeke, 2016; Kabilwa, 2018; Mhlongo, 2018; Ndaba, 2018; Nengwi, 2018; Kazeroony, 2019; Omigie et al., 2019; Suknunan and Maharaj, 2019; Wamuyu and Ndiege, 2019).

There are a lot more African scholars who have published extensively on private sector KM. I deliberately left them out of this narrative as I considered (discussing them) would divert my focus of attention from elucidating the paucity of published books on *public sector KM* and the steady increase in the volume of literature on public sector KM. Generally speaking, Cranfield and Taylor (2008:85) indicate that the last ten years have seen KM's appeal as a worthy managerial concept and a researchable field soar. Having realised the benefits of KM, not only the business sector but also the public sector began to gradually warm up to KM (Al-Hawamdeh, 2002; Kabilwa, 2018). Thus, there has been a rise in the volumes of scientific publications concerning KM on both sectors (Kabilwa, 2018:29). In its 2003 annual report, the Organisation for Economic Co-operation and Development (OECD, 2003) outlined some of the factors that heralded the adoption of KM as a public sector tool, as stated below:

- issues emanating from efficiency and productivity levels and the minimisation of knowledge duplication across organisational units and departments, are all thought to have ignited the establishment of knowledge management practices;
- refining transparency and outward distribution of information as well as enhancing working relations and trust within organisations;
- reconfiguring the public image of organisations to lure job seekers and whilst at the same time, cultivating work relations by way of promoting life-long learning and sharing knowledge with other ministries.

McKin (2005), cited in Arora (2011:166-7), extrapolates that governments across the globe had no other options, but to adopt information management as a tool to drastically reduce paperwork in the administrative, executive and the judiciary fields of occupation. Our government has finally begun to understand that improving the strategy of growing our

“information society” and “ICTs” is the right step towards the prosperity of the country, and the attainment of socio-economic growth of the country’s citizens (Farelo and Morris, 2006:3). KM application enables governments to leverage on unexplored innovations (Qian, Mimicopoulos and Yum, 2008:5).

Understanding what underpins the term “public sector organisation” is very important. Today’s public sector encompasses all national ministries, state agencies or parastatals, municipalities, provincial government departments and the military and many others. Although the commonality is that they both employ people and technologies to function on a daily basis, there are fundamental differences that determine the programming and management of knowledge in the private and the public sector organisations. Although a lot is known about private sector’s application of KM, there is an impression that not much is known about public sector’s application of KM. The reason there is not much known about the public sector’s application of KM resides in that KM is a fairly new area of interest to most public organisations which is not well established as yet (Mohsennasab, Nezhad and Abtahi, 2008; Choy Chong et al., 2011). A different view is raised by Riege and Lindsay (2006:24). They contradict the claim that KM is a new area of interest in the public sector; they instead argue that it has long been practiced mostly by the public sector technocrats, specifically to handle the planning, consultation, and implementation of programs. The following paragraphs elicit fundamental differences between public sector organisations and private sector organisations; I thus draw on relevant literature to demonstrate how the latter has woken up to the reality of adopting KM amidst the pervasion of the knowledge economy.

In terms of KM application in the private sector is well documented. On the execution front, it is mostly done adjacent to adequate resource allocation, up to date technologies and trained/qualified personnel. Another propelling factor lies in that the private sector relishes the prospects of increased profitability, which makes accountability for failure to reach the targeted standard intense and detrimental to the careers of poor performers. Contrarywise, the motive of the public sector differs in terms of service and profitability. The Asian Productivity Organisation (APO) (2013:3-4) posits that public organisations are primarily focused on fulfilling their legislative mandate, and unlike the private sector, public sector organisations are likely to be careless about increasing their profit margins (because in the first place, they were meant to deliver services to citizens). However, there are several operational factors (including KM) that are over-looked by numerous public sector organisations. These operational deficiencies are detailed in a report entitled “*Towards a Knowledge Management Framework*

*for Public Service*” which was compiled by the Department of Public Service and Administration (n.a: 4-5). The report points to the: 1) inadequacy of systems and processes of knowledge development and sharing, and links between organisational areas and planning processes; 2) absence of knowledge and information (know-how) on addressing the transformation challenges; and 3) a strong will for integrated distribution of information and knowledge is required particularly from the provincial level.

While I acknowledge that the public system is engulfed in an array of challenges which can never be surmounted in a short spell of time, I however have the impression (after having read literature) that to a large degree, most of what is curtailing KM application in the public sector points to the lack of determination and collective vision for the well-being of these organisations. To qualify this point, I explicate by way of empirical illustrations, the kind of factors that curtail public sector KM application, as stated below:

- wasteful expenditure, which results in their failure to procure KM equipment (Stevens, 2008; Lee, 2011; Onyancha, Ngoepe and Mhlongo, 2015)
- not fully adhering to standardised guidelines that were, in the first place, meant to propel experienced employees to transfer their knowledge to their inexperienced counterparts (Mkhize, 2015:9) before the experienced ones leave the system;
- absence of the organisational culture enabling for communities of practice to engage discursively and apply “critical thinking” (Mkhize, 2015:2) as a means to finding lasting solutions to the challenges they experience in their line of duty.

On the bright side of the trajectory, Mayne (2017:3) asserts that all the KM inefficiencies that bedazzle most public sector organisations can be eradicated through the enactment of effective performance monitoring systems.

## **2.10 THE FEASIBILITY OF KNOWLEDGE MANAGEMENT IN EDUCATION**

In this section, I bring to light certain empirical findings to mostly validate the prospects of KM in schools, and partially to highlight the flaws that schools need to be mindful of when applying KM. Firstly, I turn to literature to indicate notable problems that curtail KM application in schools. I initiate this discourse drawing on Kimble, Hildreth and Wright (2000); Piccoli, Ahmad and Ives (2001); and Zhao (2003), who argue that for KM to emulate best practices in the management of our education system, there needs to be a complete eradication

of the following barriers: 1) a lack of education stakeholders' engagement and willingness to participate in KM efforts; 2) the absence of appropriate structures and feedback methods; and 3) substandard technology support. It goes without saying that African education systems are among the hardest hit in as far as KM application is concerned. This is demonstrated by empirical accounts. The first of these is Kalema et al. (2016), whose study looked at South African schools' knowledge sharing practices among teachers. They observed that experienced teachers habitually did not share knowledge adequately with their juniors. They proposed that a standardised set of guidelines should be adopted to direct schools on how to share knowledge meaningfully and to propel experienced teachers to cascade their skills to their inexperienced counterparts.

Gyaase et al. (2015) established that teachers and administrators working in second cycle secondary schools in Ghana were unable to fully participate in KM due to the frailty of technological infrastructure, especially web based connectivity. They also noted that a significant proportion of teachers was computer illiterate and there was no resolute KM strategy to turn things around. In Kenya, Nyariki's (2013) study elicited that the studied secondary schools predominantly relied on the manual ways of recording, updating and retrieving learners' records; as they did not possess ICT infrastructure local area network (LAN) to harness departmental record keeping. This was also exacerbated by the fact that the record keeping staff (or personnel) were not adequately trained to execute these duties (Nyariki, 2013:67). Such inefficiencies give good reason for why studies (i.e., Akhavan et al., 2005; Hammer et al., 2004) found that about 70% of KM initiatives fail to gain traction. Henceforth, Dogan and Yigit (2014: 457) caution school authorities to place "commitment, communication and self-development" of both the teaching and administrative staff at the core of KM application, as opposed to the norm of paying undivided attention to technological and infrastructural elements of it. They are of the view that engendering these traits (i.e., commitment, communication and self-development) ignites curiosity among staff members to establish forum discussions, and to learn more as well as acquire more knowledge (Dogan and Yigit, 2014:458).

I purposefully began the narrative in this section with the less desirable aspects of KM application, as I intended to underscore the objectiveness of the study as opposed to only covering the façade that appears to gratify KM application as an error free exercise. Also I needed to emphasise the point that over and above the availability of resources or lack thereof, KM application is also very much an attitudinal exercise. I now turn to studies from different

parts of the world to illustrate that despite “unequal access to resources in the South African education system” (Sedibe, 2011:129), our schooling system is also capable of applying KM meaningfully. Being aware of the complex nature of problems our country’s schooling system is faced with (cf. Sedibe, 2011), I set myself to look for studies conducted in a context similar to ours. During the process I located a study by Ferdinandus et al. (2015), which was conducted in two schools situated in Indonesia’s predominantly rural regency of Aru. The study found that through effective leadership, active staff participation and conducive organisational culture, even in the poorest of schools, KM application can become a success story. What came out expressly in their study was that even in the absence of proper infrastructure and resources, people’s (staff) willingness is the foremost enabler of KM. Also in Indonesia, Kurniawan’s (2014) study found that KM aids school academic programmes tremendously. Across the border in Malaysia I refer to a study conducted by Awang et al. (2011) whose findings acknowledge that despite its many flaws, KM improves administrative processes of the school. Still in Malaysia, I draw on a study by Samad, Rahmad Sukor, Syad and Muslinah (2014) which elicited that “vision and mission, school strategy, school culture, intellectual modal, learning organisation, leadership, new knowledge production, and digital advancement”, framed how the selected school administrators from 52 high-performing schools perceived and applied KM. Nigrotha’s (2019) study explicated that SMT members’ (i.e., HODs, principals and deputy principals) across Thai schooling system linked the prospects of KM application to the efficacy of principals’ leadership. In relation to the Phillipines, a study by Barredo-Carmen (2018) elicited that secondary school administrators in one education district were content with the introduction of KM in their respective schools. The studied participants indicated that the actualisation of KM significantly improved their efforts of knowledge creation, retention, transfer and utilisation (ibid). Further afield in India, a study by Arumina and Pakkeerappa (2018) established that even in the absence of a sophisticated infrastructure; teachers of different ranks generally exhibited a positive attitude towards KM application in their schools. Within the context of Africa, a study conducted by Ngozi (2018) found that knowledge transfer in Nigerian schools strengthens teacher collaborations and knowledge sharing fortifies teachers’ efficacy in carrying out classroom instructions. Iidhalama and Echedom (2021) found that teachers were generally aware of their obligation towards knowledge work. Their study posits that teachers in one public schooling region situated in Nigeria’s Delta State engaged meaningfully in knowledge sharing transactions (ibid). With regard to Mexican schooling system, a study by Perez-Soltero et al. (2019) found that KM optimises the planning of events in schools. They established that the challenges they grappled with prior to the implementation of KM were minimised once KM application was institutionalised.



For the purpose of generating a broader view I also infused some empirical accounts of how developed countries apply KM. The first point of entry into this milieu was a study by Thambi and O' Toole (2011) which explored the assimilation of a corporate-based taxonomy of knowledge management into the schooling system (specifically at secondary school level). Using Michael Earl's corporate-based taxonomy of KM as a lens, and the study established that most Australian schools were compliant with the guidelines enshrined in the taxonomy. Chu et al's (2011) study looked into how teachers in Hong Kong perceived KM application in their schools. Although the study highlighted a few problems around issues of knowledge sharing culture and people competencies, it found that generally teachers were able to execute crucial aspects of KM to make a meaningful contribution in their schools. Memisoglu's (2016) study which quantitatively employed a 5-point Likert scale, established that high school teachers across Turkey rated administrators moderately effective in recording, transferring, and storing as well as knowledge management in general. Also in Turkey, Celep and Konakli (2017) used a Cronbach Alpha 0.96 scale to ascertain how primary and secondary school teachers perceived the efficiency levels of administrative personnel in applying KM. The findings revealed that teachers deemed the administrative support rendered unto them as one of the crucial factors in the success of KM application in their respective schools. With regard to Lithuanian schools, a study conducted by Raudeliuniene et al. (2020) indicated that the adoption of KM in the country's education system recalibrated the sustainability of public schools operations.

The above cited empirical accounts validate the view presented by earlier scholars (i.e., Petrides and Guiney, 2002; Petrides and Nordene, 2003; Edge, 2005; Reynolds, 2005; Ozmen, 2010) whose studies indicated that KM can harness the efficiency of education sector's daily operations. We need to bear in mind that within the realm of education KM is a relatively new concept that is rapidly evolving (Thakur, 2013:358) to inculcate operational complexities of schools illuminated by beckoning of the knowledge economy. The foregoing discussion suggests sufficient evidence that KM exists in schools, albeit to varying degrees. I use the word "varying degrees" because KM success is relative to the context of application (e.g., a suburban context); successful KM application relates to how the abundance of resources at the school's disposal generally aided KM application. But with regard to the township context, successfully applied KM is relative to how schools applied KM meaningfully against the odds including lack of resources. I argue that we can never use the same tool to assess KM application at both poles of the continuum of our schooling system. Additionally, Chu et al. (2011) and Liebowitz

(2012) mention three elements that embody KM application, namely: “people, process and technology”. “People” are also referred to as knowledge workers, who play a role of creating and fostering a climate conducive for knowledge sharing in the organisation; the “process” entails the ways in which KM practices are coordinated to benefit tasks of the workforce, and “technology” has to do with developing a suitable knowledge sharing and communication platform. Fielding the right “people, processes and technology” (Liebowitz, 2012; Chu et al., 2011) and instituting “strategies to improve school performance through practical actions” (Thambi and O’Toole, 2011:91) cultivate the prospects of KM application.

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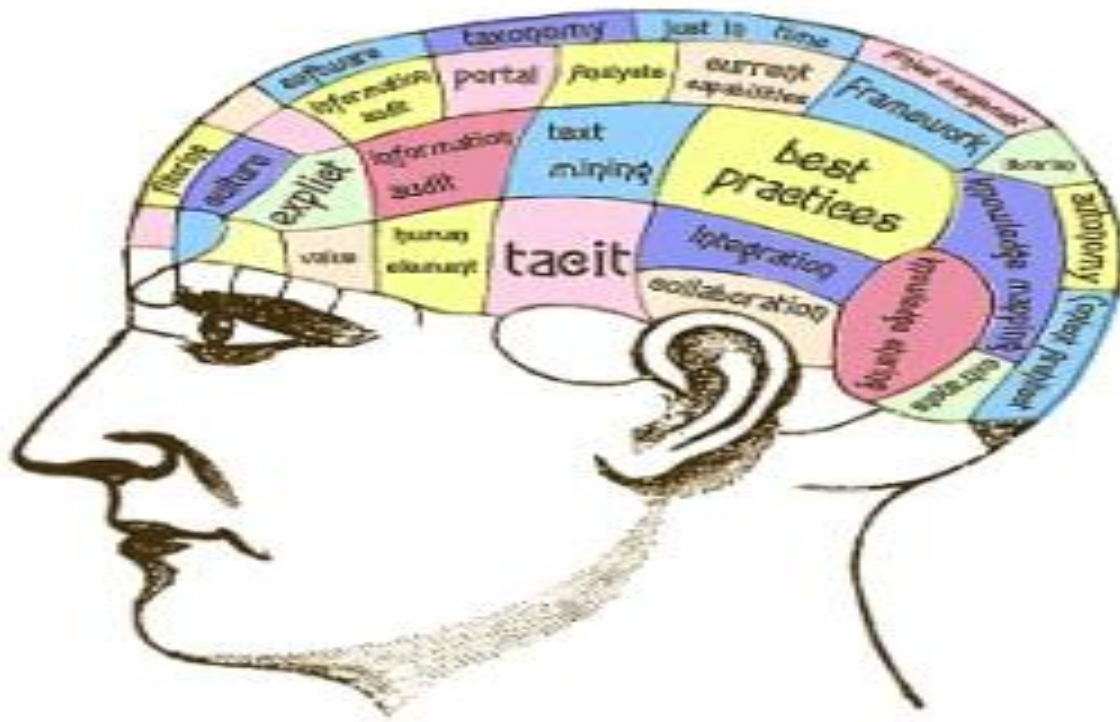
The interface between people, processes and technology informs the triple lens theoretical consideration that was adopted in this study. It is inclusive of Lave and Wenger’s (1991) *Communities of Practice (CoP)*, in conjunction with Rodrigues and Pai’s (2005) *Eight Dimensions of KM Enablers and Activators*, and complemented by the *Philosophy of Ubuntu and Batho Pele Principles*. Readers of this study will realise that these theoretical considerations will shape this body of work around **people’s** relational dynamics, attitudinal aspects and skills in their bid to apply KM. **Processes** will be discussed along the lines of organisations’ resourcefulness or the lack thereof, preparedness or the lack thereof and legislative frameworks that are key to KM application. Also, **technology** will be discussed

within the realm of unearthing its architectural/software and hardware benefits or lack thereof on KM application. In the next chapter (Chapter 3), I discuss literature under these three theoretical considerations so as to sustain a discourse that is mostly rooted in empirical evidence and a fair share of my personal life views as well as my interpretations of scholarly works that I perused during the course or at some stage prior to the course of this research.

## **2.11 KNOWLEDGE WORKERS IN THE CONTEXT OF SCHOOLING SYSTEMS**

“Knowledge worker” is a term coined by Peter Drucker in his 1959 book, *Landmarks of Tomorrow*. It has since become the operational term in KM circles. The term itself encompasses a wide range of professionals including legal practitioners, administrators, nurses, teachers and scientists of all kinds, students and pupils. In their line of duty, knowledge workers must have the “autonomy” to determine their level of “contribution and responsibilities” (Drucker, 1999:86). According to Pyöriä (2005) and Mosco and McKercher (2007), there is yet to be a universally agreed upon definition of a knowledge worker. In the absence of the universally accepted term, I turn to Reinhardt et al. (2011:151) for clues. They regard “knowledge work” as the kind of occupation that is “none-routine” in nature and is also characterised by a mixture of “convergent and divergent thinking” to solving a problem. Divergent thinking is rooted in the belief that people engage with other perspectives and admit that divergence can help them generate fresh ideas as people learn from one another. Spink (2014) characterises a knowledge worker as the one who possess “high education levels, daily critical thinking” and who is primarily tasked with constructing and synthesising knowledge. However, according to Indigenous epistemologies “high education levels” do not serve as a prerequisite but rather experience and socialisation reign supreme.

Upon reflecting on the cited authors’ views, I realised that the duties associated with knowledge work are complex in scope; and *what the knowledge worker knows* as well as *what the knowledge worker can do* becomes the driving force behind knowledge creation and reproduction. Successful knowledge work requires that the workers who possess knowledge act unselfishly. Accordingly, Einstein (cited in Oosthuizen, 2016:371) states that “those who have the privilege to know, have the duty to act, and in that action are the seeds of new knowledge”. The following image illustrates a multiplicity of characteristics associated with knowledge work.



**Figure 2.3: Portrait of a Modern Knowledge Worker (Le Borgne, 2012)**

As illustrated in Figure 2.3 above, knowledge workers’ minds are always inundated with an array of thoughts, emotions, strategies and intuitions, which, when processed and externalised, can produce nuggets of knowledge. In the context of the study, it is important to indicate that the term “knowledge workers” refers to teachers, HODs, administrative clerks and principals, who in their day to day dealings interface with knowledge in various ways. With regard to IKS, the knowledge workers are all the people who have to apply their minds to solve work or field-related issues. Their occupations require that they should learn from one another in order to generate solutions to problems. In so many ways, schools are the primary custodians of knowledge and the catalysts of its sharing and reproduction, and in such organisations, “continuous innovation, learning and teaching” are of vital importance to the “knowledge worker’s job” (Drucker, 1999:86). Hereunder lies descriptive account of the layers of knowledge workers whose core duties may involve exploiting, exploring, creating, sharing, and retrieving knowledge.

### **2.11.1 Teachers**

The role of teachers is often under estimated. Today’s youth underrates teaching and regards it as a mediocre career fit for those who are less ambitious. This is a far cry from the historical times when teachers were the most important component of the society both in terms of status

and influence (Mani, 2016). Although in the last decade the dignity of the profession has been dealt a blow, there is still a significant number of teachers who go beyond the call of duty to assist learners, fellow colleagues and the community at large the best way they can. They possess a wealth of knowledge which can be used to address situations as they come to light. The application of their minds to “analyse, develop and implement” the curriculum (as noted by Carrol et al., 2003:42) typifies knowledge work. Various scholars regard teachers as knowledge workers (Carrol et al., 2003; Petrides and Nordene, 2003; Chaudhry and Sivakamasundari, 2004; Edge, 2005; Reynolds, 2005; Cooper, 2006; Nevalainen and Hannunen, 2009; Wesch, 2009; Thambi and O’Toole, 2011; Jones and Sallis, 2012; Cheng, 2015; Haripriya and Chakavarthy, 2018). Knowledge workers are known for not compromising on their right and “autonomy” to be actively involved in decisions that may affect their professional life (Salamat and Fudzee, 2009:300). This title befits the work that teachers do, considering that they operate at the coalface of knowledge processes. Through them learners are able to comprehend curriculum knowledge and life skills. Good teachers not only inspire learners to get good grades but also teach them to engage discursively and exchange “ideas” in order to augment their “skills and intellectual talent” (Haripriya and Chakravathy, 2018:92).

Butler-Adam (2018:1) gives a concise narrative about the impact of the fourth industrial revolution on education. He argues that there will be more surprises that will impact the education sector and, as such, preparations for these moments must commence immediately. He mentions the following factors that the nation needs to prepare for:

- coming to terms with the infusion of technology in people’s lives;
- valuing meaningful interactions aided by technology without neglecting social interactions among each other;
- mastering problem solving skills;
- being well vested with “both the written and spoken word,” and;
- being empowered to take “ethical and moral decisions”.

He notes that “teachers have to rise” to the challenge of helping people acclimatise to the dawning of fourth industrial revolution (4IR) – an era where knowledge means everything (2018:1). As a measure to adapt to the dawning of the 4IR, he suggests that teachers should change their mind-set and begin to condition themselves to be high-level knowledge workers. This requires that they should constantly refine both their personal and professional knowledge. Echoing a similar sentiment are Chu et al. (2011:141) who posit that just “like most

organisations”, schools should augment their knowledge base in order to harness “teacher competency”. This is in line with Wesch (2009) who argues that the fast-paced changes in the information society demand that teachers must adopt the attitude of lifelong learning. If this indeed is to succeed, Tyack and Cuban (1995) and Carrol et al. (2003) make a point that teachers should refrain from spending too much time working in isolation from one another. According to Friehs (2003:13), tendencies such as these whereby teachers only share their knowledge with a pocket of colleagues whom they trust should be replaced with a broad-based approach to knowledge sharing. In light of the fact that schools are susceptible to losing nuggets of knowledge, Jones and Sallis (2012:24) add that educational institutions should reconcile “networks of co-workers” which are also known as “communities of practice”.

Communities of practice (CoPs) essentially comprise of groups of individuals who are bound together by the same aspiration, desire and pressure to achieve a common goal. When properly instituted CoPs can help teachers to leverage the shared/acquired knowledge to improve their practice. This view is succinctly portrayed by King (2009:4-5) who states that a socially oriented network of workers provides the opportunity for the novice (teacher) to interact with highly experienced co-workers and in the process extract knowledge from them. Chung et al. (2013) and Mahshad (2014) also concur. They argue that discursive transactions among groups of workers aid mutual learning and organisational knowledge distribution. Adopting this posture will ensure that teachers impart the discursively-generated knowledge (and ways of discussing perspectives) with their learners and, in a broader sense, it will also help to redefine the meaning of the teaching profession. Through constant engagements teachers empower each other to not only tackle daily challenges that typify their profession, but most importantly also their strategies of stimulating learners’ tacit and explicit knowledge reproduction. There are several empirical accounts of how communities of practice among teachers can extend to their classroom spaces, wherein they encourage learners (using a multiplicity of emthods) to engage discursively for purposes of knowledge reproduction. Majid and Chitra (2013) found group assignments as a key method of igniting interactive engagements among learners/students. Also, in Moreno-Lopez’s study (2005) which studied learners’ acclimatisation to second language acquisition, field projects and discussions were found to be effective methods of stimulating ongoing knowledge transctions among learners. Furthermore, Windschitl’s study (2004) stipulated demonstrations, investigative assignments and practical activities as some of the most important methods applied by teachers to encourage tacit knowledge transactions among learners/students. These studies demonstrate the widespread use of CoPs, which in this

case manifests among teachers and among learners acting as a source of knowledge reproduction.

### **2.11.2 Administrative Clerks**

Literature regards administrative clerks as the backbone of the school administrative affairs (Bayat, 2012,2014); this is despite the revelation that their contribution to the delivery of educational services is often underrated, as pointed out by Thomson, Ellison, Byrom and Bulman (2007); Conley, Gould and Levine (2010); Bayat (2012, 2014) and Bayat, Naicker and Combrinck (2015). On the whole, administrative clerks regard themselves as worthy of respect for the work that they carry out (Memisoglu, 2016:133). Being placed strategically at the front office makes administrative clerks the first point of entry into the school administrative block. Through their personality traits they often execute the mammoth task of interacting with people who come to the school for a variety of reasons pertaining to educational matters. Over and above that, they spend a large chunk of their time interfacing with knowledge or information, using both technological and manual means. Serrat (2017:285) posits that they often find more joy in performing the former than the latter. What attracts them more as pointed out by Memisoglu (2016:133) is being given enough space to showcase their versatility and “skills” to record, share and utilise “knowledge”. Whatever their preference of work may be, both Memisoglu, (2016) and Kaya (2020) agree that administrative clerks require some level of training in order to deal with the kaleidoscope of duties such as the arrangement of files, the copying and distribution of documents, the writing of minutes, the administration of personnel related matters and the documenting of the financial spreadsheet as well as liaising with stakeholders telephonically, electronically and physically. Hereunder lies empirical an empirical account illustrating the versality of the position held by administrative clerks in schools.

Administrative clerks do not only provide a support structure largely to the principal and his School Management Team (SMT) as a whole, but also to teachers including assisting them with documenting evidence of teaching and learning activities. For example, teachers often handover their marks and other documents to administrative clerks to manually file or to electronically feed into the computer system. Also administrative clerks frequently receive documents either from the principal, the circuit or the district that they may have to forward to teachers. This is indicated in studies by Abdul Hamid (2008); Döş and Savaş (2015) and Memisoglu (2016) which established a link between school productivity and healthy relationships among administrative clerks and teachers. In Memisoglu’s (2016) study 35

administrative clerks mentioned their capabilities in key performance areas such as storing, sharing, using and protecting knowledge and knowledge management in general. In his study, Abdul Hamid (2008:259) found that administrative clerks create a positive school climate by their conduct when servicing colleagues. To underscore the value of administrative clerks, Badarna and Ashour (2016); Were and Wanyana (2017) and Kaya (2020) conclude that academic administration processes largely rest upon the input given by the administrative clerks. In light of the cited literature's reflection on various schooling contexts (in terms of socio-economical background learners being serviced and the quantile of the schools) I realised that not much has been said about schooling contexts similar to that of township schools. On that basis it would be interesting to understand how administrative clerks carry out a myriad of duties in the midst of challenges that pervade township schools. In Chapter 5, Section 5.6.4, I divulge the findings of my study in relation to the precise nature of knowledge work carried out by administrative clerks at the selected schools.

### **2.11.3 Heads of Department**

HODs are also known as subject heads, or departmental heads oversee curriculum delivery and act as a bridge between teachers and the upper (or leadership) echelon of the school. They report directly to the deputy principal who in return reports to the principal. HODs are in the middle echelon of the school hence their classification as 'middle management' features prominently in the teacher leadership literature (Ng Foo Seong and Ho, 2012; Nkabinde, 2013; Nkabinde, 2020). According to Nkabinde (2013, 2020), HODs juggle between teaching specific subjects, coordinating and supervising all educational programmes in accordance with the prescribed norms and standards. Far less is mentioned in the literature on HODs supervisory dispositions. This is because literature on school management tends to focus more on the role of the principal and precludes the other strata of the SMT (Elmore, 2000; King, 2002; Spillane, 2006). In both her studies, Nkabinde (2013 and 2020) found that HODs as instructional leaders and agents of sub-ordinate teacher development rarely get opportunities for ongoing professional development. Whilst acknowledging that to some extent HODs were being workshopped on matters pertinent to their profession, she however, noted that much of the development they receive is based on their own initiatives (ibid). Surely this has implications on the proceedings of instructional programmes at a school level. This exposes the need for the formation of relationships between the circuit, district and province around areas of coordinating and implementing professional support that is fit for purpose. The scientific imperative of this status quo is such that it highlights a dearth of literature highlighting the supervisory contribution of the HODs. To address this gap (whereby the principal is seen as



the foremost custodian of school management), researchers should study the interaction between management roles and top leadership (Leithwood, Jantzi and Steinbach, 2000:21). Research in this area will undoubtedly contribute to the domain especially in the light of critique of HODs' ability to manage schools situated in modest areas. Leithwood (2006) suggests that HODs in disadvantaged schools are likely to be less experienced and remain for a shorter spell at those particular schools. Jaca's (2013) study reveals that HODs indicated that upon taking up the position, they lacked the depth and capacity to handle the intricacies that come with the position.

The pressure exerted on HODs in township schools is immense. Edge (2005:43) mentions that, among other issues, hindering the application of KM in schools are: 1) technological shortcomings; 2) the lack of contact time between teachers and mentors after working hours; and 3) tight budget. The first two problems are felt most by learners, teachers and the HODs owing to their proximity to the situation on the ground. Another crucial role played by the HODs is that of creating a support structure to enable the creation and sharing of knowledge among experienced teachers and junior teachers. After all, spearheading the delivery of educational services in a school setup is a competency which rests under the purview of education leaders (Leithwood, 2003:1) including HODs who are categorised as such, by virtue of serving in the SMT. They are duty bound to see to it that knowledgeable teachers share their tacit knowledge with others. Sharing tacit knowledge must not end up there, but the tacit knowledge shared must be codified into explicit knowledge to ensure that it is not lost along with its possessors. To realise this goal, Day, Gu and Sammons (2014:48) reckon that HODs must avoid making hasty decisions, instead they must make them in line with strategy for creating a conducive teaching and learning environment as well as monitoring the cycle of learner development. In addition to strategic decision-making, there must be trust between the HODs and teachers, for without trust their efforts of fostering knowledge sharing ventures among teachers will not bear fruition. Levin and Cross (2004:1477) argue that collegial trust ensures that employees share their knowledge with others, and the recipients find the experience thrilling. Chaudhry and Sivakamasundari (2004:203) condemn employees' "resistance to share knowledge" with others. Similar sentiments are expressed by Nonaka (1994); Fan (1998); Argote and Ingram (2000); Dalkir (2005). I therefore infer that in keeping with this literature, HODs must lead by example and ensure that they appear to be trustworthy in the eyes of their subordinates and superiors. They should also intensify their knowledge sharing exploits as a means of encouraging others to follow suit.

#### **2.11.4 Principals**

Principals are the primary accounting officers should any explanation be needed about the performance of the school. Their job requires that they manage other layers of staff and lead the actualisation of school programmes. They also oversee if processes unfold in accordance with the prescribed norms and standards. In the wake of the blame aimed at the schooling system if everything does not go well in surrounding communities and society at large (Stewart, 2006:3), the principal's complacency in leading with conviction and effectiveness should be a thing of the past. This occupation needs individuals who are highly knowledgeable about human resources issues, curriculum, nutrition, health and safety issues as well as departmental policies. Possessing knowledge ensures that they take decisions from an informed perspective. Decision making forms the dominant part of their jobs, and hence they too are classified as knowledge workers. Unlike in the past where everything was done for them by their secretaries, principals of nowadays have to be well-acquainted with technology. What propels them to acquaint themselves with technology is the dawning of the fourth industrial revolution, an era which significantly eradicates manual ways of administration.

Mokwena (2011:2) points out that very soon primitive methods of keeping data will be nullified by the rapid introduction of educational reforms. Massive paperwork that principals have to deal with is easier to handle technologically than it is manually. Therefore, having a fair command of ICT helps the principal to carry out miniature administrative duties such as typing communique, typing confidential reports, drafting policies, archiving and retrieving documents, designing presentations, analysing results as well as drawing up a timetable. There is thus overwhelming agreement that technology is the catalyst of KM (Smith, 2001; Cong and Panday, 2003; April and Izadi, 2004; Sanchez, 2005; Cranfield and Taylor, 2008; Chigada and Ngulube, 2015); yet there is still a significant number of principals who do not heed the call to familiarise themselves with technology. In the next paragraph I cite authors who argue that technology is not the only mainstay of knowledge work.

On the cusp of the increasing reliance of education systems on the adoption of technology, Pandey and Pandey (2013:14) caution the leadership fraternity against over-valuing technology and neglecting the human interface with technology. This binds on the principals to foster the spirit of collegiality using values systems (i.e., Batho Pele and Ubuntu) and available HR policies to keep people motivated to apply KM with due diligence. This exercise can only be a success if the leadership begins to prioritise the wellbeing and feelings of employees as well as the contributions they make towards KM application. Abundant literature links the

principal's leadership with school improvement (McBeth, Oeluro and Waterhouse, 2004; Hargreaves and Fink, 2006; Parag, 2014). Nigrotha's (2019) study explicates that KM application is relative to the principals' effectiveness in leading their schools. With this in mind I will later (in Chapter 3) explore different kinds of leadership styles (transformational, autocratic, democratic, laissez-faire, situational, transactional and instructional) that principals might apply when leading their schools, and in my findings (Chapter 5) I will elucidate the kind of leadership style(s) applied by each of the three principals interviewed.

## **2.12 THE CURRENT OUTLOOK OF TOWNSHIP SCHOOLS**

Twenty six years into the democratic dispensation, which propagates for equal rights and opportunities across all the spectrum of our societies, South Africa still reels from its past misfortunes. As a country South Africa is still regarded as one of the "most unequal societies in the world when measured by various yardsticks", especially "the Gini coefficient (0.63) and Palma ratio (7.1)", putting the lives of many citizens under acute "economic inequality, social exclusion and human rights deprivation" (Ramoroka, 2019:1). I discuss our country's past political landscape in relation to how it has impacted our education system, which arguably is also related to the political economy of education that shows the current state of our schooling system as we navigate the dawning of the knowledge era. I also offer a concise lens into the conditions that knowledge workers/participants (teachers, HODs, administrative clerks and principals) are subjected to as they aim to contribute towards delivering quality education to our learners. This discussion ties in with one of the research objectives of detailing how in the midst of challenges, participants are able to apply KM.

The erstwhile political regime (commonly known as apartheid) which lasted for over four decades rendered the so-called 'non-white' schools ungovernable. But before delving on its impact on education I consider that presenting a concise historical overview of apartheid is a good starting point. Apartheid architecture was instituted to set black people for failure, firstly by disposing them of their ancestral land, and moving them to deserted pieces of land (characteristically known as homelands), far away from cities. In urban areas, blacks were allocated densely constructed settlements called "townships" situated on the outskirts of urban areas. Mampane and Bouwer (2011:114) state that townships were erected for the convenience of the apartheid government as they needed their black labourers not too far away from their places of work. In the context of this study, the word "blacks" refers to three categories of people, namely: Africans, Coloureds and Indians. In the next paragraph I detail how education

was used as a platform to dismantle many black communities' hope for attainment of a prosperous socio-economic status through education.

Education was used as one of the primary sources to impose apartheid propaganda on black populations. The curriculum was constricted and contained the knowledge that the then government wanted black children to be familiar with. The turmoil caused by apartheid on education is succinctly characterised by Mouton, Louw and Strydom (2013:31) as defective and riddled with inadequately trained teachers who exhibited low commitment levels towards their work, hard-pressed by ineffective community and parental support, less than desirable monitoring and evaluation by education officials, as well as dismal accountability measures. Effectively, there was a total collapse of proper governance, as most personnel – particularly administrators and teachers (including principals) – were given badly designed or standardised, tailor-made training which failed to bring about quality performance. Many years later, similar tendencies still replicate themselves in some of the township schools, most notably, teachers not coming to class, and the falling and drowning of learners in pit laterines (Gallo, 2020:4). To further illustrate the severity of the effectiveness of that regime on the future prospects of black children, Gallo (2020:4) refers to Fischer's (2019) *New York Times* article which cites Nelson Mandela's own words to describe his frustration because "in that year 5,660 African children in the whole of South Africa passed Junior Certificate and only 362 passed matric. Children wonder about the streets of townships because they have no schools to go to, or no money to enable them to go to school....This leads to breakdown of moral standards". Mouton et al. (2013:31) posit that past political misfortunes are to be blamed for social ills and inequalities that pervade large proportions of South African families. The state of many schools leaves much to be desired (Pattillo, 2012:14). The damage caused by the erstwhile political regime is broken down as follows:

### **2.12.1 Socio-Economic Background of Learners**

Timaeus, Simelane and Letsoalo (2013:270) state that socio-economic and demographic orientations of learners have an impact on the development of the school. Van der Berg's (2008:145) study stipulates that, in terms of academic performance, the former model C schools and Indian schools outperform African and Coloured schools. Analysts blame the status quo on the erstwhile regime's underfunding of African and Coloured education. As a consequence, high illiteracy rate has rendered millions of township dwellers passive participants in their country's economy. My statement is informed by research, specifically Okioga's (2013:38) which gives us a glimpse into how statisticians measure socio-economic

status: combined family's income generated per household, the contributor's education level and occupational title (Okioga, 2013:38). Using this criterion puts most township dwellers at the lower tier of the socio-economic band. Sadly, this status transcends beyond the household boundaries to infiltrate school premises. An illustration of this is found in May and Govender's (1998:3) study which postulates that three out of five children, are from the characteristically poor households, and most children are vulnerable to all sorts of public and domestic violence, starvation, inferior parental support and low educational ambitions. Okiogo (2013:40) found that due to lack of financial, social and educational support systems, breadwinners in poor families fail to support their children's pursuit of education effectively. To palliate this situation, the government provides learners from impoverished households with at least one meal per day during school hours, through its National School Nutrition Programme.

Van den Berg (2008) and Spaul (2013) link socio-economic disparities with poor school performance. Literature (cf. Phatlane, 2003; Masitsa, 2008; Mtsweni, 2008; Smit, 2013; Ehiane, 2014; Mohapi, 2014) points to socio-economic problems as the main source of ill-discipline among learners. The more worrying factor is the scourge of HIV and AIDS, which according to Shisana et al (2005:3) has a bearing on curricular and co-curricular programmes. Important teaching and learning contact time gets lost due to teachers and learners taking turns in staying away from class due to ill health. A high teacher to learner ratio and pastoral duties in these schools increases the workload (Parag, 2009:3). Owing to the unavailability of professional school counsellors and psychologists (Parag, 2009:3) learners often turn to teachers as and when they seek urgent psycho-social support.

### **2.12.2 Learners' Failure Rate and Teachers' Skills Gaps**

*Child Gauge* released its 2017 annual report which found that South African learners are not faring well in literacy because "many learners never get a firm grasp on the first rung of the academic ladder and fall further and further behind" (Spaul, cited in Timeslive SA, 2017). The report also indicates that 70% of children learn in an African language in Grades R to 3 then switch to English, with 90% of Grade 4s taught in English (Spaul, cited in Timeslive SA, 2017). More damning are the findings of Taylor's (2012) report compiled under the auspices of the DBE's *National Education Evaluation and Development Unit (NEEDU)*. The findings flagged the effectiveness of teachers, HODs, principals and subject advisors as the main barriers to good performance. It further noted sub-standard subject content mastery by most teachers, especially, in key learning areas such as languages and numeracy (Taylor, 2012).

Further, Bansilal, Mkhwanazi, and Brijlall (2014:34) found that the KwaZulu-Natal based teachers on average scored 29% on mathematical questions designed for Grade 12 learners.

Despite the progress made, findings such as the ones stated above beg the quality of Grade 12 results. Modisaotsile (2012:1), for example, questions the criterion applied to calculate matric pass percentages, and in their capacity as heads of schools and district representatives respectively, principals and district officials are constantly at the receiving end of backlash if anything goes wrong with the performance of schools. Taylor's (2012) report flagged principals and district official's poor capacity to steer schools in the right direction. Studies by Maile (2004); Masitsa (2004); Kapp (2004); Amsterdam (2010) and Pattillo (2012) have identified teacher: learner ratio as a curriculum delivery hindrance in township schools.

Overwhelmingly, empirical evidence indicates that poor teacher education offered during apartheid years led to the disparities that continue to plague township schools (Kallaway, 2002; Fiske and Ladd, 2004; Bunting, 2006; Van den Berg, 2008; Mampane and Bouwer, 2011; Pattillo, 2012; Timaeus et al., 2013; Pretorius, 2014; Mdikane and Allen, 2016; Nkambule and Amsterdam, 2018). As a way forward let us draw inspiration from the reforms introduced since the beginning of 1994 (Khumalo and Mji, 2014:1522).

### **2.12.3 Inadequacy of Quality Infrastructure and Resources**

On the 29 November 2013 amidst growing concerns from the public and lobby groups about the ailing infrastructure in many of the country's previously disadvantaged schools, the Minister of Basic Education announced the enactment of a legislation to transform schools. Essentially, the *Norms and Standards for Infrastructure in Schools* was conceptualised to guarantee the entitlement of schools to water, electricity, internet, functioning toilets, safe classrooms not exceeding 40 learners per class, security, libraries, laboratories and sports facilities. A few years on, this legislation has been scrutinised (Amsterdam, 2010:1), especially in the aftermath of the *National Education Infrastructure Management System's* 2015 results in which it transpired that out of the 24 793 public ordinary schools:

- 3 544 of them schools did not have electricity, while a further 804 had an unreliable electricity source;
- 2 402 of them had no water supply, while a further 2 611 had an unreliable water supply;
- 913 did not have any ablution facilities while 11 450 schools still used pit latrine toilets;

- 22 938 of them did not have stocked libraries, while 19 541 did not have a space for a library;
- 21 021 of them did not have any laboratory facilities, while 1 231 more had stocked laboratories;
- 2 703 of them had no fencing at all; and
- 19 037 of them did not have a computer centre, whilst a further 3 267 had a room designed as a computer centre but were not stocked with computers.

Khumalo and Mji (2014:1522) were dismayed by the infrastructural backlog despite the Ministry of Education's undertaking in September 2000 that all the infrastructural backlogs would be dealt with by 2008. To highlight the severity of this problem I draw on several studies (Mabogoane and Patteli, 2006; Amsterdam, 2010; Izobo-Martins, Dare-Abel and Ayo-Vaughan, 2014; Khumalo and Mji, 2014; Mdikane and Allen, 2016) which reveal that most public schools in Africa are riddled with unpleasant and dilapidating infrastructure. Moreover, teachers and learners are discontented with the quality of sanitation facilities and the inadequacy of sports fields (Jones, Brener and McManus, 2003; Amsterdam, 2010; Khumalo and Mji, 2014).

#### **2.12.4 Patriarchy and Gender Stereotypes in School Leadership**

Section 4c of The National Education Policy Act (No. 27 of 1996), makes for "achieving equitable education opportunities and the redress of past inequality in education provision including the promotion of gender equality and the advancement of the status of women". Despite women being in the majority, empirical evidence (cf. Report of the Gender Equity Task Team, 1997; Coetzee, 2001; Kanjere, Thaba and Teffo, 2011; Lumby and Azaola, 2014; Phakathi, 2016) indicates that compared to their male counterparts women's presence in school leadership roles is not at the ratio where it should. While this may seem like an upward trajectory compared to 15 years earlier, there still appears to be tendencies of undermining their ability to lead effectively. For example, Phakathi's (2016) study established that schools are falling short of effectively implementing gender equity related school policies. She laments the passiveness exhibited by trade unions when coming to issues of developing potential female affiliates for leadership roles (ibid). In their study, Kanjere et al. (2011) concluded that right from their appointment women normally have to work on dissolving the negativity shown by co-workers in their ability to lead schools. They have to work twice as hard to prove their worth. Coetzee (2001:300) attributes this to South Africa being "a deep-rooted patriarchal

society”. There is religious scapegoating used by believers of this ideology to justify the supremacy of men over women in all aspects of life events. They convince themselves that this in tandem with “the will of God” (Schoeman, 1998:59). In cultural sites (such as townships), Kiamba (2008) has observed that some aspects of traditional beliefs suppress the participation of women in management functions. In a broader sense, Maposa and Mugabe’s (2013) study concluded that when left unattended to, both religious and cultural beliefs of members of the organisation are likely to counter women’s freedom to participate in leadership.

Gender stereotypes often lead to incompetence, disunity and rebellion among co-workers. Also, in educational institutions gender stereotypes among co-workers may end up perpetuating an atmosphere which legitimises boys’ dominion over girls. Socialising young girls to play a second fiddle to boys in a society is said to create low expectations among girls (Kagoda, 2011; Phakathi, 2016). This scenario is double edged, not only does it expose oppressive cultural practices, but also unveils the depth of the socio-political impact of apartheid on almost all spheres of indigenous people’s lives. According to Bond (2013:37), apartheid’s own repressive statutory laws appeared to be anti women in nature, adding to the already oppressive customary way of life which relegated women to second citizens. She calls this a “double oppression” of women under customary practices and white men’s law (ibid). This meant that in any life event women were placed behind men. Hence to this day women are yet to be completely emancipated from the shackles of male patriarchy and many other gender stereotypes. Thus research has established that existing policies and programmes meant to champion the advancement of women are not effective (Nkomo and Ngambi, 2009) – this is despite them appearing to be gender neutral. Contrarywise, Phakathi (2016:14) does not question the strength of these policies but its implementation. She laments the oblivion with which trade unions treat women’s underrepresentation in school leadership (ibid). This is evident in recent employment statistics released by Mpumalanga Department of Education (MPDE), which stipulate that female principals constitute 35% of the workforce in that rank, whereas within the deputy principal rank 45% of the workforce constitutes females (MPDE Open Vacancy List, 2019:5).

More than two decades later the implication of these practices—whether politically or culturally motivated—constitute another layer of challenges inhibiting the productivity of township schools. Although this problem relates to women in the workplace, but at the heart of it, lies children’s educational future which becomes casualty; as they depend on the welfare and insightfulness of their elders’ (i.e., teachers, HoDs, administrative clerks and principals)



teachings to acquire life skills and values systems. Later in Chapter 5 I discuss a synthesis of data which will also contain some aspects on gender dynamics that were picked up in the studied schools advancement.

### **2.13 A TOWNSHIP SCHOOLED CHILD'S EDUCATIONAL JOURNEY**

Apartheid policies left the township schools in tatters, and to this day, its ripple effect haunts educational prospects of our children. The gravitas of the damage caused by apartheid to school operations cannot be understated, for example, in his study Pretorius (2014) linked apartheid educational policies to township schools' failure to foster a sustainable atmosphere for "school and teacher" productivity. Thus literature suggests that about 80% of all South African schools could be labelled as dysfunctional (Taylor, 2008; De Lange, 2008; Pretorius, 2014). Having personally observed some of the disparities in township schools, I presume that from the 80% of dysfunctional schools, both rural and township schools occupy large stakes. Pretorius (2012:879) describes a dysfunctional school as the one that has "abnormal or impaired functioning" and fails to realise the constitutional obligation of delivering "effective teaching and learning". Naturally, when a school is characterised as dysfunctional it can be seen to be somewhat not completely conducive for quality teaching and learning. In these schools learners learn under adverse conditions. Depending on the resilience of individual learners—an environment such as this can either make or break their future educational ambitions. Tobar and Valesco (2015:7) attribute the dysfunctionality of the schooling system to wasteful and often inadequately allocated expenditure, lack of support, ailing infrastructure and inferior quality of teaching. This warrants the attention of the relevant stakeholders to intervene in preventing the recurrence of a catastrophic situation whereby:

Out of hundred children who enter school in grade one, only forty are able to make it through to the final year of school (matric or grade twelve). Out of that forty, only twenty-eight are able to pass the final grade (matric). Furthermore, out of these (28) children that have passed matric, only four are lucky enough to progress to higher education. Upon entering the higher education domain, the likelihood is, three of these students find it hard to cope with the intricacies and complex challenges that come with tertiary education; leaving only one student facing the prospects of obtaining a qualification (Department of Basic Education cited in Tobar and Velasco, 2015:7).

The aforementioned scenario illustrates the length at which past injustices determine a majority of township based children's educational prospects. The situation may as well be regarded as some researchers' advocacy for assistance on behalf of the affected masses. Forwarding a similar sentiment is Pretorius (2014:348), who argues that education stakeholders should join hands and work tirelessly to resuscitate the ailing condition of our education system, by paying attention to the following aspects:

- revisiting the substance and quality of teacher education with a view of making positive reinforcements that will eventually bolster the efficacy of teachers in the classroom;
- developing the knowledge and skills of managers and leaders across all strands of the education operation;
- overhauling schools and their entire workforce including supervisors as well as the culture of teaching and learning;
- monitoring educational support mechanisms with a view of gauging their sustainable development;
- fostering an atmosphere under which all societal structures with a vested interest in education join hands and dedicate themselves to usher in positive changes in dysfunctional schools.

These challenges that plague township schools' operations formed the basis upon which one of objectives for conducting this study was formed. Therefore throughout the interview process I continually sought to understand from participants how they dealt with these challenges whilst still ensuring that they benefited from KM application.

## **2.14 CHAPTER SUMMARY**

In this chapter I corroborated, contrasted and compared a variety of literature on KM and the knowledge discourse in general. My first point of departure was a discourse on the philosophical orientation of knowledge, which was followed by a narrative contrasting between knowledge, information and data. A substantial part of this chapter pertained to how indigenous conceptions of knowledge and knowing relate to the other themes as identified in the literature. Besides discussing different forms of knowledge (tacit and explicit), I also highlighted how knowledge interfaces with organisations and how this makes KM feasible in the education sector. The narrative advanced to a point where I discussed different types of knowledge workers found in schools. Furthermore, I discussed a host of challenges that affect township schools and their impact on the future of learners in that context.

## CHAPTER 3

### THEORETICAL FRAMEWORK

#### 3.1 INTRODUCTION

Presently, African scholars are yet to develop the continent's "own educational theoretical and methodological framework for knowledge production and sustainable development" (Kaya and Seleti, 2013:32); and as such, this study adopts and works primarily with two main theories supplemented by Africa's Indigenous Values Systems (AIVS). The first is the theory of explaining the operation of *Communities of Practice (CoP)* as developed originally by Lave and Wenger (1991). *CoP* is used in conjunction with Rodrigues and Pai's (2005) *Eight Dimensions of KM Enablers and Activators*, which is the second theory upon which I draw. To a lesser extent, I also use the values enshrined in the Philosophy of Ubuntu and Batho Pele Principles to complement the context of the study.

Essentially, *CoP* is employed in this thesis to elucidate how people form associations based on the commonality of ideals, and how they acquire knowledge through learning from one another, while Rodrigues and Pai's *Eight Dimensions of KM*, serves to explore with selected participants what sort of personality traits, attributes, technical skills and leadership capabilities they consider crucial to enabling the creation, sharing and storing of knowledge. I thus engaged the selected participants regarding the extent to which they practice Africa's Indigenous Values System (AIVS) of Batho Pele Principles and Ubuntu Philosophy when sharing knowledge within the respective schools as well as with outsiders who come to the selected schools in search of specific knowledge. To a certain extent, Rodrigues and Pai's *Eight KM Dimensions* is dealt with in relation to how it harmonises with knowledge processes as stipulated in Nonaka and Takeuchi's (1995) *SECI Model of Knowledge Creation*.

I consider that a combination of these theories provides a scientifically sound framework, which can in the mid to long term, lead to an improved KM application model not only in township schools but across the spectrum of the schooling system. Having recognised that KM application succeeds best when proper systems are put in place, I used an in-depth review of the literature to accentuate positive attributes of KM, while also noting the grey issues with regard to its application in the schooling system milieu. Covering all the grey issues across different schooling systems' contexts culminated in the identification of literature gaps that need to be filled. Grant and Osanloo (2014:12) state that the theoretical framework is the source

from which “metaphorical and literal knowledge” are drawn and constructed to validate the investigator’s thoughts on a research area. For this study, I cite pre-existing theoretical considerations and re-enact them in contexts under consideration (selected schools in the South African education system) to explicate their rationality and explore their relevance, while also adding additional insights in relation to these contexts.

### **3.2 COMMUNITIES OF PRACTICE**

Communities of Practice (CoP) is a brainchild of Jean Lave (an anthropologist) and Etienne Wenger (an educational theorist). The first rendition of the concept of CoP was published in a book entitled *Situated Learning* (Lave and Wenger, 1991). Subsequently Wenger’s book entitled *Communities of Practice* was published in 1998. I adopted the CoP theory in recognition that in every space where there is human interaction, there are bound to be groups of individuals who form circles on the basis of common interest. These circles of people are referred to as a Communities of Practice. Wenger (1998:2) posits that “communities of practice are literally everywhere”. I therefore argue that be it at home, at church, at work or wherever people may find themselves, it is inevitable that they join circles of other people either on a voluntary basis or through ascribing to the institutionalised normative culture (wherein specific situations are handled through adoption of certain regulations that bind people to classify or affiliate with groups of other individuals to achieve a common cause).

In relation to public agencies (which also encompass educational institutions such as schools), Mkhize (2015:2) indicates that public sector programmes are mostly derived from the solutions taken by CoPs. He argues that, although in the work environment CoPs may happen organically, members are in any case duty bound to play a participatory role in their formation, or else they might be held in contempt of the organisation’s law. In that regard, one may argue that to a certain degree, pressure may be exerted by superiors on workers to affiliate to CoPs. For instance, an introverted teacher who is not keen on attending staff meetings, workshops and subject meetings may find him/herself in trouble if he/she repeatedly fails to attend these work related events, because continued failure to attend them would eventually lead in the organisation instituting disciplinary proceedings against the teacher. The merits of the disciplinary action rest in the stipulated policies (on attendance of work related events); these policies usually stipulate the kinds of transgressions the transgressor will be charged for in the event of non-compliance. Being aware of the available organisation’s policies and implications thereof compels this teacher to form part of the CoP by means of attending staff meetings,

workshops and subject meetings. In light of this scenario, one can now better understand that in a schooling system teachers, HoDs, administrative clerks, principals and the deputies form circles according to their line of duty (designations) and common interest or in some instances, for the sake of conforming to the prevalent normative culture.

The crux of the formation of CoPs, as pointed out by Wenger (1998:73), is developing mutual agreements, joint enterprise, and shared repertoire. Members of CoPs share a variety of knowledge, including information on their areas of specialisation, their professional experiences, policies and a host of other issues. Jeon, Kim and Koh (2011); Balcaen and Hirtz (2007) and Kanuka and Garrison (2004) describe a CoP set-up as the one where likeminded individuals gather to reflect on issues pertinent to their area of interest. It is said that, “common interest” (Jeon et al., 2011:1223) makes CoPs apply “critical thinking” (Mkhize, 2015:2) to “add value” to the discourse (Salmon, 2002:13).

Glover, Hardaker and Xu (2004) and Doolan (2013) agree that collaborative engagement and mutual participation as enshrined in the socio-constructivist worldview (see Section 1.5.1 in Chapter 1), serve as principal reproducers of refined knowledge in CoPs. Wenger (1998:83) explicates that the *community* factor emanates from the common vision that people share, whereas *practice* encompasses the shared values system, goals and activities. To stay afloat for a long time, CoPs must uphold certain attitudinal and behavioural virtues. Bartle (2010) mentions shared expectations, values, beliefs and meanings as some of the key virtues that should underpin the formation of CoPs. Additionally, Hashim and Tan (2015) and Goo and Huang (2008) mention high level of commitment as another means to extend the durability of relationships and the reduction of staff turnover. Since “schools are communities unto themselves” (The United Nations International Children Education Fund, 2012:1), this requires various stakeholders including the ministry of education, school principals, teachers, learners, parents, the business sector and the community at large (Oloo and Shiundu, 2016:122) to monitor and regulate CoP’s rules of engagement, moreover at the coalface of KM application. I therefore asked participants how they felt about the support they receive and the strategic direction taken by their respective SMTs during the course of KM application.

Organisations have to think creatively how to obtain tacit knowledge from its possessors. Politis (2002:187) mentions “verbal interaction, know how exteriorisation” and “teaching” as key conveyors of tacit knowledge. This obliges school leadership to woo knowledgeable staff members tactfully to cascade their knowledge to their junior colleagues. Although in the first

instance, the use of technology might be met with resistance by long serving employees, I consider that the younger generation (who are often in the majority) will relish it. Since younger staff members are already socially immersed in technology, it is easier for them to get a buy in from their older counterparts when the school leadership supports this initiative. Literature indicates that public sector organisations have begun taking this matter seriously; for example, Mkhize's (2015) study found that public servants actively shared knowledge through "web based socially constructed" CoPs. Intellectuals such as De Wee (2019) and Schoole (2019) envisage the same determination from the schooling system. They urge schools to motivate staff to experiment with new technologies continually, but without devaluing the essence of the contributions of human cognitive skills. While it is acceptable for leaders (in organisations) to take pride in the savviness of their technologies, Pandey and Pandey (2013:14) caution that they should pay more attention to ensuring that people's interaction with technology is applauded. (In Section 3.3.7.1, I delve deeper on the issue of human interaction with technology). I now turn back to the issue of how CoPs aid organisational operations, particularly in this technologically demanding knowledge era.

In the wake of the realisations that knowledge era hugely relies on people's reaction to the use of technology, Wenger (1998); Hashim and Tan (2015) argue that the formation of CoPs has to be underpinned by a culture of collaborative engagements, trust, mutual respect and appreciation for each others' input. These traits are said to be crucial to the sustenance of the life span of CoPs. The plausibility of the promotion of constant engagements among communities of employees about matters affecting their occupations, wherein they actively contribute their experiences and knowledge in bringing solutions to imminent problems (Hashim and Tan, 2015:145) is mounted on the creation of an organisational culture that is conducive for its growth and stability. I explored with my participants the operative processes of jointly creating insightful knowledge and whether they felt they had the opportunity to contribute their knowledge and experience as part of the discussions (so that they could learn from others and others could learn from them too).

After reading on CoPs I now reflect on the rationality behind their existence, and my sense is, although the words "community" and "practice" distinctly denote two contrasting views, but when used in combination, they broaden one's mind to the unavoidable co-existence in which people operate for as long as they engage in different life contexts. In so many ways both concepts (i.e., community and practice) are inseparable, because life experience has taught me that whenever people converge in groups, they do so because every individual member within

the group either sympathises with the virtues of the group or wants to air his/her views as to why he/she does not sympathise with the group virtues. Whether the member agrees or not with the virtues of the group, their presence within that set up, makes them a contributory component in the group's discourse.

Wenger (1998:2) remarks that “communities of practice are everywhere”. They permeate different spheres of human interaction including all organisations and they come to light when people attempt to collectively determine solutions to recurring sets of problems (Wenger, 1998:3). I would concur that individual members who constitute the sample (and broader population) of my study (i.e., teachers, HODs, administrative clerks and principals) are very much a part of CoPs in their respective fields of expertise; and they yearn to protect the integrity of their craft through engaging one another to generate ideas that can enhance their productivity in the workplace. After all, the “knowledge society is beckoning”, and everyone involved in its domain must be afforded the right to interact with it (Hargreaves, 2002; Ahmady, Nikooravesh and Mehrpour, 2016). After realising that collective learning immediately takes place when there are two or more individuals, I developed an interest to know how the selected interview participants characterised their involvement in the formation and functioning of CoPs (cf. Chapter 5).

### **3.3 EIGHT DIMENSIONS OF KM ENABLERS AND ACTIVATORS**

The KM framework that I have used to frame my study is based on a synthesis of the CoP suggestions of Wenger and the complementary work of Rodrigues and Pai, adapted to take into account the setting in South Africa. My framework is intended to enhance the prospects of collecting a thick layer of data. I decided on this framework as it seemed coherent with the context I wanted to explore, namely: township schools. Unlike many theoretical underpinnings I toyed with, little did I know that this framework would later on in the journey of composing this study, organically blend with the themes that emerged during the content analysis. I was particularly enticed by the fact that Rodrigues and Pai, the creators of this framework, are distinguished scholars from India, which is also a developing country confronted with conditions very similar to South Africa and the rest of the developing world. The understanding that their framework was developed specially to measure KM application in the fields of Education and Information Technology in a developing context (Rodrigues and Pai, 2005:582) made this framework an obvious choice.

Allameh, Zare and Davoodi (2011) and Ahmady et al, (2016) contend that adopting an appropriate framework is a necessary exercise as it provides a lens through which the researcher can track the evolution/trends of knowledge as an area of study. At a practical level, Rodrigues and Pai's framework assisted a great deal in sharpening the focus of the study by narrowing it down to eight indicators and enablers: (1) leadership and support; (2) technology and infrastructure; (3) knowledge creation; (4) acquisition and learning; (5) distribution and transfer; (6) exploration and exploitation; (7) people competency; and (8) sharing culture. This framework also facilitated the literature search as I knew exactly what topics to search for. From the next paragraph onwards I discuss these enablers and indicators as envisaged in Rodrigues and Pai's study. To draw parallels and/or dichotomies I will use other empirical accounts as well as my conceptions.

### **3.3.1 Leadership and Support**

Leadership is undoubtedly one of the most studied terrains, yet there is still a voluminous flow of literature being released into the public domain. Internationally, the popularity of leadership as an area of study is evidenced in 25 established journals dealing with leadership issues – as can be found at: <https://researchguides.ben.edu/organization-development>. Each of these journals contains volumes of articles that are based on a multiplicity of leadership themes and disciplines. To remain within the topic of study I exclusively discuss the impact that leadership has on KM application in schools. A significant number of scholars have produced many studies covering different themes of leadership. In the first semester of 2020, a number of studies were published on school leadership: Damons and Wood (2020); Kiori and Dickinson (2020); Mokoelle and Makhalemele (2020); Tapala, van Niekerk and Mentz (2020); Usadolo, Usadolo and Makwambeni (2020); Zuze and Juan (2020). In explaining the importance of leadership, Mooresi and Bush (2019) assert that effective leadership has the propensity to harmonise the human capital and processes such that the school achieves its goals. Leaders, as pointed out by Nguyen (2009:2), have a greater role to play in ensuring that people in organisations are at ease to contribute their own knowledge to the organisational domain. Maiki (2008) and Frost (2014) suggest that the absence of effective leadership often compromises KM application. Hall (2010:2) states that incoherent organisational goals can be traced to indecisiveness on the part of leadership. There are empirical grounds supporting the conception that the leadership hierarchy of any organisation is the enabler of KM application (Omotayo, 2015:13). Cong and Pandey (2003:1) concur that the leaders' task is to help organisations navigate through situations hostile to the expansion of knowledge and knowledge systems. Organisations are likely to fail if their leadership bands are not well vested with the vision and



mission of the organisations as well as the motivation to bring workers on board. Leading an organisation in this fashion requires clear foresight, decisiveness and institutionalisation of a strategy.

Knowledge work is a team effort (Bligh, Pearce and Kohlers, 2006; Hislop, Bosua and Helms, 2018). Within the schooling system context, Leithwood (2003:2) states that school leaders are individuals who are appointed whether full-time or in an acting capacity to exercise control over administrative, curriculum and co-curricular activities and have the power to give directives which may lead to the achievement of goals. Yet the irony about schools is that although they are the rightful custodians and catalysts of knowledge, they are infamously known for not sharing knowledge properly (OECD, 2002:1). “Bureaucratic and *laissez faire* management styles” are said to be failing to infuse inclusion and mutual participation in schools (Singh and Manser, 2002:56). Leading in this fashion is contrary to the Indigenous Knowledge Systems (IKS), which is based on the belief that *knowledge is a team-oriented virtue*. Therefore, in consideration hereof, we can argue that such leadership tendencies need to be eradicated for the sake of organisational renewal. To that end, literature cites a multiplicity of leadership theories and styles, which I discuss in the next paragraph.

### *3.3.1.1 Transformational Leadership*

Twenty-first century “educational” upgrades emphasise the impact of strong leadership and administration of schools (Hopkins, 2003:65), which often discards transactional elements in favour of “consensus, inspiration, autonomy and common vision” (Shatzer, 2009:32). Transformational leaders are known for their ability to inspire their teams to render above average outcomes through inculcating in them self-worth and high values (Chi and Pan, 2012; Mittal and Dhar, 2015). As pointed out by Sing and Menser (2002:56), an environment best suited for transformational leadership (TL) embraces the following aspects:

- Planning that is in synchrony with shared vision;
- Management that values participation and collaboration;
- Enhancing the image and practices of the school as a learning organisation;
- Putting adequate support systems in place.

For a long time, TL was exclusively deemed appropriate for the business sector; however, the trend has gradually been replicated in the public sector (including the schooling system). My

argument is supported by literature evidencing that TL is very plausible in the schooling system (Leithwood, Jantzi and Steinbech, 1998; Miles, 2002; Sing and Manser, 2002; Hallinger, 2003; Marks and Printy, 2003; Leithwood, 2006; Chi and Pan, 2012; Parag, 2014; Day and Sammons, 2014; Mittal and Dhar, 2015; Morice, 2016). Its agility and appeal is “universal across all organisations” (Bass, 1990; Shatzer, 2009) and has been proven to enhance the creation of knowledge and technology (Ng Fo Seong and Ho, 2012; Pandey and Pandey, 2013). A practical illustration of this is found in Valentine and Prater’s (2011:5) study which showed a correlation between TL and school achievements. However, certain conditions are necessary for it to thrive when adopted as a leadership strategy for schools’ effectiveness. Morice (2016) stipulates these conditions as follows:

- adhering to shared beliefs about learning;
- enhancing consolidated aspirations to learn and think boldly;
- inculcating the spirit of collaboration; and
- prudently maintaining a thriving learning culture for all parties involved.

Varying complexities associated with the role of the school leader’s leadership (Naidoo, Muthukrishna and Hobden, 2012:4880) has led to the evolution in how modern leaders lead schools such that they meet the prescripts of the twenty first century education. Hence, Leithwood et al. (1998) encourage the adoption of TL through their model for school effectiveness, which is based on: 1) individualised support; 2) shared goals and vision; 3) intellectual stimulation and culture building; and 4) rewards, high expectation and modelling.

### *3.3.1.2 Instructional Leadership*

According to Jaca (2013:1) leadership of “teaching and learning” processes is a crucial element that has harnessed efforts of rolling out quality education across the globe. Robinson, Lloyd and Rowe (2008:640) identified the core elements of instructional leadership (IL) as: promoting teacher development; setting “goals and expectations, planning, coordinating”; and monitoring and evaluation of “teaching and learning” as per the requirements of the curriculum. Historically speaking Hallinger (2003, 2007) postulated that the concept of IL was propagated by the so-called “effective school movement of the 1980s”. In addition, Wyatt (2017: 29) avers that empirical studies by Edmunds created a sensation among scholars who took it upon themselves to conduct further research on the phenomenon. Researchers including Spillance, Halverson and Diamond (2004:3) dissected the alchemy of IL since its inception to the present

moment; they concluded that it has since evolved considerably. Its evolution is twofold: *exclusive* and *inclusive*.

Robinson et al. (2008:660) state that a cohort of researchers who perceive IL as *exclusive* are the ones who believe in the principal's prerogative to lead the execution of instructional activities. This is how IL was initially set up, which for a very long time made some scholars question its integrity. Against the backdrop of several studies proving that the quality of IL is of a significant value to learners' learning outcomes (Wyatt, 2017:29), the view emerged that placing the principal as the sole anchor of instructional activities alienated other crucial stakeholders such as the HODs and subject teachers. I presume that similar assumptions to the one I alluded to in the previous sentence, eventually led the reconfiguration of IL to its current and second phase of evolution (referred to as inclusive), which I discuss at length in the next paragraph.

*Inclusive* implies that IL becomes the prerogative of middle management, in continual consultation with teachers, but with the approval of their principals and the deputies. The middle management comprises of HODs whose scope of duties demands that they perform IL (Department of Education (DoE), 2000; 2002; Bush, 2003; Rajoo, 2012; Jaca 2013). In order of importance, HODs are primary enforcers of IL whereas school principals only play "second" fiddle to classroom teachers (Wyatt, 2017:28) who are at the coalface of instructional or curriculum execution. To justify Wyatt's posture, Seobi and Wood (2016:1) state that the majority of principals, especially those from schools that are situated in previously disadvantaged communities, cannot keep up with the pressure that comes with leading instructional activities as they are often too busy trying to keep their schools afloat. Bambi (2012) and Jaca (2013) also ascribe to this notion in stating that principals have ceased to be the sole role players in IL. Theirs is to exercise routine oversight while HODs (also known as subject heads) handle the tedious aspects of IL, fundamentally in consultation with teachers. Whilst Masuku (2011:95) does not downplay the role that HODs play in IL, he remains adamant that it is the core competency of the principal. On the contrary, Klingensmith (2007:20) maintains that the "principal could and should not act alone as the instructional leader".

The disadvantage of IL becomes its reliance on predetermined hierarchal positions of authority when assigning duties of leading instructional activities (Loock et al., 2003:42) and tends to apply a top-down approach (Hallinger, 2003:340). The top down approach is synonymous with stifling communication (Luvalo, 2017; Makambe, 2017) an occurrence which bars teachers

from being actively involved in curriculum decision-making process (Zvandasara, 2016:107-108). Despite its flaws, authors such as Miles (2002); Hoy and Miskel (2008); Bambi (2012); Bush and Glover (2014) and Parag (2014) are unequivocal in stating that IL fosters a good learning climate by influencing the direction of teaching and learning processes.

In this era, formulation of a more “inclusive approach” to IL is viable for the development of instructional programmes at schools (Klingsmith, 2007:20). I believe this is a sensible argument because HODs double as supervisors and subject teachers. Thus their proximity and exposure to teaching and learning activities put them in good stead to oversee processes and leadership of instruction/curriculum. Sharing the same sentiment is Bush (2003:1) who mentions that HODs are adequately “experienced” and have a mastery of classroom practices. Hierarchically, HODs are recognised as “teacher leaders” (Bush, 2003:186) whose core mandate is to see to it that teaching and learning of various subjects goes according to policies (Sindhvad, 2009:2-3).

Thankfully, IL in its current form is a far cry from what it used to be in the past, when it was rolled out authoritatively only by the principal. A milestone in educational leadership was reached when the vociferous “effective schools movement” incorporated “the term instructional leadership into the vocabulary of educational administration” (Hallinger, 2005:223). Thus nearly thirty years of research on the topic indicates that it has a desirable “effect on student learning and achievement” (Greb, 2011:60).

### *3.3.1.3 Democratic Leadership*

In the context of education, democratic leadership sounds like the most viable style of leadership. Throughout his book entitled “*Democracy and Education*” John Dewey (cited in Oelkers, 2016) mentions that a democratic leader’s leadership rests on the will of its people. Democratic virtues must be adopted because they have proven to aid education tremendously, specifically “the constitution and process of the public school system” (Dewey 1985: 417-418 cited in Oelkers, 2016:4). However, for democracy to prevail in this space, Hornáčková, Hálová and Nechanická (2015:717) postulate that the school principal must build a relationship with his/her staff based on similar “habits, thinking and acting” patterns. Bearing in mind that with regard to governance, democracy is about “regulating power” (Oelkers, 2016:3), principals should not compromise on their core values by approving the employees’ ideas even when they arguably lack rationality and do not engender best practices. Although the disapproval of their ideas may lead to a stalemate, Hornáčková et al. (2015:718) assert that the

principal must remain relentless in perpetuating a culture of negotiations, mutual participation and consensus. While Goleman (2000:3) argues that the DL style is given more credit than it deserves, I would oppose his argument in this regard on the basis that allowing people to express their views (and encouraging a dialogical format), engenders knowledge advancement.

The value of democratic leadership style (DL) cannot be understated. Research shows that as a measure to facilitate the sharing of “responsibility” and the empowerment of staff, most effective leaders are likely to adopt the DL style (Harris and Chapman, 2002; Choi, 2007; Hickman, 2017). Other studies (Foels et al., 2000; Myers, 1996) also reveal that “group members” under the DL style are likely to derive more satisfaction compared to their counterparts under the autocratic leadership style. Evidently, people in communities of practice resent a heavy-handed or a cunning leadership associated with autocracy but instead are more appreciative of the leadership that advocates for group engagements (Foels et al., 2000:692). Thus, in most situations the DL style consistently applies “a higher morale” (Choi, 2007:246) to generate solutions. Group participation and joint contribution are very much a part of DL; it is thus no wonder why Hickman (2017:32) refers to it as “participatory leadership”. Nevertheless, the freedom of expression that comes with DL style, if not properly examined, can compromise the credibility of the leader. Indeed, Goleman (2000:3) is critical of DL style on grounds that it tends to give rise to over-communication of ideas and lengthy but fruitless meetings, which eventually confuse employees. Therefore, to avoid being seen (or misconstrued) as a weak leader, Gill (2014b) advises democratic leaders against letting their core inputs be overly influenced by others, albeit still being open to the inputs of others (as part of a dialogue).

#### *3.3.1.4 Autocratic Leadership*

Autocratic or Authoritarian Leadership (AL) style is the one in which the leader takes charge of all processes by dictating how they are to unfold. Contrary to DL, Choi (2007:245) argues that AL stifles group participation as the leader disregards others’ contributions in decision-making. Hickman (2017:30) points out that, although the “educational profession” often downplays it, the AL style is a reality that many employees have to contend with in their places of work. This style of leadership is difficult to put an end to, as the leader often exhibits the “it’s either my way or the highway” kind of an attitude (Hickman, 2017:30) without creating opportunities for employees to express their concerns. Ultimately, the organisation ends up with a significant number of demoralised and side-lined workers (Choi, 2007; Root, 2016; Hickman, 2017).

However, there is an indication that the AL style does have some positive attributes. For instance, a study by Foels et al. (2000) found gender as having a bearing on what kind of leadership one finds more suitable for them. It found that most men tend to be task oriented and often find the AL style bearable, whereas their female counterparts are likely to be more productive when democratic practices are introduced. Nonetheless, their study does not rule out the possibility of its findings being proven otherwise by other studies. Another positive attribute about the AL style is brought to light by Goleman (2000:3) who argues that it works well when the organisational systems are in tatters and need to be resuscitated, and it might also work when the leader single handedly benchmarks standards, but also puts employees at liberty to decide on how to reach them (Goleman, 2000:3).

### 3.3.1.5 Transactional Leadership

Khan (2017:178) asserts that transactional leadership (TRL) is the type of leadership that is mostly practised in the educational sector. Transactional leaders operate on a mutually beneficial basis with their followers (Smith, 2016:68). To establish relationships with individuals, a transactional leader usually interprets one's character and establishes an approach to keep a person encouraged to fulfil his (the leader's) ambitions. TRL determines the "punishment or reward" using the performance of employees as a yardstick (Bass, 2008; Avolio, Walumbwa, and Weber, 2009; Nazim and Mahmood, 2016; Smith, 2016; Hickman, 2017; Khan, 2017). Keeping a follower happy means rewarding them for their work, whereas punishing a follower means the deprivation of rewards for failing to live up to the desired outcome. Transactional leaders are not too technical about daily operations because they presume that the followers are abreast with policies and protocols. They have the attitude of: *I am in charge, and if I order you to perform a duty, you will be rewarded if you execute it successfully; but if you do not succeed in it, I will most definitely punish you* (Sultana, Darun and Yoa, 2015:4).

Their interest (ideally speaking) solely lies in the best interest of the organisation, and their *modus operandi* are underpinned by the swiftness of the approach they take to manage situations. Literature suggests that there are two approaches to transactional leadership, namely; *management-by-exception: (actively involved)* and *management-by-exception: (passively involved)* (Grys, 2011:102). With regard to leaders who prefer an *active* approach to leading their followers, Smith (2016:68) posits that they are likely to rectify their followers' mistakes at regular intervals; however, the crop of leaders who apply a *passive* approach to

leading their followers only step in when situations have the potential to curtail the success of the organisation.

Approaching followers to exchange “one favour” with the other (Kok, 2015:30) requires the transactional leader to be a good judge of character. The positive aspect about TRL is that in public schools it values to some extent the scarcely-practised bottom up feedback (Kok, 2015:30). A study by Hauserman and Stick (2013) reported that transactional principals expressed some level of appreciation for “teacher input at times”. Meanwhile, some scholars disapprove of TRL (McCleskey, 2014:122) on the grounds that it does not pay attention to “situational and contextual factors” that underpin the obstacles that organisations encounter (Yukl and Mahsud, 2010; Yukl, 2011). In a schooling context, Hickman (2017:36) extrapolates that eventually, TRL is bound to tamper with teachers’ “morale”. Sultana et al. (2015:4) attribute all these mishaps to the transactional leaders’ inability to constantly complement his/her staff when they have done well. The “over” dependency “on a single approach, and unwillingness to discuss, or even consider, the ideas of others” (Benjamin, 2016:1) is caused by the leaders’ naivety, selfishness and idiosyncratic behaviour. A few other criticisms levelled against TRL include its failure to cultivate engagements with the entire “staff” (Smith, 2016:71). Due to its predetermined methods of execution, Hickman (2017:35) states that TRL hampers staff “creativity and innovation”. Also, Razza (2011, para. 8) posits that the act of indulging followers with rewards erodes their aspiration to reach out for more than what ought to be given. Khan (2017:181) argues that transactional leadership does not possess the kind of temperament needed to deal with intricate “educational” institutions. Thus, Smith (2016:66) cites Bass and Avolio (1994) who hold the view that there are no distinct paradoxes between transactional leadership (TRL) and transformational leadership (TL). They believe that transactional “managerial” practices are forbearers of transformational “managerial” practices. This to me suggests that they see the latter as nothing else but a *quasi-replica* of the former, and hence literature on TRL usually incorporates “both transactional and transformational behaviours” (Liu, Liu, and Zeng, 2011; Gundersen, Hellesoy and Raederet, 2012). I thus consider that in a school environment where staff members are demotivated and have low productivity output, a more transformational-styled approach (TRL) can be of great benefit to keeping the school afloat by temporarily resuscitating the staff morale until a more sustainable leadership approach is adopted. Just like any other leadership style, it too has its fair share of positive and negative aspects, which are debatable in any case.

### 3.3.1.6 *Laissez-Faire Leadership*

Laissez-faire leadership (LFL) approach is also known as the "hands-off style" (Khan et al., 2015:89), "delegative leadership" (Day, 2001; Chen, Beck and Amos, 2005) or "absence leadership" (Bass and Avolio, 1990) cited in Tosunoglu and Ekmekci (2016:90). LFL is generally not concerned with "strict policies or procedures nor does a single leader" take decisions unilaterally (Hickman, 2017:31). Followers have the privilege of carrying out their duties with minimal (or sometimes without) supervision. Task-based improvisations, exploration of one's creativity and innovation are all characteristics associated with LFL. Hickman (2017:31) argues that numerous cutting edge innovations would not have materialised in the absence of LFL. His argument insinuates that if all organisations were not in favour of LFL, many brilliant concepts or ideas would have eventually gathered dust with no prospect of being put into practice. Not exercising strict control over their subordinates directly (Mohammed and Wang, 2018:31) as well as the delegation of authority to line managers (Bass and Avolio, 2006; Hickman, 2017; Mohammed and Wang, 2018) are some of the advantages that put employees under the LFL regime in control of their destiny within their organisations. However, Khan et al. (2015:81) point out that there are conditions attached to adopting LFS, such as ensuring that employees are endowed with the following:

- Possession of adequate skills, work experience, and relevant education/qualification;
- An embodiment of pride in their work and the resilience to carry it out unsupervised;
- Appreciation for collaborations with external experts (i.e., consultants and field specialists);
- Appreciation for collegiality and trust in the system.

In the previous paragraphs I mainly reflected on the positive attributes of LFL; however, there are certain factors associated with LFL that do not augur well with some scholars. For example, Tosunoglu and Ekmekci (2016:97) argue that the lack of presence of a laissez-faire leader in decision-making processes and the freedom generally associated with LSL works against the restoration of employees' trust in an organisation. Working with minimal (or no supervision at all) promotes the free styling of duties, which often gives credence to frequent contraventions of managerial laws and codes of practice (Khan et al., 2015:90). Despite the criticism levelled against LFL, Hickman (2017:32) maintains that it has a positive effect on teacher morale.



### *3.3.1.7 Situational Leadership*

The argument supporting situational leadership (SL) is that because the magnitude of situations varies, so too should their treatment. Situational leadership theory claims that there is no “best method” of leadership (Andersson and Thylin, 2009:8). To add on this, Yukl (1989:262) asserts that situations can affect the “leader’s behaviour”. What really matters is the adoption of the right kind of leadership style on a situational basis (Hersey, Blanchard and Johnson, 1982:94). Considering that schools are an environment where principals as chief accounting officers have to contend with the influx of predicaments almost on a daily basis, Parag (2014:46) deems SL appropriate for running schools. To qualify this opinion, Parag (2014:46) states that SL puts an emphasis on the “nature, quality and psyche” of staff members. Expanding on this view is Hersey et al., (2008:144) who extrapolate that in essence, SL is rooted in the “task behaviour and relationship behaviour of the leader” relative to the followers’ state of “readiness”. Hersey et al. (2008:144) define the followers’ state of readiness as the level at which the follower is determined to utilise his “ability” to execute “a specific task”.

In an attempt to analyse and distinguish the aforesaid behaviours, Parag (2014:46-47) posits that “task behaviour” refers to the kind of actions that the leader takes to explain the mandate and the expected standards that the follower has to adhere to by pointing out where, when and how things are to be done. To Parag, “the relationship behaviour” is more of a provision of “socio-emotional support” to the followers, fostered through mutual agreement and “two-way communication”. Various scenarios are mentioned by Marzano, Waters and McNulty (2005:17-18) to demonstrate how the SL style impacts different situations:

- a. In a situation where followers lack the ability and spirit of keenness to execute the assigned duty, the leader directs followers’ actions with little regard for personal relationships;
- b. In a situation where the followers lack the ability but are keen to execute the task, the leader engages the followers in a friendly manner whilst providing a resolute “direction and guidance”;
- c. In a situation where the followers have the ability but are not keen to execute the task, the leader practises the art of persuasion so that followers draw enough motivation to fulfil their mandates;

- d. In a situation where followers have the ability and the keenness to execute the task, the leader puts the followers at liberty (with minimal or “no interference”) to “accomplish the task on their own”.

On the basis that in institutions of learning such as schools, knowledge workers’ (in this case, teachers, HODs, administrative clerks) attitudes, approachability, values and determination are overtly different; I recognise the rationality behind leaders’ adjusting their behaviour according to the pace of their followers’ state of readiness to execute duties. I consider that it would be improper that all the followers would respond the same to a fixed leadership style. Using “a one size fits all” approach when leading individual members will inevitably test their strength of character and as a consequence give rise to resistance and revolts against the milieu. Hence Whitaker, Whitaker and Lumpa (2009:17) urge leaders to use their followers’ “maturity, willingness and ability” to execute the assigned duties, as the basis upon which to adjust their leadership approach towards every single one of them. This trajectory is steadily gaining momentum; according to Goleman (2000:4) contemporary research explicates that most effective leaders adopt a variety of “leadership styles – each in the right measure, at just the right time”.

Leadership in general is about steering the organisation to prosperity on account of its “leaders and followers and situations” (Hersey and Blanchard, 1988:83) and no one style of leadership can fully handle different situations in the workplace (Mwai, 2011:4). However, despite the thorough research concerning SL, certain scholars (e.g., Nicholls, 1985; Bass, 2008; Glynn and De Jordy, 2010) have noted several flaws including internal discrepancies, conceptual incongruities, vagueness, continuity and conformity. Similarly, Yukl (1989:262) is not entirely convinced that the SL theory performance criteria (i.e., maturity and ability) are sufficient to impact the achievement of organisational goals. Generally, some studies have indicated that the model downplays the immaturity of the followers, especially when the leader is confronted with a situation where followers lack the ability and enthusiasm to execute the assigned duty (Andersson and Thylin, 2009:11). As such, SL is thought to be lacking a beyond reproach empirical depth (Papworth, Milne and Boak, 2009:593). The suggestion therefore is that the SL theory needs further development (Yukl,1989:262) by means of investigating aspects of “leadership and the followers” (Larsson and Vineberg, 2010).

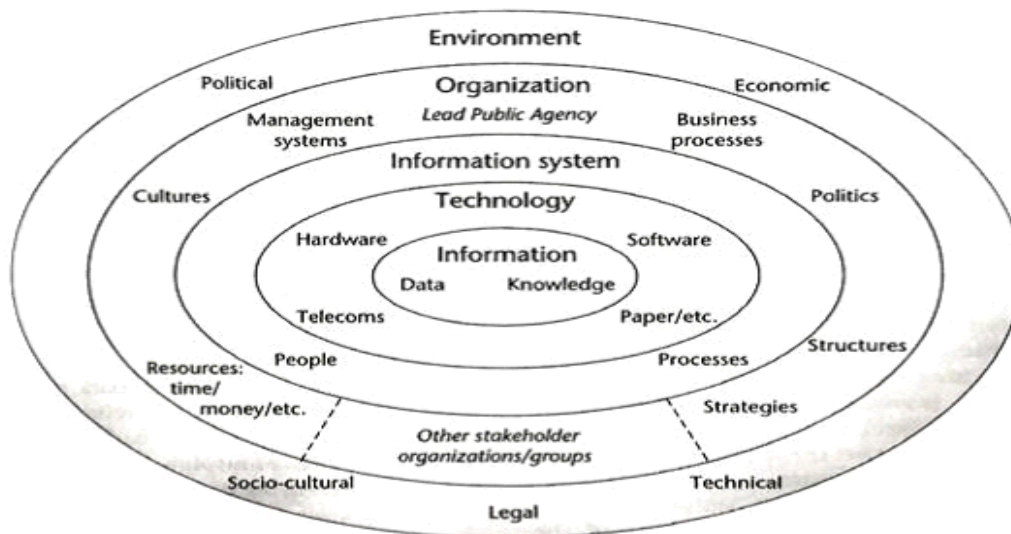
### **3.3.2 Technology and Infrastructure**

In this era we live, access to information is just a click away. One click provides one with numerous versions of the same issue or topic of interest. The rapid growth of technology requires a proper infrastructure to harness it. Infrastructure can be regarded as the provision of equipment and amenities (e.g., computer laboratory, classroom, office space and so forth) without which technology cannot be facilitated. I refer to technology as the methods or the format through which information is projected or brought to light and this requires the availability of a proper infrastructure. The word infrastructure does not necessarily connote “state of the art” but simply refers to the technology that sufficiently allows for knowledge processes to unfold. Infrastructure speaks to an issue of the suitability and availability of tools and amenities that support the use of technology. For example, in a school, computer literacy lessons cannot take place if there is no classroom equipped with tables, chairs, and proper cables to connect the computers. I draw on this example to indicate the symbiotic nature between technology and infrastructure. On the other continuum, I use this example to illustrate to the reader of the study the modesty of “the quality of school infrastructures across the country” (Ommundsen, 2017:48); also to underscore that the infrastructure is considered adequate when it enables technology to function even in less than desirable conditions. To cement this point I draw on a study by Ferdinandus et al. (2015) which illustrated that even in the most rural parts of the country, the little infrastructure there may be can go a long way towards enabling KM in schools. Their findings indicate that proper technology can be tailor made to suit the financial and human capacity of the school. What ought to happen is that organisations “must invest” in the relevant “technological infrastructure” (Lee and Choi, 2003; Gold, Malhotra and Segars, 2001) fundamentally to revitalize how they share, process and store knowledge (Syed-Ikhsan and Rowland, 2004:102).

Various studies explicate government’s commitment towards upgrading schools’ technologies and infrastructures (Gxwati, 2011; Mokwena, 2011; Mveli, 2014; NECT, 2017; Cuartero and Role, 2018). I would, however, caution the Department of Basic Education to engage with employees’ representatives with regard to the upgrades that they propose, to ascertain how these technologies will affect the workers and if, workers will need reskilling. I maintain that by keeping the workforce at the implementation phase of education abreast about the latest innovations, will reduce resistance to change. My views are supported by Cong and Pandya (2003:31) who suggest that organisations should, at all times, consider how employees feel about technological architecture before spending money on it. Having workers on board is a

move that will establish common understanding, and as pointed out by Heeks (2006:127), will ensure that “more match than mismatch” occurs.

I see technology from two distinct perspectives: the objective (or broader) perspective and the intersubjective (or contextual) perspective. When looking at technology through the former, it might as well be dubbed a “fluid concept” which is hard to define as it encapsulates many elements rooted in a multiplicity of occupation categories (i.e., engineering, medicine, computer science, and chemistry). But when looking at it from an intersubjective (or contextual) perspective, technology merely appears to be the “information technology infrastructure” which anchors “knowledge management” processes (Allameh and Zare 2011:1216). Databases, intranets, knowledge platforms and networks (Syed-Ikhsan and Rowland, 2004; Chan and Mohamed, 2017) constitute the “technology infrastructure” (Allameh and Zare, 2011:1216) alluded to. Considering that my study looks at KM application in public schools, I refer below to Heeks’ (2006) diagram, which illustrates how government information systems typically work:



**Figure 3.1: Full model of government information systems in developing countries (Heeks, 2006b cited in Ommundsen, 2017:6)**

This diagram presents a universal approach to how governments’ information systems typically function. Its elaborate labelling of the peripheral aspects (i.e., politics, environment, socio-cultural matters, legislative processes, and technical acumen) that have a bearing on the implementation of public sector information systems is insightful. However, apart from the peripheral issues (as envisaged in the diagram), I focus more on the question of the deployment of information technology (IT). According to Song et al. (2000) the software package of IT

houses *communication technologies* (e.g., e-mails, video conferencing, electronic bulletin boards and computer conferencing) and *decision-making technology* whose features include specialised data management programmes, expert systems and executive information systems. IT is one of the key elements which most organisations can barely function without (Allameh and Zare, 2011:1216). IT eliminates unnecessary barriers to effective communication, which often stifle interdepartmental or broad-based engagements within the organisation. Thus IT expedites administrative processes and allows for easy storage and codification of information. The duality of IT which bears both the technical (“technos”) and “knowledge bases (logos”) intrigues many authors of KM literature (Hosseini et al., 2014:234).

### *3.3.2.1 Educational Management Information System*

Bernebaum and Moses (2011:19-20) define the Educational Management Information Systems (EMIS) as an integrated solution that fosters working synergy between “people, practices, and technology” as well as the provision of credible education data in a “timely, cost-effective and sustainable manner”. It is a system that streamlines educational planning in a “cost-efficient and effective” way (Cuertero and Role, 2018:452). The system is able to record, analyse, retrieve and share information. With the EMIS poor filing and loss of information is avoided. EMIS is based on the promulgation of the National Education Information Policy (DoE, 2005), which stipulates why and how provinces should put it into practice. The intention is that information could be cascaded to wider destinations and audiences in a matter of minutes. Gxwati (2011:59) elucidates prerequisites for an effective EMIS as follows:

- primarily EMIS should enhance the efficiency of the education system, focused on transparency whilst ensuring that all education departments act with accountability towards utilising scarce public resources;
- EMIS has to advance public access to correct and appropriate information in line with the set legal prescripts;
- with the exception of confidential information, other information (i.e., educational programmes, practices and outcomes) should be within the reach of the public;
- both vertical and horizontal flow of data should be used as means to disperse it widely;
- ideally, data should be processed, analysed, and published close to the collection point;
- EMIS should foster capacity building, support and training on collection, processing and analysis, dissemination and use of information at all levels of education;

- properly planned systems must be adopted to syndicate the flow of information between the national and provincial levels, and to note the complexity of provincial needs when exchanging data and their readiness to decode technology.

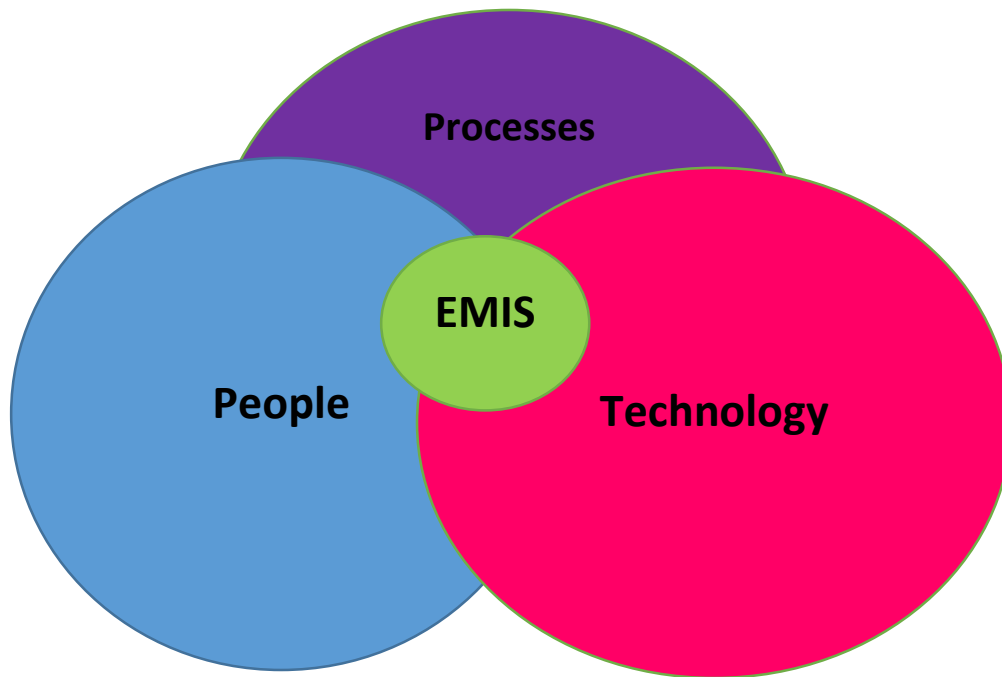
These prerequisites were promulgated to ensure that schooling system's technocrats are familiar with their mandate when interfacing with EMIS (Gxwati, 2011:59). This innovation ties in with the call to usher schools into the 21<sup>st</sup> century education, which is mainly technocentric in nature. Having entered the era famously known as the "knowledge economy" era (Rothboeck, 2000; Smith, 2002; Rooney, Hearn, Mandeville and Joseph, 2003; Powel and Snellman, 2004; Amidon, Formica and Mercier-Laurent, 2005; Rooney, Hearn and Ninan, 2005; Antras, Garciano and Rossi-Hansberg, 2006; Khanyile, 2009; Radwan and Pellegrini, 2010; Dutta, 2012; Chang, 2015; Butler 2018), schools have no option but to improve how they conduct their daily affairs. The knowledge economy era demands that most workplace functions are in some way coordinated through technology. Recognising that they have lost a wealth of information due to fallible outdated information management systems used in the past, now (more than ever before) schools care about what happens to the influx of data that they received. What characterises their success or failure in managing existing knowledge is the strategy they employ to manage their knowledge.

Van Wyk (2006: iii) adds that absence of quality data and coherency with other systems may hinder the efficiency level of EMIS. While the cited authors recognised technology as the foremost enabler of KM, Gaffor and Cloete (2010) and Frost (2014) argue that over-indulgence with technology can work to the detriment of tacit information accumulation. This implies taking into account other factors that enable technology to take centre stage in KM application. Barnabaum and Moses (2011:20) have done well in elucidating the many factors to take into consideration when evaluating the success of EMIS application in schools:

- the right PEOPLE who are motivated and competent to carry out their work;
- the right PROCESSES that diminish duplication and foster the environment where accuracy and accountability are synonymous with the organisation;
- the right TECHNOLOGY, commensurate with the conditions of the country, and the reliability of its infrastructure.

Although the aforesaid account on the nature of EMIS is easy to understand, I consider it appropriate to complement it with a diagram depicting key factors relevant for my study (See

Figure 3. 6.) This is in keeping with Blackwell (2008:13), who states that in academic writing, diagrams support and simplify “perceptual inferences” and makes it easy for one to interpret information directly from them. The diagram summarily illustrates key pillars (i.e., people, processes and technology) of EMIS. I specifically featured the diagram in my study because it encapsulates the mainstay of EMIS in Africa’s schooling systems. Hereunder lies the diagram by Barnabaum and Moses (2011:11).



**Figure 3.2: Education Management Information System (EMIS) (Barnabaum and Moses, 2011:11)**

Barnabaum and Moses (2011:20) aver that EMIS came at the insistence of the schooling systems authorities, who realised that they kept on losing key information across all levels of operation. Their study explicates that prior to the adoption of EMIS, record keeping had been a widespread problem that many African countries were confronted with. As a remedial measure, the South African government (specifically the Ministry of Education) gazetted The National Information Policy of 2005, which essentially advocated for the development of a more user-friendly and efficient way of managing the flow of information. In the next paragraph I discuss in detail South Africa’s EMIS.

### *3.3.2.2 The South African Schools Administration Management System (SA-SAMS)*

The United Nations Educational, Scientific and Cultural Organization (UNESCO) posits that information systems are of vital importance to the management, planning and evaluation of an

education system (Carrizo, Sauvageot and Bella, 2003:11). After having realised the fallibility of their record or information keeping systems, x governments worldwide, including South Africa, had to devise a means to improve the status quo. Consequently, the National Information Policy of 2005 and thereafter its offspring, the South African Schools Administration Management System (SA-SAMS) were generated (Gxwati, 2011; Kuriakose, 2014). SA-SAMS basically takes care of all the record keeping needs of the school, and it also reconciles school's all administrative functions whilst eliminating the overdominance of manual ways of record keeping which are time-consuming. Kuriakose (2014) and Gxwati (2011) state that SA-SAMS was piloted between 2005 and 2006 in schools that possessed at least one or more computers. It was "made compulsory to all public schools in 2008" (Kuriakose, 2014:15) with the exception of "rural schools" (Gxwati, 2011:63). I suppose that the rural schools were not roped in immediately since most lacked adequate infrastructure to implement SA-SAMS. But today SA-SAMS is projected to be operational at almost 90 percent of the schools nationwide (Zenex Foundation, 2018). Comparatively speaking, administrative clerks and principals use SA-SAMS way more than teachers and HODs do.

Although projected to be operational in about 90 percent of the schools (Zenex Foundation, 2018), more still needs to be done to bridge the remaining gap. During a parliamentary session (as early as 2015), one member of the Parliamentary Portfolio Committee on Basic Education (PPCBE, 2015), expressed his frustration with the rolling out of SA-SAMS. Subsequent to that, Butler (2016) inferred that principals and education experts are unhappy with the system as they purported that it was riddled with inefficiencies and contributed to the reduction of the schools' nutrition funding, shortage of textbooks and stationery, and even fewer teachers. There are many more inefficiencies mentioned in the literature, which I will discuss in Section 3.3.2.5.

Having noted SA-SAMS inefficiencies, the Department of Basic Education has shown an interest in turning things around. Their seriousness has been demonstrated by their programmes of action. During a press conference, Mveli (2017) remarked, "The Department has invested heavily in improving the data structures to support schools and education officials at various levels". An amount of R16 million has been budgeted to modify SA-SAMS and to expand the second phase of the Learner Unit Record Information Tracking System (LURITZ) (PPCBE, 2015).



In its annual report the National Education Collaboration Trust (NECT, 2017:61) stipulates that a further R 40 million came from the patronage of the private sector to bolster the modification of the solution. The DBE selected the Free State and North West provinces as the pilot sites for the rollout of the modified SA-SAMS, and for the first time since it was institutionalised, a parliamentary steering committee was set up to monitor the SA-SAMS progression throughout its life cycle (NECT, 2017:61) and to encourage the non-administrative staff such as teachers to also use SA-SAMS. This will eliminate the stereotype that it was solely meant for front office officials such as clerks, principals and their deputies. Although administrative clerks and principals are frequent users of SA-SAMS and have been engaged with it since its inception (Mokwena, 2011:11), there is an indication from the literature that they were not the only targeted users of the system. Teachers are said to be another target but for unknown reasons, large scale engagement in SA-SAMS has not realised (Mokwena, 2014:74). This move was meant to ensure that they too get to see through their work beyond classroom confines. Innovations of SA-SAMS calibre demonstrate how “computer technology” motivates organisations to engage in their own “knowledge generation and management” (Nemani, 2010). Below I explore how the administrative clerks and the principals interface with SA-SAMS in their schools.

### *3.3.2.3 Administrative Clerks' Interface with SA-SAMS*

Administrative clerks need to work tirelessly to ensure that clerical duties run smoothly. They therefore rely on SA-SAMS to optimise their administrative scope of work. The system reduces pen and paper based format of capturing information in favour of the electronic format of capturing information. Once information has been captured, it can be reused, updated and resent in future. In this section I draw on empirical literature to illustrate ways in which EMIS optimises the administrative duties of school administrative clerks. Kuriakose (2014:16) states “financial wizard, time-table generator, academic” record, behavioural history, term reports and contact details as well as information about parents, among some of the features that optimise the “management and administration of the school”. Additionally, Mokwena (2014:77) mentions tuition fee records, data of parents, class lists and attendance registers, school budget, curriculum tools, maps, time tabling and HR modules, and thus school library administrative duties become easier to undertake (Demir, 2003:33). Generally, SA-SAMS works contrary to the time-consuming and unfriendly ways of clerical administration. Beyond clerical duties, Gülbahar (2007) and Mokwena (2011) argue that the system makes more effective provision for the administration of teaching and learning programmes. I support their argument as I have also noted through my own contact with SA-SAMS, that it provides

curriculum aids, such as mark sheets, top performers' lists and the required pass percentage per learning area.

#### *3.3.2.4 Principals' Interface with SA-SAMS*

According to much of the literature as cited in Chapter 2, the biggest driver of better education outcomes is the school principal. The principal deals with leading curriculum matters and managing human resources. In the past principals were rarely engaged in record keeping as their duties were primarily based on monitoring the direction of the school. But their role has seen a drastic change over the last few years (Swanepoel, 2008:40). Nowadays the principal as the head of the school should be conversant with all the happenings at the school. Over and above that, they need to be conversant with technologies, and when looking at the user-friendliness of SAMS I consider that its inventors must have borne in mind that most principals possess rudimentary computer skills. This innovation has been positively received by the community of principals because it helps them handle other functions more effectively. Cong and Panya (2003:31) insist that the creators of digital technologies must take note of the beneficiaries' ability to handle them. The increased workload of the principals (Swanepoel, 2008:41) demanded a tool like SA-SAMS to help the principals manage their workload. In view of this, as stipulated by Department of Basic Education (2012:4), SA-SAMS was designed to assist the principal to deal with data management of the school by presenting the captured data in various reports needed by the SMT (e.g., reports on weekly, monthly, quarterly attendance, learner performance, learner failures, LTSM per subject and grade, furniture and other assets).

Currently principals are able to keep track of learners' administrative processes (learner attendance and pass and failure rate), calendar events, teaching and none-teaching days, weekly and terms planning and so forth. Broadly speaking, SA-SAMS has become a viable tool for managing both the curricular and extracurricular programmes respectively (Department of Basic Education, 2012:3). In particular, the system consolidates information pertaining to the school personnel, which the principal can access at any given time (Kuraikose, 2014: 17).

#### *3.3.2.5 Efficiencies and Inefficiencies of SA-SAMS*

Even though information technology can be said to have done remarkably well in innovating how schools manage their knowledge, there are a few notable inefficiencies. Mokwena (2014:74) observed that teachers do not possess the acumen to cope with SA-SAMS. I surmise this is due to lack of training. Hargreaves and Bascia (2000) and Swanepoel (2008) critique the

frequency of these kind of innovations which require teacher implementation without adequate prior consultation. I share the same sentiment with them because during literature mining I did not come across any scientific study indicating that teachers were orientated on how to operate the system. I was however able to establish that principals and administrative clerks were instructed how to handle the system. Perhaps the situation is about to change as Mokwena (2014:74) established that efforts are being made by education authorities to encourage teachers to begin using it regularly. Buttler (2016), in her capacity as a field journalist for Eastern Cape based *The Herald Newspaper*, conducted an investigation which identified frustration that principals, teachers and 12 000 pupils (mostly foreign nationals) encountered with SA-SAMS. Her investigation found that many foreign learners were not accounted for due to the systems' failure to recognise foreign identity numbers (IDs). The investigation also established that this situation exacerbated the duplication of registration, the loss of teachers, shortage of learning and teaching material, as well as reduced government subsidy for schools' academic and nutrition programmes. Additionally, Karaikose (2014:17) identifies the following inefficiencies of SA-SAMS:

- it falls short of availing information gathered about the learner to the teachers and parents as the principal and higher authorities restrict access to the recorded information for reasons known to them;
- updating consumes time and may hamper the work rate of the people who need to work on the programme;
- it is updated once a year which makes it virtually impossible to rectify or add features as and when the need arises. Everything has to wait till the time of updates.

As has transpired in the aforementioned discussion it is clear that SA-SAMS does feature prominently in the lexicon of our schooling system, and while noting its flaws, we should equally take note of the remarkable benefits to the education system. Mokwena (2014:74) states that SA-SAMS is a cost effective information management vehicle. Another positive aspect about the SA-SAMS is that it has since been revamped to ensure that it is within the grasp of whosoever may want to use it to perform school related duties. Mokwena (2011; 2014) stipulates that anyone with basic computer skills can use it. Schools' satisfaction levels with SA-SAMS are reported to be about 92 percent nationwide (SA-SAMS, 2018). The Department of Basic Education (2012:3) states that the prospects of SA-SAMS are bright. It will eventually migrate to web-based systems that will greatly assist schools in retrieving and loading their data in a more user friendly way (DBE, 2012:3). The new SA-SAMS will streamline school administration and simplify management processes and functions, allowing for more teaching

and learning time and better access to and analysis of information (NECT, 2017:59). It is envisaged that there will come a time when SA-SAMS brings about the following aspects:

- continuity in school administration, and the fulfilment of national and provincial data requirements; and
- production of a world class, comprehensive and accessible web-based School Administration System that will drastically improve school administration.

My overall impression after reviewing literature dedicated to SA-SAMS (i.e., Van Wyk, 2006; Gxwati, 2011; Mokwena, 2011, 2014; DBE, 2012, Kuriakose, 2014; NECT, 2017) is that despite its apparent flaws, the system has introduced more efficient ways of consolidating school knowledge.

I subsequently extended my literature search beyond our borders (to look into other countries) as I sought to understand how their customised EMIS systems transformed their respective education systems. I was able to locate studies drawing on experiences of twelve schools across four continents (i.e., Africa, Asia, Australia and Europe). The studies I perused were from **Holland**, authored by Visscher and Bloemen (1999); **Australia**, authored by Gurr (2000); **Israel**, authored by Telem (2005); **Britain**, authored by Condie, Munro, Seagraves and Kennesson (2007) cited in Fetaji, Fetaji, Ebibi and Kera (2018); **Turkey** and **America**, authored by Demir (2006); **South Africa**, authored by Mokwena (2011) and Gxwati (2011); **Zambia**, **Uganda** and **Malawi**, authored by Barnebaum and Moses (2011); **Malaysia**, authored by Zain, Atan, and Idrus (2004) and Shah (2013); and lastly **Philippines**, authored by Cuertero and Role (2018). The above cited authors acknowledge the contribution that EMIS has made to their respective schooling systems. They cite improved information access, proficient administration and greater use of school resources, decreased workload, improved time-management and better quality of reports. During the process I located several studies by non-South African authors who made reference publications by South African scholars on our education system. This requires us all in the education domain (including politicians) to work to bring about solutions that will further improve the efficiency of our education system. Working together will ensure that we can one day reach a goal of seeing our “SA-SAMS” enhancing the archiving of data at school level and by implication, contributing to an improved “quality of data contained in the provincial database” (Gwxati, 2011:4).

### 3.3.3 Knowledge Creation

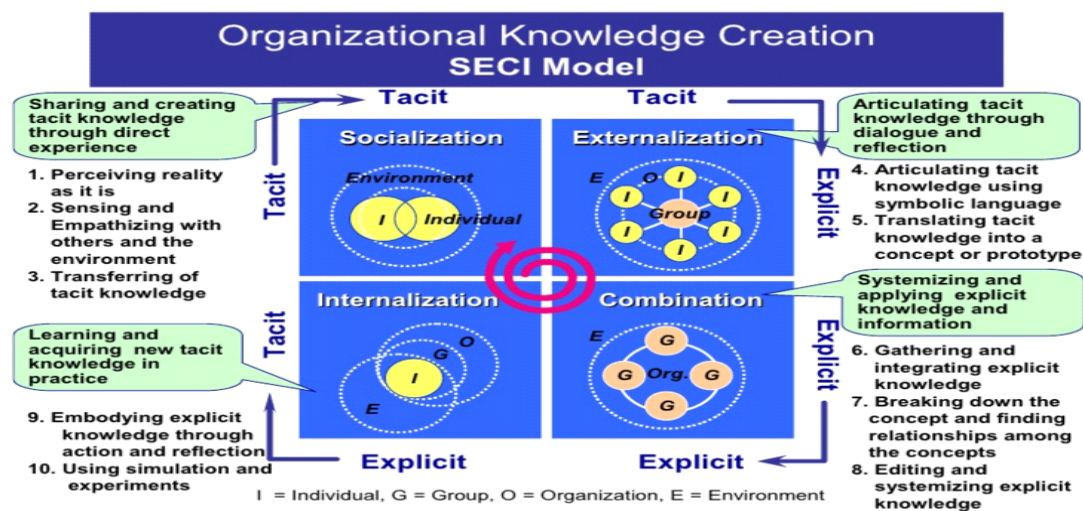
Knowledge creation is a key component of KM which is complemented by knowledge sharing. In this section I discuss at length some of the popular KM models; specifically the linkage between SECI and Ba to conceive new knowledge.

#### 3.3.3.1 Taxonomy of Knowledge Creation

Antonacopoulou (2009:421) has observed that in terms of researchability, knowledge *creation* comes second to knowledge *retention* and knowledge *transfer*. Nonaka and Takeuchi (1995:53) ascribe knowledge creation to the kind of internal competency that the organisation may have at its disposal to produce new knowledge, distribute it across the organisation, and exemplify it in products, services and systems. Von Krogh, Ichijo and Nonaka (2000:3) have, however, observed that managers tend to control knowledge creation instead of devising methods to support and heighten it –a move which invites over-reliance on technology and other tools. With knowledge creation being the heartbeat of KM, Khan and Altaf (2015:261) suggest that organisations need to rubber stamp measures to keep the flow of knowledge thriving across the length and breadth of these organisations. This is especially so in light of the view that knowledge is primarily tacit in nature and can only be accumulated through experience (Nonaka and Tekeuchi, 1995:8). The implication is that knowledge accrual is realised when employees are supported and encouraged to assume an active role in knowledge processes and are allowed to experiment what works and what does not work. This point is supported by several authors whose studies established a bond between knowledge creation and creative “experience” (Taylor and Greve, 2006; Audia and Goncalo, 2007; Argote, 2011).

Experimentation in regard to what works and what does not work can be classified as a learning curve. When employees apply this method they are empowered to learn by doing or to learn through experimentation. Jeffs (2008:12) posits that engaging in a meaningful learning curve increases the volume of knowledge that stands to be accumulated. This is akin to the ethos of organisational learning, which King (2009:5) credits as one of many avenues organisations may explore to enhance their engagement with knowledge. This thus validates the logic behind the truism “practice makes perfect”. The linkage between knowledge and learning is outlined by Jeffs (2008:16). Nonaka (1994) recognises two facets of knowledge creation, namely, the epistemological facet and the ontological facet. Furthermore, Nonaka (1994) postulates that the former has to do with codifying of knowledge from tacit to an explicit form and the other

way around (explicit to tacit facet). This translates into a SECI (Socialisation, Externalisation, Combination and Internalisation) model. The latter (ontological facet) is mainly concerned with tapping into the individuals' minds to extract useful knowledge gained through experience; the ultimate result at this level is to consolidate individual and the group knowledge (King, 2009:4). Groups tend to record knowledge inputs of their own members and they enable SECI processes through individual contributions and historical relations with higher ontological levels (García-Muiña, Martín de Castro and López Sáez, 2002:5-6). The realisation that the attributes of “knowledge creation” are reliant on “whether the knowledge is individual or organisational”, is important enough to propel us to begin to recognise the value of both the ontological and epistemological considerations of knowledge creation (Allameh and Zang, 2011:1213).



**Figure 3.3: SECI Model of Organisational Knowledge Creation (Source: Nonaka and Taceuchi, 1995:64)**

Research on KM within the context of the schooling system is scarce; hence I had to delve deep into literature that seeks to endorse the applicability of the model within this context. Studies by Aziz et al. (2011); Cheng (2012, 2015); Tumtuma, Chantarasombat and Yeamsang, (2015); Tyrteou (2016) acted as the initial point of reference. They provided evidence that SECI relates to KM processes within “a school environment”. Thus studies by Sun (2002); Lin, Lin and Huang (2008); Ozmen (2010); Yeh, Huang, and Yeh (2011); Biasutti and El-Deghaidy (2012); Ho, Nakamoria, Ho and Ho (2013) also endorsed the notion that it is plausible to incorporate the model into the schooling system. The four phases of SECI are discussed below in relation to how they interface with KM processes in schools.

*a) From tacit to tacit: Socialisation – the sharing of experiences.*

According to Evenson and Dubberly (2010:76), socialisation is basically a process whereby daily social exchanges among individuals lead to the formation of the new body of knowledge. This phase constitutes the great value of knowledge creation due to its face to face orientation which enables the recipient to absorb tacit knowledge directly from possessors. Through this, raw tacit knowledge is transferred from one individual to the other and is free from third party manipulation (Tyrateou, 2016:19). Furthermore, socialisation is more than just a way of transferring knowledge between individuals, but it is mostly about ensuring that these experiences are shared equitably through a two-way sharing as well as by engaging in discussions that cover diverse perspectives. Nonaka and Takeuchi (1995:63) regard the sharing of experiences between individuals as the most effective way of infusing one's personal ideas and thoughts into another person's thinking psyche. In addition to shared experiences, "observations and imitations" are also credited as ways to obtain "tacit knowledge directly from others" (Ho et al., 2013:15). In knowledge intensive organisations such as schools, apprenticeship (Martin-de-Castro et al., 2008:222), "observation, imitation, practice, and participation in formal and informal communities" (Yeh, Huang and Yeh, 2011: 150) and mentoring programmes (Swap, Leonard, Shields, and Abrams, 2001:95) have proven to be practical ways of unearthing a skilled person's tacit knowledge for the benefit of others and the organisation at large.

In order to unearth tacit knowledge that will in return enhance schools' curricula, Ozmen (2010:1864) suggests that a culture of robust verbal exchanges (dialogue) between teachers on "academic subjects" should be fostered. A dialogue will ensure that experiences are relayed from different perspectives so that every party can come to new insights as they talk about the experiences. According to Ora-Hyytiäinen and Rajalahti (2006), a dialogue is a "non-authoritarian" learning method employed by teachers to help learners create tacit knowledge. The teacher facilitates processes of content instruction through the introduction of a "step by step" exploration of a host of activities and "schematas" that help learners "construct new information" (Ora-Hyytiäinen and Rajalahti, 2006). All the methods that are mentioned above are not selectively set aside to remain within the purview of the teaching staff but are also applicable to all strands of personnel within the school (i.e., principals and administrative clerks) including adjunct reinforcement structures such as the SMT and the School Governing Body (SGB).

***b) From tacit to explicit: Externalisation – the articulation of distinct concepts***

According to Nonaka and Takeuchi (1995:64), externalisation serves the purpose of transforming tacit into explicit knowledge. This is probably the reason why Nonaka and Takeuchi (1995:66) speculated that “among the four modes of knowledge conversion, Externalisation holds the key to knowledge creation, because it creates new explicit concepts from tacit knowledge”. Nonaka and Toyama (2003:495) remark that the transformation of “tacit knowledge” into the “explicit” form gives birth to “crystallised” knowledge upon which “new knowledge” (such as concepts, images and written documents) is generated. Evenson and Dubberly (2011:76) also emphasise a similar point. In the midst of it all, Tyrateou (2016:19) postulates that “dialogue or collective reflections” precipitate the conceptualisation of images. Thus tacit knowledge takes an explicit form through the construction of “metaphors, analogies, concepts, hypotheses or models” (Nonaka and Takeuchi, 1995:64). A carefully thought out “use of metaphors” is sacrosanct to “externalising tacit knowledge” (Easa, 2012:29). Metaphors articulate tacit knowledge through symbolic images that are easy to comprehend (Nonaka and Takeuchi, 1995:66). Meanwhile, Easa (2012:29) maintains that keeping records of interactive dialogues synthesises processes of conversion of tacit into explicit knowledge, whilst at the same time, eradicating contradictions and unnecessary ambiguities.

In addition, Kaur (2015:837) counts ideas and visual language among many other methods. Having observed the trend that skilful employees leave organisations for various reasons (e.g., in South Africa’s schooling system where many teachers retire, resign or pass away), Chugh (2013:27) suggests that converting tacit into explicit knowledge is crucial to ensuring that organisations do not forfeit employees’ tacit knowledge whenever they leave organisations. Bishop (cited in Chugh, 2013:24) pointed out in a forum that there is a need to investigate the loopholes within the current education system with a view to making more financial provision to bolster knowledge transfer initiatives “related to scholarship and teaching”. Bishop made this pronouncement as a way of acknowledging that tacit knowledge is of no sustainable relevance if it is not transferred into explicit knowledge. Results of a study by Tyretou (2016:21) proved that individual tacit knowledge within a school can be codified explicitly for the benefit of the audience or learners. However, Kaur (2015:837) contends that “education and motivation levels” have a bearing on the “efficiency” of tacit to explicit conversion.



***c) From explicit to explicit: Combination – the organisation of concepts into a system***

This phase is build up from the previous one (externalisation) wherein a medley of explicit knowledge is scrutinised, repackaged, and presented as new knowledge. This new knowledge often comes out in tangible forms. Tyretou (2016:19) coins this a “combination of different units of explicit knowledge”. It involves an organic interchange and classification of “knowledge items” projected through several forms including “documents, meetings, distance conversations (i.e., telephone calls) or electronic communications (i.e., e-mails)” (Nonaka and Takeuchi, 1995:67). All these forms of using existing explicit knowledge to generate new explicit knowledge typifies the day-to-day happenings at schools (where both the classroom and office based employees) combine items of knowledge to generate new knowledge. Below are (fictional) examples of happenings at schools:

*Scenario one:*

After reading a recently published edition of a teacher’s manual, the teacher may acquire knowledge that he/she finds interesting. Subsequent to that, this teacher may decide to retype a customised version of his or her study manual, which infuses both his/her pre-existing knowledge and newly acquired knowledge. This deed culminates in the production of new explicit knowledge.

*Another scenario is as follows:*

Administrative clerks may receive an electronic mail (email) from the HR section of the provincial education department giving them a directive to amend specific sections of the remuneration policy. They would then initiate the process of updating existing remuneration policy document as per the directive stipulated in the email. The infusion of this information stipulated in the email into school’s remuneration policy, would mean some sections (which are now deemed outdated) will have to be cut out, whilst keeping other sections untouched because they are still seen to be relevant. As a result the unchanged pre-existing sections of the remuneration policy coupled with the added sections (as per the directive of the email) imply that explicit knowledge has been re-configured to produce new explicit knowledge (Kuar, 2015:853); enabled by organisationwide or interdepartmental “communication” and transmission of “explicit knowledge” as well as shrewd “computerisation and systemisation” (Kaur, 2015:837). Achievement of “explicit knowledge” does not mean that it is unquestionable and that

new ways of redefining it are closed. It just means that, when explicit knowledge transaction ensues, it is (for that moment) agreed to as shareable knowledge.

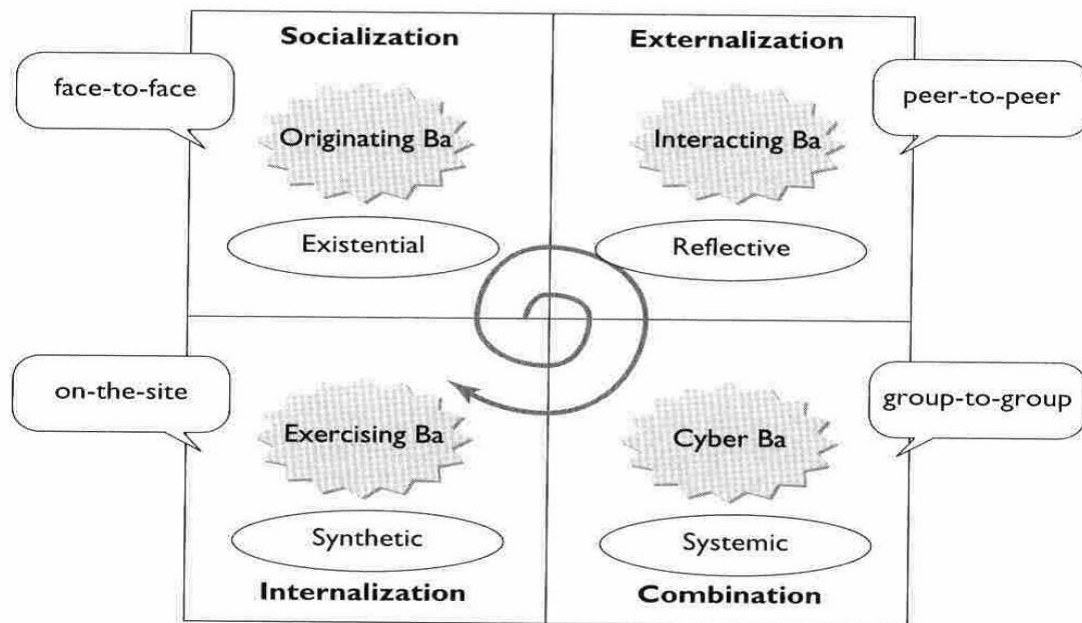
***d) From explicit to tacit: Internalisation – the incorporation of explicit knowledge***

This is the last phase of the knowledge cycle, in which the main concerns are the internalisation of explicit knowledge and its elements into tacit knowledge. Nonaka and Takeuchi (1995:69) contend that internalisation is the closest exercise to the actual application of the generated knowledge – “learn by doing”. For example: Using a comprehensive study manual that their teacher compiled in the previous phase (externalisation), learners conduct a practical demonstration of how to assemble a makeshift tent. Once they have followed all the due processes as stipulated in the study manual, they will have in the process developed embedded or tacit knowledge, which will enable them to conduct the same exercise (assemble a makeshift tent) again in the future without referring to the study manual. In return, these learners will be able to cascade their newly acquired tacit knowledge to fellow learners who may express the need to understand the activity better. This bears resemblance to Tyretou’s (2016:19) assertion that it is through experience that intellectual dispositions and personal tacit knowledge is acquired. Again, this does not imply that people cannot reconsider their experiences and indeed learn new ways of doing activities. For example, new ways of assembling a makeshift tent can be devised as people engage together in activities.

***3.3.3.2 The Concept of Ba***

The growing appeal of the SECI Model by Nonaka and Konno has popularised the concept of Ba. This concept is defined as “a shared space for emerging relationships” (Nonaka and Konno 1998: 40). They argue that in order for knowledge to be created effectively, a conducive knowledge sharing space is a prerequisite for knowledge creation. The concept of Ba can be attributed to Kitaro Nishida (the revered Japanese philosopher of the twentieth-century, known for fusing western “Anglo-European philosophy with Asian schools” of thought); the concept was further developed by Shimizu (Nonaka and Konno, 1998:40). However, it was Nonaka who later adopted and expanded on the concept and popularised it as a way of reinforcing the efficacy of the SECI Model. In the process he entered into a series of academic collaborations with a community of keen knowledge scholars (i.e., Nonaka and Konno 1998; Nonaka, Toyama and Konno, 2000; Nonaka and Toyama 2005; Peltokorpi, Nonaka and Kodama 2007) to shed more detail into all the four spaces of Ba. Nonaka and Konno (1998:400) point out that the space (Ba) could either be physical (e.g. office premises), virtual (e.g., online communities),

mental space (such as ideas and ideals) or any combination formed from them. The following figure indicates the four types of Ba and their interaction with time and space.



**Figure 3.4: Characteristics of Ba (Nonaka and Konno, 1998:46)**

As illustrated in Figure 3.8, the cycle of Ba is synchronised with the four phases of SECI (i.e., Socialisation – Externalisation – Combination – Internalisation). The intention thereof was to strengthen both “individual and collective knowledge creation” (Nonaka and Konno, 1998:40). I presume that their sentiment could have been that SECI was falling short of generating a voluminous flow of knowledge (at both the individual and collective level); and hence the need for the infusion of Ba. According to Nonaka and Konno (1998) **Ba** is “a context’ which harbours “meaning” on the right “here” and right “now” basis because true knowledge resides in it. The first space is referred to as the *originating Ba* is a platform where individuals utilise ‘face-to-face’ sharing of experiences, opinions, feelings and thinking patterns to transform and transmit tacit knowledge (Nonaka and Konno, 1998:46). The originating Ba ties in with the socialisation cycle. The second space (*interacting or dialoguing Ba*), in comparative terms; differs from the former (the originating Ba) in that it appears to be a planned venture of generating knowledge through purposefully selecting people possessing a medley of knowledge that is deemed appropriate for a specific cause (Lehtonen, 2009:28) to convert their tacit into explicit knowledge mainly through dialogue and metaphors (Nonaka and Konno, 1998:47) and other possible means. Furthermore, Lehtonen (2009:28) contends that “individual mental models are converted to collective conceptualisations”. This space characterises the happenings of the externalisation cycle.

The third space, known as the *cyber or systemising Ba*, spreads the sharing of explicit knowledge to a wider internal (within the boundaries of the organisation) audience, and to some degree, externally (beyond the boundaries of the organisation). As pointed out by Nonaka and Konno (1998:47) in this space technology (i.e., online communities, social media, documentation and data bases) plays a crucial part in reconciling old knowledge with current explicit knowledge to generate another new body of explicit knowledge. All these processes play themselves out in the combination cycle of the SECI model. Lehtonen (2009:28) posits that the *exercising Ba* (the forth and the last space) pertains to the utilisation of tangible resources at the disposal of the organisation such as “handbooks and manuals” to convert explicit to tacit knowledge. It reinforces the internalisation cycle to ensure that explicit knowledge eventually becomes one’s tacit knowledge (Nonaka and Konno, 1998:47). A summary of how the Ba Spaces tie in with the SECI Model as stipulated in Nonaka and Konno (1998) is as follows:

**Table 3.1: Relationship between SECI and Ba Models (Nonaka and Konno, 1998:47)**

<b>SECI Model</b>	<b>Ba Philosophy</b>
<b><i>Socialisation:</i></b> sharing knowledge by divulging each other’s embedded or tacit knowledge (through verbal interactions and face-to-face contact).	<b><i>Originating:</i></b> Like in socialisation, individuals interface with each other’s experiences through face-to-face and meaningful conversations.
<b><i>Externalisation:</i></b> tacit knowledge is codified into explicit knowledge using metaphors, images and concepts or hypothesis as enablers.	<b><i>Interacting or Dialoguing ba:</i></b> occurs through collective and face-to-face interactions, when individuals share their competencies and mental models to provide knowledge for public or organisational consumption.
<b><i>Combination:</i></b> tacit knowledge is systemised and refined fundamentally through the adoption of modern technologies such internet and social media.	<b><i>Systemising or Cyber ba:</i></b> is characterised by collective and virtual interactions (virtual space facilitates the recombination of existing explicit knowledge to form new explicit knowledge).

<p><b>Internalisation:</b> explicit knowledge is transformed into tacit knowledge (that is translating theory into practice).</p>	<p><b>Exercising:</b> synonymous with individual and virtual interactions. Explicit knowledge is turned into tacit knowledge. It tallies with the internalisation cycle under the SECI model.</p>
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### 3.3.3.3 A Critique of SECI Model

According to Bratianu (2010:194), Nonaka is hailed as one of the pioneers of knowledge management. His popularity and enigma is proven in the more than 1 000 hits generated on ISIS Web of Knowledge Citation consolidating all the works citing *The Knowledge-Creating Company* (McLean, 2004:1). Even so, his enigma and popularity did not prevent intense academic scrutiny of his SECI model. Zhou (2006:106) argues on the basis that Nonaka's stature and academic brilliance makes it perfectly normal for his works to be put under intense academic scrutiny. Meanwhile, Richter (2011:2) has established that weaknesses of SECI are often not publicised, despite many critique of some of the aspects of SECI (Martin and Root, 2009; Tammets, 2012) for various reasons. There are three bases upon which scholars criticise the model. The first *basis* pertains to its elusive composition or creation (Gourlay, 2006), its theoretical orientation (Griffin, Shaw and Stacey, 1999), as well as its final product (McAdam and McCreedy, 1999). The sternest critic is Gourlay (2006:1434) who argues on the basis that there is no absolute evidence to prove that the knowledge creation process differs from "information creation". He also laments the SECI's infusion of "knowledge conversion" with "knowledge transfer in the matrix". The *second basis*, provided by Stacey, pertains to the understanding of "systems": Stacey (2001:26) contradicts Nonaka and his friends' understanding of knowledge creation as a "system" and a "thing" that is manageable. He rather sees knowledge creation as a spontaneous and unmanageable process of relating to contexts. His views do not seek to dispel Nonaka's model in its entirety, but to highlight its flaws. The *third basis* upon which the model is being criticised pertains to the perception about the merits of its applicability/transferability outside of the context of origin. For example, Britanau (2010:198) is unsure about the applicability of SECI in other worlds, arguing that it is rooted in Japanese culture and Japanese organisational dynamics. A similar concern is also raised by Teece (2008: xv); after labelling all the positive attributes of Nonaka's works, he expresses doubts around the adaptability of SECI process to US and European contexts. Inasmuch as he acknowledges that some aspects of SECI might be plausible in the western context, there are doubts if all of them can be adaptable to this context (Teece, 2008: xv). This affirms the point

made by Hong (2011:199), who argues that the model could only work effectively if it was globalised (or localised) to benefit different cultural and organisational contexts. All these doubts are directly traced back to the absence of “conclusive evidence” proving beyond any reasonable doubt the worthiness of a completely flawless application of the model in other corners of the world (Glisby and Holden, 2003:29).

Contrary to Nonaka and followers who unanimously assert that conversions transpire in all four levels of knowledge creation, Britanau (2010:193) contends that only “externalisation and internalisation” are affected by “conversions”. In the same sense Berlussi and Pilotti (1999:5) doubt whether all phases of knowledge creation actually cross paths with conversion. Contrary to the ethos of SECI, Martin-de Castro et al. (2008:222) remark that “there is no general unique way of learning, but knowledge creation seems to be conditioned by context based considerations”. Another consolidated narrative echoing Martin-de Castro et al.’s sentiment, is offered by Guerrieri and Pietrobelli (2004), and Kodama (2005; 2007) who argue that knowledge creation rests on the conditions that sculpt organisational learning and even these conditions face ongoing evolution and change. What is of concern is the discovery made by Engstrom (1999:379) who contends that the sublimity of SECI is compromised owing to its falling short of a “problem finding” dimension. Meanwhile, Richter (2011:1) argues that Nonaka’s notion of “knowledge creation being a self-transcending process” is a baseless fallacy and a “mythical dimension” bearing no tangible scientific backup. Likewise, Zhu (2006:106) finds Nonaka’s inclusion of the work of the sociologist, Giddens, in a bid to create “a new knowledge-based theory of the firm, a superficial and a problematic” venture. He identified several ideological contradictions between Nonaka and Giddens. He is concerned about Nonaka’s failure to interrogate the merits of Giddens’ structuration theory prior to incorporating it into the knowledge movement. In their analysis Sarayreh, Mardawi and Dmour (2012:27) conclude that the model is “far too abstract” and a bit impractical, whereas Aghdasi and Tehrani (2010:7828) identify several areas where the SECI cycles experienced glitches and where it failed to seize the opportunity to share and transfer knowledge equitably. All these critical expressions by scholars are justified by Sayareh et al. (2012:45), who contends that “knowledge management, conversion, and codifying” agitates for more in-depth “research and development initiatives” taking into cognisance “the tacit origins of knowledge” and the constantly evolving “methods of communication” (Sarayreh et al., 2012:45). What subjects SECI to academic scrutiny is the fact that it is not backed by strong “empirical grounding” (Gourlay, 2004:8). On the cusp of it all, McLean (2004:7) reminds us that the model is still work in progress and will mature “more robustly over time”.

#### 3.3.3.4 Applicability of SECI Model in Education

According to Kumar (2011) “there is not much difference between knowledge and education, hence education is a process of gaining knowledge for some useful application whereas knowledge is insights acquired from good education, peers, consultations and extensive reading”. Naturally, educational institutions are “knowledge intensive” in their dealings (Ozmen, 2010:1860) and the SECI model, despite it being predominantly applied in the business and public administration context, has been found to be complementary to school related functions. Below I demonstrate the length at which schooling systems across the globe employ KM to effect meaningful progress in their daily affairs.

My point of departure involves a study by Aziz, Roseli, Hazwan, Eshak, and Abdul Mutalib, (2011:150) which examined the development of Assistive Courseware (AC) for visually impaired learners based on Theory of Multiple Intelligence (MI) and the knowledge spiral model at selected Malaysian schools. The findings of their study revealed that the SECI model is plausible within the schooling system (ibid). In addition, Tumtuma et al. (2015:266) conducted a study whose results proved that the SECI Model harmonises the operations of small schools across Thailand. Both these studies effectively offer a validation to the findings of Tyrteou’s (2016) study, which found that all four components of SECI are in coherence with KM processes in Greek public primary schools. In the same breath, Cheng’s (2012:1) study found that Hong Kong based schools benefitted by the incorporation of the SECI Model to strengthen their strategic planning processes.

These studies are credited for highlighting, through empirical means, the notion that the SECI model *is not only applicable to the business sector but can also be assimilated into other sectors including the schooling system*. In summation, Cheng (2015:23) asserts that knowledge is of vital importance to “schools’ sustainable development”. I would likewise contend that SECI pervades schools all over the world at varying degrees. I say this on the premise that schools (whether poor or affluent) are a catalyst of knowledge sharing, reusing, storing and creation. Ozmen (2010:1861) argues that schools deal with KM processes on a daily basis. Within a school environment knowledge processes literally play themselves out everywhere; in the staffroom, classroom, office block, school hall or even corridors where there are constant bouts of interactions among various stakeholders (i.e., the SMT, teachers, administrative clerks, learners, and the external community). These interactions help to form a body of knowledge. In agreement is Kumar (2011) who postulates that education and knowledge are

inseparable. The likes of Lee, Lu, Yang and Hou (2010:12-13) concede that SECI Model bears a striking resemblance to the KM processes in a school environment. They recommend that the KM model in schools be composed as follows:

**Table 3.2: KM Process Model for Schools** (Adapted from Lee et al., 2010 and modified by Tyretou, 2016:22).

Knowledge Management Process Model (KMPM)	=	Socialisation – Externalisation – Combination – Internalisation (SECI)
Knowledge generation and acquisition	=	Externalisation of Knowledge
Sharing and communication of Knowledge	=	Internalisation of Knowledge Socialisation of Knowledge
Application and evaluation of Knowledge	=	Combination of Knowledge
Knowledge compilation and feedback	=	Combination of Knowledge Internalisation of Knowledge

### 3.3.4 Knowledge Acquisition and Learning

Potter (2003:1) describes knowledge acquisition as the process of obtaining “information, and its formalised structure that will allow some particular task to be performed by a computer system”. Knowledge accumulation becomes a meaningful exercise when actors engage each other expressively, or by searching for information that is pertinent to their field of expertise through reading and studying. Clearly, organisational learning and knowledge acquisition are interwoven. Popova-Nowak and Cseh (2015:299) define organisational learning (OL) as a process which entails workers’ reflections on processes that went wrong in a bid to find a better approach for future application. Learning is an exercise that one cannot avoid in knowledge acquisition, as some activities happen naturally in our daily lives. It is evident that, KM did not only transform the handling of information but it also put learning at the heart of organisations. Taking this into account, I am of the view that schools ideally typify the virtues of OL because their functionality is almost entirely premised on a “learn by doing” approach especially in cases where learning outcomes want to stimulate learners’ analytical skills and cognitive abilities. In practical terms, the reality is, when children are enrolled in schools, they come inadequately socialised to handle the academic and life experiences of their age group. But through teaching and practice, they eventually can develop the mastery of the content. The very



same exercise replicates itself andragogically when a group of teachers, for instance, experiment with the newly infused chapters in the curriculum. They go through a multiplicity of *learning curves* before finally making sense of how to approach the content resolutely. Throughout the ecology of the school, learning through “trials and errors” eventually manufactures meaningful knowledge.

The extension of OL in educational establishments such as schools occurs when two or more actors, after having read books or studied for a test, discuss the content they acquired. There is, however, an indication that the success of initiatives to promote OL *do not unfold automatically*. For instance, Purwhihartuti, Sule and Muizu (2015); Salim and Sulaiman (2011) aver that it demands that actors should be bound by shared values, a learning disposition, and transparency of mind set. OL scholars such as King (2002:5) claim that OL enhances the quality of knowledge to resolve organisational challenges. With regard to the institutionalisation of OL, organisations need to cater for the diverse needs of its people since they habitually have proven to respond differently to different learning methods. However, organisations should not be naïve to think that the implementation of OL will at all times succeed in changing people’s attitudes, but should rather seek to establish if people’s attitudes were enhanced by learning experiences (Argote, 2012:13).

Bhojaraju (2005:39) regards the reciprocity between people, processes and technology as the right formula for OL. Although knowledge acquisition is one of the most daunting tasks of KM application (Saniewicki and Wawrowski, 2015:76); scholars (Gamble and Blackwell, 2001; Soniewicki and Wawrowski, 2015) suggest that organisations should remain persistent in augmenting their knowledge repository by not only learning from internal sources but also external ones. The reason for diversification of learning to include external sources emanates from the fact that the scope of communities of CoPs needed for knowledge acquisition extends beyond the organisational boundaries to incorporate the knowledge possessed by suppliers, competitors, partners or alliances, customers, and external experts (Knowledge Management Tools, 2018).

The aforementioned view suggests that the absence of a climate for ongoing broadbased interactions curtails knowledge acquisition— which is said to be synonymous with organisational learning (Nevis and Gould, 2000; Falkenberg, Woiceshyn and Karagianis, 2003). In mapping a way forward, I argue that promotion of collegial engagements will reinforce the culture of learning and knowledge acquisition efforts throughout the ecology of

a school. This is so that schools remain knowledge intensive even in the midst of adverse socio-economic conditions under which they operate (Chan, 2009; Weldy, 2009; Moloi, 2010).

### **3.3.5 Knowledge Distribution and Transfer**

Failing to distribute knowledge could have a detrimental effect on organisations. Maiki (2008:68) claims that knowledge transfer process is a dynamic phase of KM which takes many factors into consideration. Gill, Folan and Cormican (2010) define knowledge transfer as the process of cascading knowledge from one person to another, which takes effect within a team or individual set up, or a virtual set up. The rationality behind knowledge transfer as mentioned by Thielfoldt and Scheef (2016) stems from the belief that critical knowledge has to be extracted from experienced employees prior to their departure in the organisation, and newly-hired employees deserve to benefit from the knowledge of their highly experienced counterparts so that they too can grow (Thielfoldt and Scheef, 2016). What propels knowledge-savvy organisations to extract knowledge from long serving members is the presumption that the longer employees stay within the organisation, the more they stand to accumulate a wealth of the “know how” knowledge, which is sought after (Stevens, 2010:77). I remark that sharing knowledge unselfishly is the kind of attitude that schools need to adopt if they are to quell the perception that calibrated organisations such as the OECD (2012:1) have about them as being less effective knowledge sharers.

Despite Grant’s observation of the failure by employees to share “their expertise to new employees” (Grant, 2013:121), many of those situated in South African public service organisations (including the schooling system) have begun to view knowledge sharing in a different light. As indicated by Mkhize (2015:9), public sector workers in their places of work informally engage in mutually beneficial knowledge sharing transactions. Further commitment is reflected in public sector organisations which have amended Human Resources Management (HRM) processes to bind people to share knowledge legislatively. In the next paragraph I use a school to illustrate how these legislations might ensure that employees are always cognisant of their obligation to deliver on the mandated duties (most of which entail dialogical engagements as a means to share/transfer knowledge). I base my arguments on the notion that naturally schools are custodians of knowledge and their employees, as pointed out by many scholars, are recognised as knowledge workers (Carrol et al., 2003; Petrides and Nordene, 2003; Chaudhry and Sivakamasundari, 2004; Edge, 2005; Cooper, 2006; Nevalainen and Hannunen, 2009; Wesch, 2009; Thambi and O’Toole, 2011; Jones and Sallis, 2012; Cheng,

2015; Haripriya and Chakavarthy, 2018). By implication, their ability to perform their work efficiently will lead to enhanced knowledge sharing transactions.

According to Annexure 5 of the PAM (Department of Basic Education, 2016), teachers' duties for example, include transferring the curriculum content to learners. Legislation demands that all public institutions (including the schooling system) as pointed out by Malik and Malik (2008:42) should formally and informally institutionalise a thriving "culture of learning". Thus, education authorities send teachers for on-going skills development as enshrined in the Skills Development Act 97 of 1998 (SDA). Aigbavboa, Oke and Mokasha (2016:54) points out that the SDA increases organisational productivity and balances the skills gaps among most members of our society, who endured the injustices created by the erstwhile regime. The SDA fundamentally seeks to motivate employers so that their organisations adhere to the following:

- use the workplace as a thriving learning space;
- avail opportunities for their employees to gain new skills;
- create initiatives for new employees to accumulate experience;
- hire people who ordinarily would find difficulty in securing employment.

Typically, in a schooling system environment, teacher development comes from both the internal sources and external sources. Internally, teacher development is under the ambit of the school management teams (SMTs) and developmental support groups (DSGs), whereas externally, subject advisors are the sole resource of teacher development (Nkambule and Amsterdam, 2018:2). Primarily, teacher development employs the format of "mentoring, training, as well as coaching and feedback upon lesson observations" (Nkambule and Amsterdam, 2018:1), as stated below:

- Training

Training pertains to a series of content workshops teachers have to attend whereby they are re-skilled on how to deliver the curriculum content effectively. During these workshops they also interact with their peers from other schools concerning the learning areas they teach. Kanuka and Garrison (2004); Balcaen and Hirtz (2007); and Jeon et al. (2011) describe a set-up such as this one where likeminded individuals gather to reflect on issues pertinent to their area of interest as a Communities of Practice (CoPs). It is said that, "common interest" (Jeon et al., 2011:12423) makes them apply "critical thinking" (Mkhize, 2015:2) to "add value" to the discourse (Salmon, 2002:13).

- Mentoring

Mentoring happens when HODs or even any member of the SMT identifies a mentoring need directed at a specific teacher. Ordinarily, they would allocate a senior teacher to provide mentorship to the teacher(s) in need. Youngren (2019) and Kalema et al. (2016) favour mentorship as an intervention for a not so experienced teacher to benefit from the skills possessed by their experienced counterparts. The duration of the arrangement lasts for as long as the teacher has not mastered the content or the technique to approach the content. Mentoring promotes knowledge exchange whereby in their effort of developing the novice teacher, the experienced teachers get to refine their skills while learning from their colleagues (the mentees) things they had, all the while, overlooked about the profession and about life in general (Robbins, 2004) cited in (Killion and Harrison, 2005:9).

- Coaching and feedback upon lesson observations

Coaching takes place when Subject Advisors (also known as Curriculum Implementers) conduct frequent school visits to monitor teachers' performance, and transfer knowledge to them after having observed them teaching the content. According to Tatana (2014:41), class visits allow the subject advisor to glimpse the affairs of the teacher's classroom so that he/she can adopt a strategy to render curriculum support to the teacher. Apart from class visits, other platforms that subject advisors use to perform coaching include content workshops and cluster meetings (Tatana, 2014:41). Worth noting too, is that principals are also much involved in providing coaching to teachers. They do this by means of class visits to check files, lesson plans and to offer guidance regarding various matters that the teacher needs to work on.

The underlying assumption subjecting teachers to ongoing skills development interventions, is that they stand to acquire knowledge that will help them teach more efficiently. Despite the existence of skills-development interventions, Kalema et al. (2016), along with Mkhize (2015), argue that knowledge sharing and distribution transactions should mandatorily be entrenched in legislated guidelines stipulating the expected norms and standards. Although I already mentioned the SDA and the PAM as standardised guidelines, in the next paragraph I discuss other guidelines starting with the one pertaining to curriculum delivery, and later on I reveal the HRM guidelines which may get underway when teachers do not fully execute their mandate of transferring knowledge effectively, particularly in a classroom environment.

As per the requirement, teachers are guided by their learning area's Annual Teaching Plan (also known as the CAPS Document) which stipulates the number of topics that they need to cover on a daily, weekly, and quarterly basis. According to the Department of Basic Education (2013:8), CAPS offers a clearly articulated and thematic "curriculum" content and "assessment statements" that makes it practically doable for teachers to effectively transfer to learners "numeracy and literacy skills". While actualising the curriculum, literature states that teachers need to be supported continuously (Nkambule and Amsterdam, 2018:1) but this requires that their supervisors exercise routine monitoring and evaluation practices to gauge their standard and pace of content delivery, and as a means of ensuring that they execute their duties, HODs require them to submit their portfolios of evidence at frequent intervals for moderation. If at all, they are found to be lagging behind, HODs would have a session with the affected teachers in a bid to understand the reasons behind them not executing their duties as per the stipulated policy guidelines. If the matter is too complex, then the HODs have to report it to the deputy principal who will then inform the principal. In such circumstances, the principal would know how to deal with this matter. A minor transgression will usually be dealt with internally at the SMT level guided by the school's code of ethics. However, if this trajectory (whereby teachers fail to fulfil their legislative mandate) continues, it is likely to result in severe disciplinary measures being taken against the affected teachers. Drawing on one or a combination of the legislations (i.e., Employment of Educators Act 76 of 1998, Labour Relations Act 66/1995, South African Council of Educators Act 31/2002), the school's disciplinary committee would then effect disciplinary processes.

The aforesaid example hypothetically illustrates the kinds of inroads made to ensure that knowledge is transferred effectively among collegial staff members and from teachers to learners (and even the other way around as envisaged in IKS epistemologies of collective knowing, which conceives that to a certain extent, learners too are capable of transferring knowledge to teachers). I need to bring it to light that some scholars (e.g., Broberg, 1999, 2013; Shlechy, 2011; Sokół and Figurska, 2017) recognise learners as knowledge workers. I however opt to not propel my discussion to focus on learners as my primary interest is solely on the public servants who do knowledge work in schools.

In the discussion above I mentioned some methods within the lexicon of government HR practices that act as a measure to bind employees to share (and even create) knowledge meaningfully. Youngren (2019) encourages organisation to "revamp" their HR legislations to bind seasoned employees to mentor the novices. Adoption of "job shadowing" is said to be another way of cultivating the culture of collaborations and the creation of discursive

engagements pertaining to the workers' jobs. However, Prieto-Pastor, Perez-Santana and Martin-Sierra (2010:2) beg to differ on this point. They do not see the bearing that HRM legislation has on KM application.

Thielfoldt and Scheef (2016) point to many more ways in which organisations can augment their knowledge transfer and distribution efforts, such as: "case studies; communities of practice (CoPs); demonstrations; designated experts; personal websites; shared diaries; storytelling; documentation; education and training; interviews; individual and group mentoring". Maiki (2008) established a close link between KM practices that seek to consolidate isolated bodies of knowledge, and the kind of KM practices that endeavour to deliver knowledge to the employees, and as pointed out by several scholars (Gupta, Iyer and Aronson, 2000); Kurtoğlu, 2007); Alzoubi and Alnajjar, 2010); Chu and Chen, 2016) teamwork, leadership strategy, commitment and motivation collectively constitute a winning formula in any endeavour (including transferring and distributing knowledge).

### **3.3.6 Knowledge Exploration and Exploitation**

Gupta, Smith and Shailey (2006:693) argue that knowledge exploration and exploitation are profiled as twin concepts in organisational research. This sentiment is echoed by Vidal (2005:2) who remarked that knowledge exploitation and exploration are "complementary issues". They are intertwined more so in knowledge-intensive organisations (Maiki, 2008:75). According to Maiki (2008) and Vidal (2005), exploitation is the utilisation of existing knowledge, while exploration denotes the generation of new knowledge. I also find apt Lou, Lui, Liu and Zhang's (2018:870) interpretation of knowledge exploration as "the non-local search for new knowledge beyond that of the organisation's existing capacity".

Vidal (2005:3) posits that the existence of exploration and exploitation came amid a realisation by organisational strategists that new knowledge needed to be created in a cost effective manner. Azyabi and Fisher (2014:2) indicate that an organisation explores new knowledge and in order to register its credibility in the field, exploits existing knowledge for the sake of optimising its operations and intensifying its presence among organisations of similar nature. As knowledge evolves on a daily basis, exploration and exploitation should thus become a continuous exercise (Zack, 1999b). In similar vein, Probst, Raub and Romhardt (2001) and Allameh et al. (2011) are adamant that failure to keep the momentum of these processes going, could lead to "organisational blindness" (an episode whereby efforts of accumulating new knowledge and utilising existing knowledge are curtailed). According to these authors, averting

this situation becomes imperative in ensuring that organisations do not squander opportunities of re-inventing the existing knowledge and absorbing new knowledge.

In early literature, authors such as Levinthal and March (1993:105) characterise knowledge exploration as "the pursuit of knowledge of things that might come to be known", and knowledge exploitation as "the use and development of things already known". Knowledge exploitation and exploration gradually gained momentum to the current era where they were dubbed a "dichotomous choice" (Rothamel, 2001:687) in regard to decisions concerning how to focus KM. Many questions arouse as a result of the inseparability of these two concepts. Chief among those, was the question of whether resources should be directed to exploring new knowledge versus losing funds in a seemingly duplicated activity of exploiting existing knowledge? In light of this question, Rotharmel (2001:687) posited that these activities are a contradiction of thoughts. While Kane and Alavi (2005: 459) do not exhibit real boldness in asserting whether they see both activities as a duplication of the same exercise, but it is their statement in which they indicate that processes of exploring and exploiting knowledge requires tactful planning and clear foresight, which subtly suggests that they see these as separate but complementary exercises.

Neither of the two concepts (exploitation and exploration) is left unscathed by flaws and yet also present some positive features. Hansen (1999); Watson and Hewett (2006) aver that exploitation (utilisation of existing knowledge) tends to be cost effective compared to exploration (accumulation of new knowledge) because the former "saves time" and energy. But as much as the "exploration strategy" harnesses "organisational innovation", it can also lead to apprehension which can be harmful to "an organisation's core competency" (Azyabi and Fischer, 2014:2). As opposed to just adopting one, it seems that organisations should rather prioritise both concepts. I consider that their different compositions are more than a reason why the one should not go without the other, because as a pair they complete each other. To cement this argument, I cite Ichijo (2002: 480) who states that "both exploitation and exploration are" vital to the development of the organisation's status. Thus, a carefully thought out consolidation of both concepts expedites knowledge growth (Azyabi and Fisher, 2014; McNamara and Baden-Fuller, 2002).

The implementation of both the exploration and exploitation process is thrust on information technology. This is a point to which Kane and Alavi (2005), Gottschalk (2008), Mokwena (2014) and Duraban (2016) attest. Keeping abreast with the recent trends requires that

organisations should begin to construct a system that fosters the sustainability of a “balance between exploration and exploitation” (McNamara and Baden-Fuller, 2002:291). I also noted that some scholars are completely unconvinced about the prospects of both concepts. Maiki (2008:6) questions the integrity of exploitation and exploration saying they do not embody “human mental and intellectual work”. Leventhal and March (1993:106) express a concern that during these processes “previously” accumulated “knowledge and competencies” could soon have a greater chance of being declared obsolete. After having closely monitored these debates on knowledge exploration and exploitation, Cegarra-Navarro, Sánchez-Vidal, Cegarra-Leiva (2011:1099) propose a solution. They suggest that organisations must apply an “unlearning context” as a means to improve their exploration and exploitation of knowledge. Furthermore, Liu (2006:144) argues that over-exploration and over-exploitation, if unabated, can result in the proliferation of knowledge that is of inferior empirical integrity. I argue that the existence of organisational learning is something we should appreciate despite its imperfections. This exposes the need for organisations to devise a situation-based, tried and tested strategic approach to dealing with exploration and exploitation of knowledge in a more efficient way. Marengo (1993:555) thus posits that “mutual learning and knowledge distribution” contain the elusive balance between the facilitation of exploration and exploitation in an organisation.

### **3.3.7 People Competency**

People have minds and minds contain the necessary properties to effect KM. In the following discussion I explore what literature says about the impact that people have with regard to KM application.

#### *3.3.7.1 People versus Technology in the Workplace*

Over the years there has been great concern regarding the threat that technology seems to pose to human or manual labour. Frey and Osbourne (2013:5) explain that the anxiety over technological contributions to the loss of jobs is a relatively old “phenomenon” which throughout the course of history has fostered the accumulation of wealth and also incited disorder. This anxiety propelled academics to “quantify the number of jobs” that could be lost to the emergence of new technologies (Stewart, De and Cole, 2015:4). Frey and Osbourne (2013:3) proclaim themselves as the very first duo of scholars to have “quantified” how the pervasion of technology in the workplace was “likely” to affect the “future” prospects of “employment”.



They concede that in respect of a myriad of tasks which are exclusively fit for the cognitive ability of humans, technology will never completely eradicate the role of humans or people in the workplace (ibid). Within the context of this study, the people involved include teachers, HODs, administrative clerks, principals and their deputies, all of whom have to apply their competencies to execute specific tasks and their cognitive knowledge to solve task and cognitive based problems. In an anecdotal discussion, Mr Panyaza Lesufi, the current Minister of Education in Gauteng Province, remarked that “without a teacher there will be no nation” (eNCA Network, 2018). His remark validates my notion of teaching profession being highly specialised and cognitively intense, so much as that it will be virtually impossible for the computer to completely nullify the legacy that teachers (including HODs) have built over many years. What I envisage, however, is a scenario where technology does not completely eradicate the physical presence of teachers in a classroom environment but complements their teaching models. I find particularly helpful the way Schoole (2019) justifies the indispensability of our teachers’ role in the education space, as stated below.

No matter how good they may be, machines do not have the social and cognitive skills; they lack the empathy to adequately support pupils and students. Job roles that involve cultural sensitiveness and caring for others, as well as cultivating creative or complex reasoning and perception are likely to be automated. Teachers, you can relax, your jobs are safe. You will not be replaced by robots anytime soon. A word of advice: Do not stop learning and improving your knowledge and skills. Find ways to embrace the use of technology in your teaching. As Henry Adams said: “Good teachers affect eternity, they can never tell where their influence stops”.

As safe as the prospects of their profession may be, De Wee (2019) urges teachers to avoid being lulled into complacency by refraining from engaging with technology in their professional life. Opposing De Wee’s ideology are Autor, Levy and Murnane (2003) who do not ascribe to the belief that jobs and skills performed by humans are irreplaceable. They contend that for as long as people perform manual or cognitive jobs on a routine basis, they run the risk of relinquishing those jobs to rapidly advancing technology. Their views are backed by Stewart et al.’s (2015:2) study conducted under the patronage of the multinational organisation (Deloitte), which established that in a space of “15 years the UK has benefited from a technology driven” paradigm shift which transformed organisations from being hugely concentrated on “low skill, routine jobs to higher skill non-routine occupations”. A similar finding is drawn from a study by Goos and Manning (2003:1), which recorded a sharp rise of “routine tasks” falling prey to the “adoption of computers”.

To add to what De Wee (2019) and Schoole (2019) have said, McLure, Wasko and Faraj (2000:159), assert that there is no way in which technology can out-manoeuvre human contribution in the workplace; the inseparability between people and knowledge is an arrangement which is virtually impossible to tamper with. People's minds house the kind of knowledge and innovation that rationalises the effectiveness of technology. Accordingly, McLure et al. (2000:159) aver that people possess the knowledge that drives organisations towards the attainment of goals. As far as I am concerned, the human and technological efforts must be reconciled to become a uniform enabler of KM in organisations. By this I mean that whenever the term technology appears, we should bear in mind that *technology owes its being to the cognitive ability of people to instruct it to carry out specific functions*. Both roles are equally indispensable as technology helps systematise knowledge functions whilst people's omnipresence in virtually all the knowledge processes makes them a priceless resource. Rennie (2005:12) observes that technological advancement usually causes individual employees to change their "skills repertoire" at least thrice in their career history within the same organisation. Whether we like it or not, our "lives and minds" are captivated by technology (Rennie, 2005:14).

Although "technology shapes our society" (Stewart et al., 2015:2), Rennie (2003), Lešnik (2006), and Gorenak and Košir (2012) argue that people are the most important aspect of KM; this implies that although technology plays a crucial part in promoting the culture of sharing within organisations, it would be unwise to think that it supersedes the contribution that people make. Wei (2014) metaphorically states that people are a thread that binds together all activities of disseminating and preserving knowledge gainfully. Across all types of organisations people are the masterminds of technology, its core drivers (Gyaase et al., 2015:9). "Not even the best equipment is a guarantee for success if organisations do not have the right people to do the job because every human has its value" (Gorenak and Košir, 2012:564). This argument is based on the recognition that the operating system in the machines or gadgets that we use usually is the creation of human beings. In the workplace scenario, people are given a mandate to execute specific duties; subsequently they apply their cognitive and technical skills to instruct technology to act accordingly. Thus, learning organisations (Lešnik, 2006; Gorenak and Košir, 2012) accept that human capital is a powerful machinery in itself. The inventions of Steve Jobs, the founder of Apple, and many others validate the notion that humans are the brain power behind the architecture of new technologies. Jobs remarked: "*Technology is nothing. What is important is to have a faith in people, that they are basically good and smart, and if you give them tools, they will do wonderful things with them*" ([www.brainyquote.com](http://www.brainyquote.com)).

The understanding that knowledge economy is fuelled by “information, communication, and intellectual assets” proves that knowledge workers alongside “intellectual capital and human capital” still occupy a crucial role in this new economy (Rennie, 2003:15). This also applies to schools where the presence and relevance of teachers, HODs, administrative clerks, principals and their deputies are unprecedented. The onus is upon the schooling system authorities to ensure that teachers undergo constant “professional development” in order to master the creation of “interdisciplinary” instructional offerings (Wagner, 2012). In addition, other categories of school-based staff (i.e., administrative clerks, principals and their deputies) may also need to be equipped with skills to ensure the efficiency that should complement quality instructional delivery.

My study is informed by the notion, gleaned from my engagement with the literature, that despite human minds being “engrossed with technology” (Rennie, 2003:14), humans are indispensable and will never relinquish their status of being the vanguard of “organisations” (Gunnigle, Heraty and Morley, 1997:1). In line with this thinking, Rennie (2003:94) suggests that: 1) organisations must prioritise a complete overhaul of formal training without tampering with the effective component of the learning material; 2) begin to show acknowledgement of informal training; 3) ensure full utilisation of skills and knowledge acquired through formal and informal training, and; 4) take full advantage of technological solutions such as the internet to develop a more integrated and effective learning strategy.

#### *3.3.7.2 People as a Leverage for Knowledge Creation*

Singapore is a good example of how much of a powerful tool it is to develop human capabilities within an organisation and the society at large. “Singapore’s winning strategy has always been to develop our one, best natural resource – our people – through education, training and opportunities for continual learning”. – (Singapore Public Service Division, 2018). Similarly, this is becoming the case with most organisations. Shen (2014:48.2) affirms that the knowledge era calls for organisations to focus more on competencies (including augmenting employees’ knowledge base) and worry less about fringe issues, citing the reason that people competencies may affect the dynamics of knowledge transfers through knowledge sharing. However, Cong and Pandya (2003) and Hosseini et al. (2014) issue a reminder that KM is for the people. The notion that technology reigns above the people must be refuted because “it is not only about knowledge technology” (Bhohoraj, 2005:38). What determines the success of technology application is the placement of competent people to perform duties that are commensurate with

their aptitude, skills and competencies. In the event that there is a shortage of skills or a knowledge gap, it is incumbent upon the organisation – particularly in public sector organisations like schools – to equip their employees. Putting a strong emphasis on ongoing learning and acclimatisation are of vital importance to the growth and the stability of both the people and their organisations (Saastamoinen, 2018:101). The role of people cannot be understated as illustrated in a study by Perez-Soltero et al. (2019), which established that although organisational culture and technology are of primary importance to KM application, their importance does not supersede that of the people and their competencies.

Now that we have established that performance of the organisation is reliant on the kind of competencies that people possess, Kolibáčová (2016:1316) proposes establishing a scheme to fund people to undergo proper training in areas of need. These competences vary as some need more attention than others. This notion has led to Kolibáčová (2016:1316) developing a theory, which posits that competencies comprise of two dimensions: *hard* and *soft*. *Hard* competencies pertain to professional competencies (as determined by organisational performance) whereas *soft* competencies (drawn from personal features such as employee attitudes that are a prerequisite for effective job execution) conditionally take a professional, social or conceptual form (Kolibáčová, 2016:1316). The endeavour to cultivate people's *hard* and *soft skills* can only thrive, as pointed out by Jewel and Berger (2005:3) through the creation of an atmosphere under which “individuals” willingly own up to “both individual and organisational success”.

### **3.3.8 Sharing Culture**

In this section I discuss the antecedents of organisational culture, starting from the concept itself, its evolution (leading to the formation of sub-cultures) and counter cultures that pervade organisations. I further discuss how the top down organisational structure impacts the organisational flow of communication. Lastly, I explore the prospects of infusing indigenous values systems of Ubuntu and Batho Pele Principles to effect knowledge sharing experiences.

#### *3.3.8.1 Defining Organisational Culture*

Chmielecki (2013:103) avers that in the last twenty-five years, the concept of organisational culture (OC) has enjoyed the attention of researchers. The more than 150 definitions closely linked with organisational culture suggest that it is a phenomenon that espouses an organisation's values, core assumptions, expectations, and definitions that characterise organisations and their members (Quinn and Cameron, 2011:18). Robbin and Sanghi (2007) define OC as a systematic attitude that is entrenched in (most or) all members of “different

backgrounds” who also happen to occupy different roles within the organisation. Many OC scholars unequivocally state that culture has a bearing on organisations’ knowledge sharing efforts (McDermott and O’Dell, 2001; Ardichvili, Page, Wentling and Stuedemann, 2003; Bures, 2003; Bock, Zmud, Kim, and Lee, 2005; Riege, 2005; Al-Alawi, Al-Marzooqi, and Mohammed, 2007; Vazquez, Fournier, and Flores, 2009; Kathiravelu, Abu Mansorb, Ramayah and Idris, 2013; Attar, 2020). As noted in Chapter 2, what is specifically important from a KM point of view is to promote a culture of knowledge sharing and knowledge development. Within the context of this study, Daud, Raman, Don and Hussin (2015:21) posit that OC in a school does not only affect how the school functions but also its broader community and the academic prospects of its learners.

When drawing on what has thus far been said about OC, we can state that it is a factor that should not be undermined by those at the helm of educational organisations. Quinn and Cameron (2011:18) mention two important aspects of organisational culture, namely; *sociological* (which refers to the idea that organisations *have* cultures, albeit contention around what it may mean for participants to participate in a culture) and *anthropological* (which means that organisations *are* cultures – again not assuming that the “culture” is clear-cut or homogenous). Schoonenboom (2017:289) highlights that “sharing” (of values, goals, attitudes, beliefs) is only one form of participation in a culture. According to Schoonenboom (2017), it is better to conceptualise culture as something in which people “*participate*” – this leaves leeway for people in organisational life to interpret the “organisational culture” in different ways so that new cultural expressions can develop (e.g., an orientation to learning can be built into the “culture”). It is also worth noting in this regard that organisational culture is not static and evolves to assimilate current trends (which might precipitate the development of subcultures). In the next paragraph I discuss the types of subcultures that are likely to emerge in organisations as well as how they are formed.

#### 3.3.8.2 Types of Subcultures

Like any other organisation, a school cannot avoid the formation of subcultures. Participation in situations unique to a specific layer of staff (e.g., administrative clerks) is the major source of the formation of subcultures. Brown (1995) and Khatib (1996) argue in this regard that “departmental designations or geographical separation” are the reasons behind the formation of “subcultures” (Khatib, 1996:20). Baack (2012:13) adds that organisations develop a subculture whenever “a group of members” endures “common problems, situations and experiences”. Subcultures are more like a “grouping of values” (Boisnier and Chatman,

2002:12). Therefore, subcultures within a school context, for instance, could emerge among a group of teachers. They encounter similar experiences, problems and situations and thus have different needs and perform different functions from that of other staff members who either operate in an administrative or supervisory or leadership capacity. Martin and Siehl (1983) cited in Chandler (2015:37) mentions three organisational subcultures, namely:

- a. *enhancing subcultures* (where members fully embrace both the pivotal and peripheral values of the dominant culture);
- b. *orthogonal subcultures* (where members moderately embrace the pivotal values in conjunction with their own distinct values which do not in any way clash with the dominant values of the dominant culture); and
- c. *counter cultures* (where members disregard the core values of the dominant culture – they instead adopt other pivotal and peripheral values which are not coherent with the core values of the dominant culture).

Within a school set up, I consider that for as long as *enhancing* and *orthogonal* subcultures prevail, the organisation faces good prospects (given effective policies and leadership). These two subcultures do not seek to overhaul the cultural system of the organisation, but are more concerned with establishing complementary subcultural practices that represent the ideals of members of certain occupational groups. Henslin (2013:5) argues that some counter cultures are perceived as acting in opposition to dominant cultures. This could cause upheaval especially if these countercultures do not include values such as collaboration and mutual learning; by implication, they then would not introduce a practical element that would serve the best interests of the school. Perhaps they could play themselves out more effectively in large organisations, where the dynamics are overtly different in many respects. Martin and Siehl (1983:52) cited in Chandler (2015:38) maintain that counter-cultures can make meaningful contributions towards the betterment of the existing dominant culture.

Basset (2002:3) argues that presently the so-called “good” schools happen to be counter-cultural. Chandler (2015:37) corroborates this view by explicating the findings of a similar study that used *Shein’s pivotal and peripheral values subcultures taxonomy* as the lens to prospect this phenomenon. Chandler’s study established that it is plausible for the three subcultures to co-exist within the organisation without tarnishing the core values of the dominant culture. Irrespective of my initial cynicism around the merits of counter-cultures in enhancing work dynamics, literature (e.g., Basset, 2002; Henslin, 2013; Chandler, 2015)

generally suggests that the establishment of subcultures is healthy provided they have the propensity to reinvigorate the dominant culture (which is the primary culture encompassing the ethos, mission, goals, strategies as well as the norms of the organisation, albeit that these also need to be interpreted in specific instances of practice). The emergence of subcultural repertoires can sometimes serve to bridge some of the gaps left by the dominant culture. In this study I ask the selected participants how their schools might have reconciled the demands of subcultures and normative systems of education as experienced by the participants. Hereunder lies a continuation of my discussion on the different types of cultures that permeate organisations.

### *3.3.8.3 Types of Organisational Cultures*

Al-Alawi et al. (2007:22) assert that each organisation develops its own culture which in due course matures to create an organisational identity in two forms: “visible and invisible”. The visible form of culture has to do with the formally adopted values, philosophy and mission of the organisations; whereas the invisible form is rooted on “the unspoken set of values that guide employees’ actions and perceptions in the organisation” (McDermott and O’Dell, 2001:77). In another turn of events, Harrison and Stokes 1992 (cited in Naong, 2009:89) argue that OC manifests in four forms or ideologies, namely: *power, role, performance and supportive cultures*. They also remark that in the event that one cultural ideology overpowers others, it is likely to affect the internal processes of the organisation and how it interfaces with other organisations (Naong, 2009:89).

Literature also points to the operational level of culture and people’s interactions in organisations. This is depicted in a study conducted by the Provincial Government of the Western Cape (PGWC, 2009:6) including 7 500 employees from all its 12 provincial departments; whose findings revealed that organisational culture revolves around leadership, responsiveness, strategy, relationship and coordination. I see that the PGWC study did not expressively mention trust as one of the core enablers of an organisational culture that is conducive for the development of the organisation. In reaction to the results of studies (such as the PGWC) that do not emphasise trust as the primary source of the organisations’ sharing culture, De Long and Fahey (2000); Al-Alawi et al. (2007) and Issa and Haddad (2008) argue that trust should be at the foundation of knowledge sharing – due to its proven ability to spur the free-flow of knowledge between different levels of organisation (e.g., between the managerial level and the “ordinary” workforce. Ives, Torrey and Gordon (2003:99) put organisational culture, processes, strategy, and information technology at the pinnacle of

knowledge sharing. Allameh and Zare (2011:1217) cite “collaboration and rewards systems” as fundamental issues that have a bearing on knowledge sharing culture. In conjunction with people, processes and technologies involved in the implementation of KM, culture determines the level of collaboration which is key to successful knowledge sharing (Grandys and Grandys, 2011; Chmielecki, 2013). Out of all the characteristics of organisational culture, Quinn and Cameron (2011:75) mention the following cultures that are likely to be adopted by organisations of various magnitudes. They are discussed in the ensuing sections.

#### ***a. Clan Culture***

According to Yu, Lu and Wu (2009:38), clan culture embodies “common goals and shared values” in an environment of mutual participation and assistance with a strong insistence on employee development and growth. This organisational culture type is the one that creates a workplace environment that embraces the presence of people and enables them to share much of themselves. Casual but decisive communication of ideas and reaching mutual ground on issues (Wiewiora et al., 2012:6) are noticeable traits of a clan culture. The bond among all employees across all strands of the organisation is similar to that of the extended family. Leaders or the members of the management of the organisation are perceived to be mentors and somewhat parent figures. Loyalty and tradition as well as a high level of commitment are the norms within the organisation. The future of the organisation is placed on personnel development and emphasises cohesion and morale. Owing to the fact that this kind of culture values teamwork, participation and mutual agreement, organisational prosperity is achieved when clients are satisfied with the services rendered unto them. In a school environment those clients are learners who are being serviced by teachers, administrative clerks and middle management (HODs) as well as the leadership (principals and deputies). Satisfaction is derived when these learners find the school environment conducive for quality teaching and learning. Such culture resonates is in accord with the underpinings of CoPs which espouses teamwork, bargaining and collective knowing (as discussed in the first segment of Chapter 3).

#### ***b. Adhocracy Culture***

Adhocracy culture is synonymous with a dynamic, entrepreneurial, and creative place to work. People are explorers who are not afraid to take risks. If their risks pay off, the organisation reaps great benefits whereas if they do not succeed, the organisation stands to lose a portion or some of its investment. Yu et al. (2009:38) aver that such a culture is often an interim arrangement, and is likely to be disbanded in due course when the organisation has attained its targeted goals. The leaders are considered to be innovators and risk takers. Furthermore,



commitment to experimentation and innovation is what defines the temperament of the organisation. Openness is one of the greatest ideals of adhocracy culture (Keskin, Akgun, Gusel, and Imamoglu, 2005; Yu et al., 2009; Daud et al., 2015). People who work under this culture find a thrill in tackling new ventures and other risky and innovative initiatives. Competition is what drives the organisation to improve its product offerings that is why organisations place an emphasis on growth and the acquisition of new resources. Prosperity means invention of a unique product or service. This kind of culture is prevalent in profit-making organisations. Again, although my study is set in a public sector context, the idea of people committed to experimentation and innovation can feature as worth examining in the study, by exploring these aspects with participants.

### ***c. A Hierarchy Culture***

A hierarchy-oriented culture is entrenched when there is a clearly defined organisational structure with procedures that dictate the modus operandi of the organisation. Accordingly, Wiewiora et al. (2012:6) state that hierarchy culture is typified by predictability and internal focus. The leaders pride themselves in being efficient coordinators and organisers, who are level headed. A study conducted by Daud et al. (2015) found that in both the high performing and low performing schools, hierarchy culture prevails over others. This resonates somewhat with KM as Keskin et al. (2005:40) point out that it is based on “information management, documentation, stability, routines, centralisation, continuity and control”. There are constant efforts to restore order and high morale by means of using policies and rules to propel the workforce towards achieving the organisational goal. The future of the organisation is based on rendering an efficient performance that will in turn build a long-lasting legacy. Prosperity is realised when services are rendered in accordance with the set prescripts, stipulated timeframes, and in a cost effective manner. The management of employees is concerned with secure employment and predictability. With participants (cf. Chapter 4) I will establish their impression of efforts by their leadership to keep them motivated to partake in KM.

### ***d. A Market Culture***

This culture is built upon the dynamics of competition and achieving concrete results. The focus is goal-oriented, with leaders who are tough and demanding. The organisation is united by a common goal to succeed and beat all rivals. The main value drivers are market share and profitability. Long-term focus is on competitive action and achievement of measurable goals and targets. Cameron and Quinn (2005), Keskin et al. (2005), and Yu et al. (2009) remark that such an organisation clearly values external issues that may affect its stability more than it

cares about internal matters, and hence, success means market share and penetration. Competitive pricing and market leadership are important. In this study I show that these arguments have been created largely in the context of examining the private sector; my study is about the public sector where Ubuntu philosophy and Batho Pele principles are meant to guide people's behaviour and interactions. I therefore do not deem this culture compatible with our schooling system environment which encourages people to shy away from using their knowledge to maintain a competitive edge over others. Instead, the ethos of this study is to explicate the benefit of not monopolising knowledge but sharing it unselfishly for the betterment of the organisation and its people.

#### *3.3.8.4 Barriers to Knowledge Sharing Culture*

According to DeLong and Fahey (2000:118), organisational culture sets the tone on “who controls what knowledge, as well as who must share it, and who can hoard it”. However, other scholars (O'Dell and Grayson, 1999; DeLong and Fahey, 2000) are dismayed about the difficulty organisations experience when it comes to sharing knowledge. A similar view is expressed by Kazaure, Umar, Saliso and Sabo (2016:166) who state that at times knowledge sharing efforts lack tenacity. Organisations ought to find the root cause of this problem. Some of the barriers to effective knowledge sharing have already been highlighted in the literature, with a view to overcoming them. To validate this point, I refer to Riege (2005); Kazaure et al. (2016) and Makambe (2017) who highlight technology, organisational culture, and individuals as some of the factors that can either stifle or resuscitate knowledge sharing.

Much of the above mentioned findings were related to private sector affairs. Hence in the quest for relevance to the application of KM in public schools, I located a study conducted by the Provincial Government of the Western Cape (PGWC) between 2007 and 2008, whose findings were published in their 2009 report. Findings from institutional diagnostic investigations conducted at four PGWC departments, namely Departments of Cultural Affairs and Sport (2007), Community Safety (2007/08), Environmental Affairs and Development Planning (2008), Social Development (2008), were analysed and seven themes were extracted as common areas of concern. These are indicated in Table 3.3 in order of importance starting with severe barriers to knowledge sharing and ending with the least severe ones.

**Table 3.3: Findings from the PGWC Institutional Diagnostics: 2007- 2008 (PGWC, 2009:14-15)**

No	Finding	Reason
1.	Leaders are unable to clearly articulate the strategy to all employees	Employees were rarely encouraged to partake in strategy formulation processes, resulting in their confusion or ignorance about the expectations they were supposed to meet because the management failed to provide them with proper directives. This mainly affected employees occupying lower ranks.
2.	Poor communication	A communication breakdown was prevalent between headquarters and regional district offices in the various departments. Employees expressed that in general communication tended to be incoherent and gave credence to people misinterpreting crucial messages.
3.	Problematic organogram	Some components tended to duplicate work processes and in other cases the workflow/ progress was dependant on good communication and co-operation from other components, which was also problematic.
4.	Challenges emanating from the facilitation of change management	A large cohort of employees was reluctant to change because they were not content with tempo at which change was expected to happen. They felt that change should be introduced gradually as opposed to the wholesale nature in which it was currently introduced. Thus employees lost confidence in the ability of the leadership or management to implement change processes convincingly.
5.	Recognition and reward (performance management)	Employees expressed that their immediate supervisors failed to acknowledge and reward their good performance. They felt that rewards and incentives were not proportionate with the kind of performance they have rendered. Thus, they do not receive constant feedback on

		their performance from their managers, making them uncertain about developmental areas.
6.	Leaders demonstrate energy but do not transfer it	Although leaders take action and show lots of energy and enthusiasm in achieving organisational objectives, leaders were not able inculcate the same kind of attitude in their teams.
7.	Role clarity	Employees were generally confused about their role in attaining organisational goals and service standards. Employees were not always sure of what was expected of them in their jobs due to not having proper job descriptions or Individual Performance Development Plans (IPDP) in place. In other instances, employees experienced challenges in the workflow due to the organisational structure.

According to these diagnostics, it would appear that there is no other way but for organisations to develop mechanisms for people to reflect on their past mistakes and begin to conscientise employees about the essence of sharing knowledge. This can be a daunting task which calls for the establishment of organisational culture that is responsive to the needs of the people. Responding to human needs typifies the ethos of Batho Pele Principles which advocate for public service that prioritises the people's needs beyond the call of duty. *Responsive, in this context, refers to a culture that inspires individuals within a team or a group setting to engage in a collaborative exercise of sharing their knowledge in a mutually beneficial manner* (Ahmady et al., 2016:394). To reinvigorate such an organisational culture, Ahmady et al. (2016:394) suggest that organisations must explore the following principles:

- adopt a new attitude and the perception of superiors towards knowledge role and position;
- recognise and applaud good performance, innovation and risks taken by employees to acquire and share knowledge;
- execute strategic programmes for knowledge management;

- create a platform for engagements, conversation and brainstorming.

### *3.3.8.5 Knowledge Sharing in Indigenous Contexts*

Bush (2007:403) maintains that in Africa, western leadership models organically infuse indigenous African philosophies and principles. Among those, Ubuntu is the one much talked about in academic circles (Bush, 2007:402). Another concept widely used by public organisations are the Batho Pele Principles (BPP). Hereunder lies an in-depth discussion of both concepts.

#### *a. Ubuntu Philosophy*

Despite being labelled the “dark continent”, Africa and her people have always been guided by a set of principles and values that were initially orally transmitted from one generation to the other. Thankfully, due to the existence of digital technology, we now are able to also get explicit documentation of these principles and values. Chief among those is Ubuntu, an ancient African philosophy of treating others with humility and cordiality – also known as “Botho” (Letseka, 2013: 337), “Unhu” (Hapanyengwi- Chemhuru and Shiza, 2013; Muropa, Kusure, Makwerere, Kasowore and Moropa, 2013) or “Hunhu” (Mangena, 2012; Makavuzza, 2014). From a plethora of literature on Ubuntu, I specifically located and perused studies by: Mbiga (1997); Barack et al. (2003); Broodryk (2006); Msila (2008); McCluskey and Lephallala (2010); Mangena (2012); Muzvidziwa and Muzvidziwa (2012); Letseka (2013); Hapanyengwi- Chemhuru and Shiza (2013); Matalino and Kwindiwi (2013); Mugumbate and Nyanguru, 2013; Muropa (2013); Makavuzza (2014); Gumbo (2014); Mbhele (2015); Masondo (2017) and Elonga-Mboyoy (2019). At the heart of Ubuntu lies the ethics of “collective personhood and collective morality” (Mbiga, 1997:2-3).

Fundamentally, Ubuntu is based on the belief that gaining knowledge requires one to learn from others in the knowing process mainly through social interactions (Masondo, 2017:37). And to a certain degree, through ones observations of others practicing it. Broodryk (2006:6) argues that Ubuntu espouses acts of “togetherness, brotherhood, unity, solidarity, cooperation, commitment, supportive attitude, equity, sympathy, sharing, empathy, compassion, respect, humanness, harmony and redistribution” all of which can go a long way towards transforming our schools. I concur with Mpofu (2002:29) who states that of all the aforementioned acts, the act of “sharing is the nucleus of Ubuntu”. The same goes for the western knowledge orientation, which also puts sharing at the pedestal of all KM processes (Hall, 2001; Bock and Kim, 2002; Yanghong, 2006; Yang and Chen, 2007; Shaohua and Fan, 2008; He and Wei, 2009; Hu, Horng

and Sun, 2009; Aulawi, Sudirman, Suryadi and Govindaraju, 2009; Rodrigues and Edwards, 2010; Aslani and Mousakhani and Aslani, 2012; Salleh, 2013).

Historical literature on Africa's IKS points to sharing as the gesture that epitomised the ways of living in indigenous communities. Some of the core ways of living (such as unconditional sharing) have since become a thing of the past among most African communities. IKS scholars attribute the demise of these precious values systems and the prevalence of poverty (Msengana, 2006:98) to the pervasion of western "values, skills and technologies" on Africa (Mawere, 2014:89). Whilst immersed in literature I was able to establish that efforts are being made to restore indigeneous ways to back to their former glory. Indigenous communities in all corners of the world are hard at work trying to emancipate their ancestral beliefs and ways of life from the shackles of colonisation (Dei, Hall, Goldin and Rosenburg, 2005:5-11). Objectively speaking, although I consider that as detrimental as colonisation has been to the indigeneous ways of living, it would be a fallacy to conclude that it has led to a complete collapse of Ubuntu. My argument is foregrounded on the premise that Ubuntu is an intrinsic disposition left in all of us, which we may either consciously or sub-consciously tap into to form better relations and co-existence with others. Hereunder lies a rhetoric in which I draw on empirical perspectives to support how Ubuntu can harness knowledge sharing practices in schools.

Zhang and Ng (2012:1327) point out that habitually, organisations are incapable of generating "knowledge by themselves" and the only way to ensure that knowledge sharing happens is through getting individuals to share knowledge with others willingly. Sharing the same sentiment is De Cagna (2001:21) who states that organisations can only gain indispensable knowledge if their people are willing to reconsider their thinking patterns about knowledge sharing and their attitudes towards sharing it. As a starting point towards achieving this goal I suggest that organisations must begin to prioritise the restoration of Ubuntu practices; an exercise which will ultimately result in people paying more attention to how they interact with each other and with outsiders. Having *unembeza* (a Zulu word meaning "the conscience") like we all do (Maphalala, 2017:10239) makes Ubuntu a natural instinct that we all possess. Accordingly, Noor and Sallim (2012:167) posit that through effective sharing of knowledge "individual's lives and society" can be transformed for the better. Practicing Ubuntu philosophy in the 21<sup>st</sup> century can be complementary to KM application. Nonaka and Konno (1998) talk about knowledge sharing spaces or Ba's in organisations, and the spaces (i.e., meetings, e-mails, face to face consultations, social media, storytelling and so forth) alluded to, are a catalyst for the sharing of existing knowledge as well as the creation of new

knowledge. I however caution that the creation of knowledge sharing spaces bears little practical value if it is not done in tandem with Ubuntu practices. The infusion of Ubuntu in our managerial practices bears a significant value to the success of the organisation, fundamentally because it cultivates the kinds of intrinsic values (i.e., attitude, behaviour, determination, consciousness and loyalty) that are of vital importance to organisations' success.

Naturally, schools are custodians of knowledge sharing. Romm (2017) cites Mayaba (2012) and Mayaba and Woods (2015), who posit that constructive indigenous (specifically Xhosa) folklores have been shown to cultivate the spirit of connectedness, empathy and Ubuntu among learners. Be that as it may, I contend that such indigenous initiatives should not only prevail within the confines of the classroom but also in every sphere of the school. By this I mean that knowledge sharing should be a process which sees a school keeping its personnel socially engaged whilst at the same time, considering how to treat and engage scores of people who come to the school premises for various reasons. I find apt Serpong's (2019:65) statement in which he points out that the incorporation of "Africa's indigenous knowledge into management roles" will harness the operations of homegrown organisations. Msila (2008, 2015) argues that Ubuntu can be a solution to maintain proper governance in schools and the workplace in general. Ideally, Mbhele (2015:34) points out that social interactions with "school stakeholders" should be such that people listen to one another, acknowledge each other's presence and self-worth and are afforded the generosity to express their thoughts. Literature (e.g., Broodryk, 2006; Msila, 2008; Mbhele, 2015; Masondo, 2017) corroborates that upholding the spirit of Ubuntu augments the likelihood of success in schools. In order to further explore whether the perused literature assertions can be ratified, I aimed to investigate the extent to which township schools draw on Ubuntu to effect meaningful changes. In Chapter 5, I communicate these findings.

### ***b. Batho Pele Principles***

Batho Pele is a Sotho expression which denotes the people first (Moran, 2002; Pietersen, 2014). The phrase was seen as the best way to project the message that the foremost responsibility of public service is to render quality services to members of the public (Pietersen, 2014:254). Batho Pele Principles are an offspring of South Africa's White Paper. The Batho Pele belief is founded on a number of premises, namely:

“*We belong*”, which is about acknowledging the essence of building or inculcating a sense of oneness and a sense of belonging in every member of the public service institution and

thereby making them believe that their needs as both human beings and workers are taken into serious consideration.

“**We care**”, pertains to caring for the public by dealing with them with humility so that they feel that they have a public service that deeply cares for them; this concerns treating the public with respect and human dignity; and about fostering the importance of a people-centric and people-driven approach.

“**We serve**”, refers to serving the public with pride, far beyond the call of duty all in the name of satisfying the demands of the public.

Summarily, the Batho Pele White Paper is entrenched on eight principles: consultation; service standards; access; courtesy; information; openness and transparency; redress; and value for money (Pietersen, 2014; Ngidi, 2012; Khoza, 2009; Arko-Cobbah, 2002; South Africa 1997). Mhlongo (2018:66) posits that the Batho Pele White Paper entails a useful set of guidelines that can be used to benchmark the level of services that are expected from public organisations and its employees. Prior consultations were entered into with representatives of school-based staff and further briefing was done through the issuing of circulars (Grobler, Bisschoff and Beeka, 2012:42). Thus several studies support this notion. The first findings are drawn from a study conducted by Malose, Goldman and Thomas (2018:193) indicating that the Education Department does indeed (as has been mentioned in the previous statement) consciously practise BPPs. Also, their departmental service charter stipulates that it is mandatory for every employee to ascribe to BPPs (Department of Basic Education, 2014:8). Secondly, I refer to a survey conducted by the *South Africa's Public Service Commission* (PSC, 2001) which explicated that the provincial departments of education generally complied with only four of the eight Batho Pele Principles, namely: 1) consultation, 2) information, 3) openness, and 4) transparency and redress.

Furthermore, Pietersen's (2014) study reveals that teachers found practising all eight principles (i.e., consultation, service standard, access, courtesy, information, openness and transparency, redress, and value for money) a daunting task. Thus, front line officials were found to have acted with oblivion when it came to the enforcement of BPPs (Pieterse, 2014). Also less inspirational, is Mohlala's (2005) newspaper opinion piece, in stating that school based teachers rated the district officials' practice of BPP below average. Having located literature on teachers', administrative clerks and principals' application of BPPs, I also noted with concern that there is a scarcity of empirical studies discussing HODs relative to their perception or enforcement of BPP. To close this lacuna, I studied how all school-based occupational levels



(i.e., teachers, HODs, administrative clerks and the principals) drew on the BPPs as a means to enhance knowledge sharing experiences among themselves, and when liaising with other stakeholders (be it learners, departmental officials or parents). Hereunder I proffer a tabulation of how schools are expected to enforce the BPPs.

**Table 3.4: Batho Pele Principles and their relevance to a schooling system (Source: The Author)**

<b>Batho Pele Principles (BPPs)</b>	<b>Batho Pele Principles' Relevance to Schools' KM Application</b>
1. Consultation	<ul style="list-style-type: none"> <li>• Implies that proper dialogue amongst staff and learners is realised in order to find common ground whilst learning from people they serve;</li> </ul>
2. Service Standard	<ul style="list-style-type: none"> <li>• Implies that every unit of knowledge workers (i.e., administrative staff, teaching staff, supervisory staff, and leadership) within the school sets service standards that guide exactly what they deliver and to what quality or standard;</li> </ul>
3. Access	<ul style="list-style-type: none"> <li>• Ensures that learners access education through provision of proper tools and interactions with experts. Thus, access ensures that those who need extra assistance get it; this includes all layers of staff who may need assistance in their workplace pursuits;</li> </ul>
4. Courtesy	<ul style="list-style-type: none"> <li>• Employees must take into cognisance that they are employed to serve the government at the behest of the people they service (who in return, expect to be treated with courtesy at all times);</li> </ul>
5. Information	<ul style="list-style-type: none"> <li>• All learners (within and out of classroom context), fellow staff and external members have the right to receive full information that they may deem necessary;</li> </ul>
6. Openness and Transparency	<ul style="list-style-type: none"> <li>• All parties concerned have every right to know how decisions that affect them are taken;</li> </ul>

7. Redress	<ul style="list-style-type: none"> <li>• All misunderstandings, disagreements must be resolved for the sake of continuity;</li> </ul>
8. Value for money	<ul style="list-style-type: none"> <li>• Ensuring that the school is run in a cost effective manner but without compromising the quality of the service delivered to the eople.</li> </ul>

Interestingly, whilst reading on the ethos of BPPs I recognised a lot of the Ubuntu philosophy features. For validation, I turned to existing studies focused on the subject matter. At that juncture, I located a plethora of studies (Mapadimeng, 2007; Muller, 2008; Mc Donald, 2010; Mogoro, 2010; Twinomurzinzi, Phahlamohlaka and Byrne, 2010; Matalino and Kwindingwi, 2013; Gumbo, 2014; Eliaston, 2015; Qobo and Nyathi, 2016; Malose, Goldman and Thomas, 2018) which validated my conception, highlighting the desired kind of conduct expected from implementers of BPP. The axiom of “Batho Pele itself” (Twinomurzinzi et al., 2010:95) commands civil servants to treat people with dignity (Mogoro, 2010:221) regardless of their race, socio-economic status, gender, educational level, religious and cultural orientation.

### 3.4 THE DISCUSSED THEORETICAL FRAMEWORKS’ RELEVANCE TO THE STUDY

As has been mentioned earlier in Section, 2.12 the study considers that KM application revolves around the provision of people, processes and technology in an organisational set up, therefore all three selected theoretical frameworks respectively pay homage to each of these key factors (i.e., people, processes and technology) in KM application. It acted as a guideline for the restructuring all six sub-objectives of this study such that they attend to the roles that people, processes and technologies play in KM application, specifically in the primary and secondary schooling sector. Readers of this study will realise that these theoretical considerations shape this body of work around **people’s** relational dynamics, attitudinal aspects and skills in their bid to apply KM. **Processes** are discussed relative the selected schools’ usability of policy frameworks, and resourcefulness as well as their preparedness or the lack thereof for KM application. Also, **technology** is being looked at within the realm of unearthing its architectural/software and hardware benefits or lack thereof on KM application. Supplementary information on the relevance of adopted theoretical frameworks.

### **3.5 CHAPTER SUMMARY**

In this chapter I discussed the practicality of Wenger's CoP and Rodrigues and Pai's eight KM enablers and indicators as theoretical navigators that are congruent with my study. With regard to Wenger's theory, I justified how schooling systems function through the formation of groups or forums to discuss pertinent issues. I went as far as arguing that these group formations referred to as communities of practices can be a planned endeavour and in other circumstances they instantaneously self-organise based on employees' common interest. I then proceeded to the subsequent theory (i.e., Rodrigues and Pai's theory) to discuss eight key enablers of KM. I substantiated how they can be applied to enhance schools' KM efforts. I turned to literature to justify their fallibilities and practicalities within the education domain. Considering the condition of the infrastructure in a majority of our schools, I used studies of a similar context to illustrate how despite not being fully equipped with resources, they were able to apply KM. I continually highlighted the contributions that humans have towards the success or demise of KM. Hence I discussed the practicality of entrenching indigenous values systems of Ubuntu and Batho Pele as some of the suitable ways of enhancing knowledge sharing in the studied contexts.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

#### **4.1 INTRODUCTION**

In this chapter I account for how my research was carried out. I regard this chapter (research methodology) as the backbone of this study, fundamentally because it details the systematic approach that I adopted to fulfil the objectives of this study. I discuss in detail how I arranged my research methodology. I dissect the steps I took to structure my data generation and reporting exercises. Moreover, I elaborate on how I used face-to-face verbal exchange with the participants to elicit their reflections on KM application in their respective schools. I further take the reader through the process of how I carried out document analysis as a means to enhance the credibility of data generation. Having employed two data generation sources, namely, interviews and document analysis, meant that I effectively performed data triangulation or what is sometimes called crystallisation. Propelled by the conception that the analysis and reporting of data have to resonate with the views of participants (Wa-Mbaleka et al., 2019:1-2), I narrate how I fostered reciprocity between myself as a researcher and the participants. This entailed, among others, reporting the participants' narratives as I interpreted them and how I member checked these narratives with them.

Generally, I elaborate on how the proposal and literature review chapters informed my study and how I worked back and forth between the literature and the field work. While doing my field work I continued to source literature which pertained to what participants were expressing to me. For example, after interviewing a number of participants I realised that a lacuna in my literature review which I had not explored in sufficient depth was the way in which IKS support sharing of understandings (as highlighted in the KM literature). I therefore incorporated a discourse on it as part of my literature review (Section 3.3.8.5) on IKS. I also chose to modify some of my sub-research questions, in line with what I realised was important to the participants whom I had thus far interviewed. In other words, my way of addressing the research was emergent.

If at all during interviews I happened to hear participants' rhetorics that I found to be somewhat compelling, I made sure to consult literature so as to establish the correlation and/or contradiction. After getting the gist of the rhetoric (from both the literature and the participants'

perspective) I then had to rationalise the meaning of the rhetoric to me before I could report on it. As a narrator of the participants' truths, it so happened that at times, I would sympathise with controversial views brought forth by either participants or literature. When doctoral students feel strongly about a particular viewpoint (as forwarded to their attention by literature or research participants), Hyland (2002); Bachelor and Di Napoli (2009) as well as Olivier (2017) suggest that they should imprint their authorial voice so that the discourse evolves to entail a multiplicity of perspectives. And of course in other instances I would find the rationality of some viewpoints too rational to oppose. There were also instances where neither the participants' nor the literature viewpoints would get my endorsement (in which case I would furnish the reasons as to why I did not necessarily ascribe to both). This is a far cry from when I had just begun my doctoral journey and was under the impression that only seasoned scholars had the prerogative of disqualifying others' scholastic views. But over time I learned from my supervisor and through reading works of scholars such as Hyland (2002), Bachelor and Di Napoli (2006) as well as Olivier (2017) that it was obligatory for a doctoral student to construct a unique dimension that will help reshape current literature renditions by infusing their own authorial perspectives. These cited authors also emphasise the point that after the study has been concluded, an invitation should be offered for a community of keen scholars to explore (and engage with) the worldview which shaped the direction of the student's study.

Regarding my approach to what is sometimes called data generation or called by some authors' data gathering (admitting that data is a product of the way the research is approached), I provide a synopsis of why and how I drew data from multiple sources. As has been mentioned above I acted in accordance with the suggestions of literature, most notably Van Niekerk, Prenter and Fouché (2019:171) who argue that taking into consideration more than one data generation method contributes to the rigour of one's study. When reflecting upon individual authors' orientations on data generation methods I was intrigued to realise that numerous authors (Gergen, 1999; Holstein and Gubrium, 2007, 2008; Cugno and Thomas, 2009; Ellingson 2009, 2014; Tracy, 2010; Eckhardt, Dholakia and Polsa, 2013; Stewart, Gapp and Harwood, 2017; Maree 2019, to mention but a few) have begun to abandon the norm of using the term triangulation in favour of crystallisation. This to me indicates their responsiveness to the overriding ideals of Lincoln and Guba (2013), who unequivocally hold that scholars are constructivists (in their own right) and as such, in this constantly evolving world, they should continually look into redefining the emergence of constructs. From the literature standpoint, triangulation and crystallisation are terms that are used interchangeably because they are both complementary to the ideals of social constructivism (Gergen, 1999; Holstein and Gubrium, 2008). Without denying some commonalities between the two methods, Richardson (1995)

and Denzin and Lincoln (2000) argue that crystallisation goes deeper than triangulation in terms of unearthing thick layers of data. Not only does crystallisation draw out massive data but also increases their credibility and helps the researcher keep track of “recurring themes and subthemes” (Maree, 1999:189). On the other spectrum, Richardson (1998, 2000) does not view triangulation and crystallisation in the same light. He is of the view that crystallisation interrogates the soul of the inquiry at the depth that rich data will come out; whereas triangulation merely generates sufficient data to supposedly prove the soundness of the study (by arguing that data have been cross-checked).

Ellingson (2009:240) claims that in as much as there could be striking similarities between triangulation and crystallisation, the latter carries more gravitas. She asserts that triangulation seeks to uncover the truth by employing more than one data generation technique, whereas crystallisation thrives on uncovering avalanches of truths using complex means of data gathering. Plunging deeper into what may appear to be a controversial remark, Ellingson (2009:16) dissuades doctoral students from exploring crystallisation because it requires an intricate array of skills which are beyond the comprehension level of most doctoral students (an opinion which I neither completely reject nor conclusively endorse on the basis that I could not locate any other literature to corroborate or refute this viewpoint). I also noted in the reviews written about her book that no one (not even esteemed scholars) questioned her on this assertion, which to me confirmed that her enigma, experience in the field and authorial voice have made her a mouthpiece for many academics. She took Richardson’s views on crystallisation (Polosa, 2013:77) a notch higher by poignantly covering the discourse on “metaphors of crystallisation” (Vik and Bute, 2009:340). I close my discussion concerning the insightfulness of Ellingson’s version on crystallisation by clarifying that I do not claim that all the views expressed in her book have gone completely unchallenged. I only intend to highlight the point that I could not find any scholar who contradicted her statement about the inability of most doctoral students to handle the intricacies that come with crystallisation.

Tracy and Hinrichs (2017:2) do not understand the researchers’ fuss concerning the triangulation/crystallisation terminology. They argue that both triangulation and crystallisation are interwoven by their mission of enhancing the credibility of one’s “research project”. I echo this sentiment on the basis that I, even after spending time mulling over the differences between triangulation and crystallisation, also could not beyond any reasonable doubt establish what in practicality sets the one above the other. Hence I suggest that for further clarity there is a need for lay researchers such as myself to not end by reading about these methods but also to be trained on how to use them, especially crystallisation. But throughout it all, I regard my

exploration of both methods as enlightening and a life changing endeavour. It carved “a new understanding” for myself as a researcher (Palaganas et al., 2017:436). Most notably I learned that qualitative researchers have to acknowledge that using multiple sources of data is just another measure amongst many other measures of enhancing research quality; and qualitative researchers should constantly apply their full might when collecting, synthesising and reporting data. I also consider that in such a circumstance where both methods (triangulation and crystallisation) remain within the lexicon of research and are still used interchangeably, the researcher has to tap into their intrinsic orientation as a means to come to a decision as to which one of the two to adopt for their study. Ultimately the choice whether to see crystallisation as the refinement of triangulation (Richardson, 1995; Denzin and Lincoln, 2000) or both as one and the same way of increasing research rigour lies within the purview of the researcher. Coming to such a decision is a virtue which binds the researcher’s body to physically act upon the ideals that are envisaged in his/her “mind and soul” (Polsa, 2013:76). Precisely, after having applied my “mind and soul” to this matter I reached a decision as to which of the two terms to adopt in my study.

I decided to use triangulation as the operative term to denote how I positioned myself to employ more than one method of gathering data in my study and also to use a varied set of participants from a range of occupational categories in the schools, so as to triangulate across their perspectives (as detailed in Chapter 5) Henceforth in my study, the term crystallisation will cease to receive attention.

Turning now to the question of population and sampling in this study, 20 participants were drawn with the hope to represent each occupational category of the whole population of teachers, administrative clerks, HoDs and principals across all three circuits of Emalahleni. I discuss the issue of the transferability of the results based on the sample in the course of my discussion in the chapter.

The format of this chapter encompasses structuring my discussion in terms of: research write-up monitoring tool (4.2); research paradigm (4.3); research design (4.4); data gathering (4.5); sampling procedure (4.6); data analysis (4.7); thrustwothines (4.8); ethical issues (4.9); and a chapter summary (4.10).

## **4.2 RESEARCH WRITE UP MONITORING TOOL**

A step by step preparation of a research project requires careful considerations and precision on the part of the researcher. Chief among those is ensuring that research encompasses the

following traits as stipulated, for example, by Tracey (2010), Tracy and Hinrichs (2013), and Tracy (2017).

- praiseworthy topic whose intentions are sensible;
- data generation and reporting that bear wealth of rigour;
- earnestness of the researcher throughout the life cycle of the project in guarding against biases, unreasonably subjective views, emotions and personal preferences;
- trustworthiness in delivering believable findings;
- heightened credibility through a depiction of thick layers of participants' narratives;
- clear proof of the importance of the study towards contributing new, unique or distinct knowledge to the scientific literature domain;
- strong ethical standings to safeguard feelings of others, cultural differences, ideal research communication procedures and relational principles;
- coherence in the presentation of literature review, study aims, research methods and procedures are concerned.

Being aware that upholding the aforementioned traits was never going to be an easy exercise, led me to believe that I needed to search for a tool or an instrument to help keep track of the progress and coherence of the write-up within adaptable time frames. At this juncture, I adopted Oate's (2006:11) 6 Ps framework, which is a framework that contains key research questions for researchers to refer to in order to detect if at all there are missing links that need to be addressed in their research write-up. Upon analysing the content of the (methodological) framework I immediately realised that it was fit for purpose. I was attracted to it because it asked all the questions which were pertinent to the growth and stability of the write-up. I also appreciated the fact that the questions posed in the framework demanded that one had to introspect as to whether they were still treading on the right path towards the ultimate goal of producing a credible study. I refer to the following table for further details.



**Table 4.1: 6 Ps of research framework with guideline questions (Oates, 2006:11)**

<b>6 Ps OF RESEARCH</b>	<b>CONCEPTUAL GUIDELINES</b>
<b>1. Purpose</b>	<ul style="list-style-type: none"> <li>- What is the questionable phenomenon that the research ought to explore?</li> <li>- What sort of intentions warrant the actualisation of the research?</li> <li>- What are the objectives (more general) and aims (more specific) of the research?</li> <li>- How is the relevance of the research to the field of study and to other people?</li> </ul>
<b>2. Paradigm</b>	<ul style="list-style-type: none"> <li>- What is the fundamental philosophical standing point, or paradigm or the worldview of the research?</li> </ul>
<b>3. Process</b>	<ul style="list-style-type: none"> <li>- What is the format and layout of the conceptual framework of the researcher?</li> <li>- How was the research conducted?</li> <li>- Does it contain a clear research strategy?</li> <li>- What data generation methods were applied to generate data?</li> <li>- How was the data analysis conducted?</li> <li>- What conclusions did the research arrive at?</li> <li>- Was the research process executed in a coherent manner and was the process credible?</li> <li>- What are the boundaries of the research?</li> <li>- What are the limitations of the research?</li> </ul>
<b>4. Participants</b>	<ul style="list-style-type: none"> <li>- How is the researcher's engagement with the research?</li> <li>- What implication do the legalities and ethics have on the research?</li> <li>- Does the research take into account the feelings of the participants who are either directly or indirectly partaking in the research?</li> </ul>

<b>5. Products</b>	<ul style="list-style-type: none"> <li>- What are the intended and unintended results of the research?</li> <li>- What is the value of knowledge that the study will bring to the domain of the study, field of interest or research community?</li> <li>- What aspects of the research need further investigation?</li> </ul>
<b>6. Presentations</b>	<ul style="list-style-type: none"> <li>- How is the research communicated to others who are interested?</li> <li>- Is the research professionally conveyed by means of a dissertation, thesis, conference contribution, article or product?</li> </ul>

In this paragraph I present to the reader a preview of how the content envisaged in Oates’ (2006:11) table was utilised in my study to monitor the progress of my write up. Fundamentally, I consider that the initial three chapters satisfactorily address the questions around the purpose of the research, research paradigm, and plan of action – which translated in the fulfilment of the first two Ps of research. The only overlap (or exception) happened between Chapter 4 and 5: the questions which were not exhausted or answered in Chapter 4 had to be carried over to address the first few aspects of Chapter 5 (data generation and analysis). Suffice to mention that the fifth P was satisfactorily explored in Chapter 5 to address ethical issues whilst the last P facilitated the reporting of results in Chapter 6.

### **4.3 RESEARCH PARADIGM**

#### **4.3.1 A Broad Definition of a Paradigm**

Every research is located with a specif domain of thinking, which is refered to as a paradigm. In a clearer way, Kuhn (1996:10) defines a paradigm as “the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed”. Wray (2011:12), adds that a paradigm encapsulates important considerations, which when followed properly, help researchers to compose and implement their research in accordance with universally prescribed scientific standards. Researchers have to be seen to be practicing in accordance with “all-encompassing” methods of feeling and perceiving “the world, including beliefs about morals, values, and aesthetics” (Morgan, 2007:48). Below lies

the main paradigmatic location of the study, followed by a discussion on the nature and practical significance of considerations.

#### **4.3.2 Philosophical Considerations to Research**

The guiding philosophical consideration adopted in this study is that of social constructivism, which Gergen and Gergen (1991:88) claim can enhance and grow “the vocabulary of understanding”. Towards my journey of enriching and expanding my vocabulary of understanding on constructivism I perused various studies (Guba and Lincoln, 1989; Gergen and Gergen, 1991; Swartz, 1994; Kanuka and Anderson, 1998; Caffarella and Mirriam, 1999; Silverman, 2000; Doolittle, 2001; Kim, 2001; White, 2004; Will, 2007; Nid and Todd, 2011; Goldkuhl, 2012; Amineh and Asl, 2015; Rampana, 2015) – to which I am indebted because they shed more light, through academic means, into the constructivist researchers’ world. However, upon incorporating their views into my study, there were a few instances where I felt that some authors might have failed to address certain aspects that I deemed necessary to the discourse formation; I then reconfigured the narrative by infusing my own constructs and pre-existing theoretical understanding (but without taking away the fundamental ideas of those authors). In any discourse, Heider and Marriotti (2010:1) deem “filling knowledge gaps” as an “important factor”.

To me, infusing my own views into the discourse represented one of the ideals that every doctoral student should abide by, if they are to succeed in their doctoral project. I thus noted that all the above-mentioned authors (some of whom are, to this day, revered and considered highly experienced scholars) conformed to the similar norm of incorporating other authors’ works in their own write-up, prior to endorsing or disqualifying the views of the cited scholars. Another form of encouragement to persist on this path came after having read Hyland’s (2002:109) article which summarily postulates that “academic writing” does not only concern delivering an “ideational content” but it is also about the projection “of self”. It was precisely at that moment that I became even surer that adding my own interpretations stimulates the academic discourse formation. Olivier (2017) throughout her study insists that doctoral students need to infuse their “authorial voice” (or thoughts) into other writers’ work. She believes that this is what showcases the doctoral student’s critical thinking and academic prowess, and thus asserts his/her worthiness to contribute meaningfully to academe. Bachelor and Di Napoli (2006:13-15) support the need for doctoral students to contribute additively towards the development of new knowledge by assimilating their ideologies into their academic undertakings. Herewith is a synopsis of the key philosophical considerations of the constructivist research paradigm.

#### *4.3.2.1 Epistemology*

Epistemology embraces philosophical reflections around how we can define “knowing” and what it means to say that we “know”. Briefly put, it is the study of the nature of knowledge. Gounden (2016:37) points out that epistemology pertains to accounts concerning “the nature of concepts, the constructing of concepts, the validity of the senses, logical reasoning, as well as thoughts, ideas, memories, emotions, and all things mental”. It characterises the interconnectedness between “the inquirer and the object of inquiry” – reflecting on how the investigators and communities of inquiry treat the state of knowledge or the transmission of accumulated knowledge within a sensible range of truth (Galliland, 2014:86).

#### *4.3.2.2 Ontology*

Wilson (2001:175) succinctly defines ontology as a stance regarding what is considered to constitute “reality”. It practically studies that which is regarded as existing in its fullness and virtually pertains to everything there is to life in the universe, such as the types of “structures, objects, properties, events, processes, and relations” spanning across all domains of reality one can think of (Smith, 2003:155). In philosophical circles, it is colloquially known as metaphysics as it involves questioning the nature of existence (Smith, 2003:55). The word ontology is derived from two Greek words “onto” which refers to being or existence, as well as “logo” which basically means science or study. In our day to day life, the application of ontology helps epistemologists to formulate and engage in discussions around how any developed theories and models, might be regarded as relating to “reality” (which may be differently seen in terms of different ontological positions).

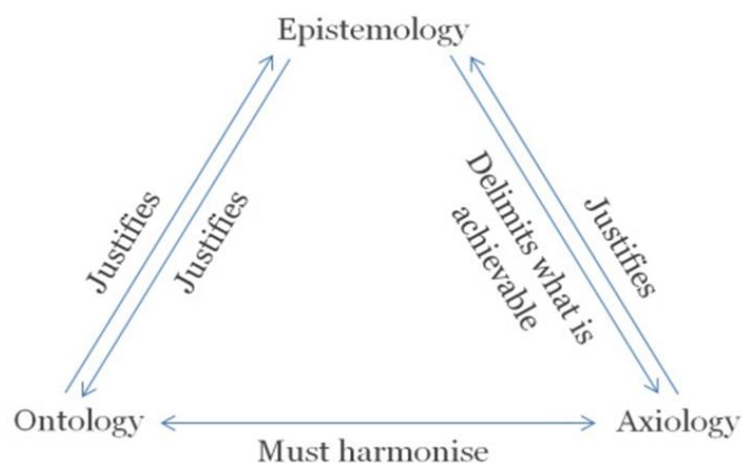
#### *4.3.2.3 Axiology*

Axiology is a set of codes of conduct that are morally and ethically justified. In research communities, it serves to protect the participants of the investigation against prejudices, or occurrence that can be deemed harmful, derogatory or unlawful. Furthermore, Wilson (2001); Mouton (2001); Adebisin, Kotze and Gelderblom (2011) and Vaishnavi and Kuechler (2013) extrapolate that axiology thrives on the principle of relativity through which the nature of research being conducted and the environment where it is being implemented are factors taken into cognisance before promulgating the decision to endorse it; hence outcomes of what is judged as ethical or unethical vary from one research project to another. Universities’ Research Ethics Committees are some of the statutory bodies upholding axiological imperatives of research. In as far as the axiology philosophical considerations are concerned, I have noted

with concern that many masters and doctoral research projects I perused paid little or no attention at all to this aspect. Thomas (2010); TerreBlanche and Durrheim (1999) are of the view that epistemology, ontology and methodology (in no particular order) are the supreme three constructs which seemingly can function independently from axiology. This has not gone unnoticed as illustrated by Deane (2018) and Romm (2018) who emphasise that axiology often receives less recognition compared other constructs. Romm (2018:16) posits that the role of axiology is significant in research as it helps “researchers to actively” advance the agenda of “social justice” research. Highlighting the seriousness with which academia has come to value ethical imperatives to protect often vulnerable indigenous societies, Romm cites Chillisa (2012:117) who explicates that in such indigenous societies there is a concept of “relational axiology” which essentially deals with upholding the ideal principles of beneficial research practices in indigenous communities. These ethics are premised on the spirit of Ubuntu which acknowledges one's presence in the midst of others, “community building”, social cohesion and looking out for one another (Chillisa, 2012:117-118).

In generic terms, Deane (2018:1) points out that “it is common for researchers to consider ontology and epistemology as the two major arms of philosophical inquiry into human understanding, but axiology – a third major arm – is often overlooked”. Nevertheless, many scholars have noted this trajectory and are determined to change it. Examples are: Heron (1996); Petterson and Williams (1998); Terre Blanche and Durrheim (1999); Merriam (2009); Mertens (2009, 2014, 2019); Thomas (2010); Chillisa (2012); Saunders, Lewis and Thornhill (2012); Li (2016); Deane (2018); Romm (2018).

Personally, I hold a view that as soon as researchers try to justify in writing or vocally how they have treated issues of credibility and trustworthiness in their research studies, they unnoticeably (or subconsciously) acknowledge the importance of tying research to ethical considerations. It is thus common knowledge that in whatever we do in life “our values” or “principles” govern “all human actions” of which research is no exception (Heron, 1996; Merriam, 2009). In a broader sense, Patterson and Williams (1998) regard axiology as the neutraliser of both epistemology and ontology. They basically imply that axiology ensures that everything that happens at any given stage of an inquiry adheres to a set of ethical requirements. In that sense it neutralises the exertion of power in the relationships, processes and the rules of engagements so that there is a reciprocal undertaking on the part of the investigator and the participants of the inquiry. An illustration of the kind of pact that must exist between ontology, epistemology and axiology, is illustrated below:



**Figure 4. 1: Paradigmatic commitments in the microstructure of science (from Patterson and Williams, 1998:286)**

As indicated in the diagram, the constructivist worldview acknowledges that axiology implies attempting via the research process to establish common ground and cultivate proper communication and mutual understanding among all actors involved (Patterson and Williams, 1998:288). In the same vein, Saunders et al. (2012) and Li (2016) emphasise that axiology is equally as important as considerations around epistemology and ontology, fundamentally because it speaks to the “researcher’s own values” throughout every stage until completion of the study. They argue that axiology seeks to clarify whether the researcher intends to describe, pre-empt the world occurrences or to gain background knowledge about them. Crotty (1998) holds a view that when applied as a unit, all three philosophies constitute a lens through which the researcher can zoom into the understanding of the “research questions, methods” and the astuteness of their “interpretations”.

#### *4.3.2.4 Methodology*

Methodology can be likened to the architecture of a scientific investigative inquiry into the veracity of the phenomenon or a construct within its natural orientation or contextual setting (depending on the selected type of research). The infusion of all four epistemological, ontological, axiological and methodological considerations is what constitutes a credible research paradigm (Wilson, 2001:75).

Table 4.2 is a tabulated summary of constructivist philosophical considerations, pertaining to epistemology, ontology, methodology and axiology, as the constructivist paradigm which informs this thesis. In Section 4.3.2 I discuss these matters comprehensively.

**Table 4.2: Social Constructivist’s Philosophical Considerations (Source: the author).**

<b>PHILOSOPHICAL CONSIDERATIONS</b>				
<b>RESEARCH PARADIGM</b>	<b>EPISTEMOLOGY</b>	<b>ONTOLOGY</b>	<b>METHODOLOGY</b>	<b>AXIOLOGY</b>
<b>Interpretive / social constructivist</b>	<ul style="list-style-type: none"> <li>- Emphatic</li> <li>- Observer subjectivity</li> </ul>	<ul style="list-style-type: none"> <li>- Multiple realities</li> <li>- Socially constructed</li> </ul>	<ul style="list-style-type: none"> <li>- Interactional</li> <li>- Interpretation</li> <li>- Qualitative</li> </ul>	<ul style="list-style-type: none"> <li>- Contextual understanding</li> </ul>

### 4.3.3 Social Constructivism

As was stated earlier (Section 1.5.1) this study is situated in a constructivist paradigm. A countless number of authors have shared their thoughts of what constitutes social constructivism. To this end, there are numerous definitions of this paradigm, however from the whole lot, I find apt a combination of Mertens (2007) and Creswell’s (2016) definition of social constructivism being a behavior or stance taken by the investigator to gather, rationalise and report on people’s realities, whilst remaining cognisant of the impact of the investigation on people’s ways of life. White (2004:31), adds that this is a philosophical concept founded on the premise that an understanding of this world, whether understood by professional researchers or lay members of society, is shaped by reflections of people upon life events. White’s statement conveys a subtle epistemological postulation that the truth is in some sense a subjective virtue (albeit that it depends on intersubjective communication) and is relative to people’s interpretation of the social context in which they experience a certain event. Doolittle (2001:509) points out that in constructivism the current discourse and social transaction of prior social experiences are crucial considerations when negotiating meaning. Interestingly, I also observed that both Merriam (2009) and Creswell (2010, 2013, 2014) prefer to use the term “world view” and effectively they have abandoned the tradition of using the term “paradigm”. This is in order to underscore that constructivism implies that people (including researchers) see the world according to a viewpoint, which they construct in the process of interacting with others.

With reference to the historical origins of constructivism, Kanuka and Anderson (1998:57) explicate that it dates from the time of Socrates; Clark (2010) adds that as a doctrine it gained ground during the 1930s and 1940s among public schools in America. Amineh and Asl

(2015:9) further state that constructivism as a school of thought, emulates Piaget's views on "constructivism" (1967) and Bruner's (1966) "*constructivists' discovery of learning*". Contrariwise, Creswell (2014:8) cites Berger and Luckmann's (1967) "*The Social Construction of Reality*" and Lincoln and Guba's (1985) "*Naturalistic Inquiry*" as part of the community of scholars who hold social constructivist views. Revered epistemologists, including Guba and Lincoln (1989), outline the tenets of constructivism as follows:

- Constructions as intentions of rationalising or interpreting experience, are ordinarily "self-sustaining and self-renewing" (p. 71).
- The content of a construction is relative to the influx of information at the disposal of the "constructor" and their savviness in handling the flow of information (p. 71).
- Constructions are widely dispersed, a chunk of them being "disciplined constructions" including "collective and systematic attempts" to gain mutual understanding concerning the status quo; science typically exemplifies this scenario (p. 71).
- Even though all constructions should be deemed meaningful, some may appear to be a "malconstruction" as a result of being "incomplete, simplistic, uninformed, internally inconsistent, or derived by an inadequate methodology". (p. 71).
- A judgmental pronouncement of whether a construction is distorted can only be made after "the paradigm out of which the constructor operates" has been rigorously scrutinised (Guba and Lincoln, 1989:143). "For instance, a religious construction can only be judged adequate or inadequate after utilising a particular theological paradigm from which it is derived" (Guba and Lincoln, 1989:143).
- One's constructions are questionable when one reaches a state of awareness that the newly acquired information contradicts constructions that were all along thought to be right, or when one detects deficiencies with regard to the rationality of the newly acquired information (Guba and Lincoln, 1989:143).

According to my considerations, the constructivist paradigm supports the conception that it is almost impossible for different actors living under different social contexts to derive exactly the same meaning when experiencing a similar life situation. The belief is that in every situation people rationalise their experience in their unique way (Caffarella and Mirriam, 1999: 260), assuming that only they can better construct a worthy understanding of the spaces they occupy (Gogus, 2012). Kim (2016:6) notes that "whilst constructivists' epistemologies generally insist that individuals construct their own realities, and no two persons' realities will be the same,



there remains contention around whether we should posit that multiple realities exist”. Lincoln and Guba (2013:76) “resolve” this issue by suggesting that ideally during the inquiry process, researchers can help contribute towards people *co-constructing realities in collaboration with one another* (and facilitated by the researchers). They (2013: 71) thus see the researcher as having a role to play in facilitating “joint construction (aiming at consensus where possible)”. To the extent that people still differ in their constructions/voices, a “multi-vocal text” developed by the researchers (2013: 78) provides less opportunity for “privileging one voice over another”.

An array of constructivist authors (such as Guba and Lincoln, 1989, 2013; Gergen and Gergen, 1991, 2011; Swartz, 1994; Kanuka and Anderson, 1998; Caffarella and Mirriam, 1999; Silverman, 2000; Doolittle, 2001; Kim, 2001; White, 2004; Will, 2007; Nid and Todd, 2011; Goldkuhl, 2012; Amineh and Asl, 2015; Rampana, 2015) have in their different ways spelled out the tenets of constructivism. My view in engagement with these, is that there is still further work to be done regarding understanding the commonality as well as the variations that arise between communities of actors drawn from different social contexts but experiencing a similar life event. For the purposes of my study I suggest that in as much as these social contexts may differ from each other, once they interface with a “similar situation”, we can at least anticipate traces of commonality (although with slight or severe **variations**) in as far as the actors’ interpretations of experiences are concerned. The **commonality** in this regard stems from the sameness of the situation (e.g., knowledge management application in schools); whereas **variations** emanate from the difference in social contexts (e.g., characteristics in quintile 2 schools versus those of quintile 3 schools in South Africa) coupled with individualistic interpretations of how they experience these worlds.

I deliberately underlined the word “interpretations” as a means of stressing that the exercise of interpreting the turn of events is essentially what the researcher does in a qualitative study, bringing us to an understanding why “constructivists” are often also referred to as “interpretivists”. I must also add that interpreting one’s experience is not only a sole activity exercised by the researcher in a qualitative inquiry but it is also that of the participants of the study (who are expected to interpret certain feelings, attitudes and thoughts so that they manifest in one’s body language and verbal utterances). Of the self-named interpretivist authors whose studies I have perused, I found it helpful to guide my study according to Swartz’ (1994:223) explanation of the ethos of interpretivism. He remarked that interpretivists “celebrate the permanence and priority of the real world of first-person, subjective experience”. Nevertheless, I argue that the first person’s experience is just but one dimension of the

paradigm embedded in a specific context, which does not take into account indigenous communities where *knowledge is a concerted effort of all actors who directly or indirectly interface with it*. This point is pointedly discussed by Chilisa (2012) and Romm (2018) in their respective publications. I lean towards their assertion primarily because my study considered that *inter-subjective knowing* enabled me as the researcher as well as the participants to unearth rich accounts depicting our understandings about the phenomenon under our scrutiny. Placing the indigenous lens alongside western orientations enabled me to explore how the phenomenon (of knowledge management) affected me as the researcher and the participants during our engagement as we endeavoured to uncover the reality as it happened in the studied context. My suggestion here that the participants and I found the process a learning encounter, is reflected in the fact that nearly all of the participants at the end of the interview stated that they felt that they had learned more about knowledge management by hearing my questions and having reflected on these questions in order to formulate responses. (At the end of each interview, as advised by my supervisor, I asked each participant how they had experienced the interview encounter.)

In qualitative research the word interpretivism and constructivism are generally used interchangeably. In the light of the close link between qualitative research and interpretivism (Silverman, 2000; Thomas, 2003; Will, 2007; Nid and Todd, 2011; Goldkuhl, 2012;), Kim (2001:6) reminds us to handle interpretations with precision because in constructivism when “two people are looking at same thing together”, it is highly unlikely that they will reach a point in their cognitive levels where they interpret their perceptions about a similar occurrence in the exact same way. In recognition of Kim’s statement, my investigation in this study straddled various occupational levels (i.e., teachers, administrative clerks, HoDs and principals) in the selected township schools, in order to solicit how each of the selected participants makes sense of their world in relation to their experience of the phenomenon (i.e., knowledge management application). My interpretations of the turn of events (as detailed in Chapter 5) was informed by the following underpinnings:

- Attending to the (gut) feelings one gets whilst observing particular aspects throughout the cycle of data generation ;
- Listening carefully to the information solicited through interviews; and
- Creating a journal of perceptions that one develops as and;
- Conducting the analysis of organisational documents continuously throughout the life cycle of the inquiry.

Rampana (2015:48) favours a constructivist paradigm for giving the researcher liberty to venture deep into the field and probe people's views of the researched phenomenon. Furthermore, Will (2007:90) points out that interpretivists are inclined to "qualitative" approaches "such as case studies and ethnography". Researchers know very well that qualitative "approaches" have the propensity to generate rich data that gives the researcher a firm grasp of the studied "contexts" (Willis, 2007:90). Willis (2007) and Rampana (2015) have elevated my understanding on pertinent issues with regard to data generation. Upon critically examining their studies, I chose a **qualitative multiple-case study** method underpinned by a **social constructivist's** paradigm. This approach can be justified as enhancing the prospects of generating thick layers of data.

#### **4.4 RESEARCH DESIGN**

McMillan and Schumacher (2010: 20) infer that a research design entails procedural clarifications relating to the format that processes of actualising the research will take. Metaphorically speaking, it is the equivalence of the architecture or the engineering of conducting research. Both Mohammad (2013) and Creswell (2014) see it as an arrangement of conditions for collecting and analysing data. Chauke (2017:13) claims that research design addresses pertinent questions of "when, from whom, and under what conditions the data will be obtained". Mohammad (2013:6) posits that there is a widespread misconception about the research design and research methodology. He mentions that although the two terms are used by many researchers interchangeably, they are actually two slightly distinct concepts. Research design pertains to the logic of the "structure of inquiry" whereas research method dissects the format to be taken in order to conduct the inquiry (Mohammad, 2013:6). Contextualising this matter is Yin (2009:27) who makes it categorically clear that research design is not a matter of logistics but more of a matter of dealing with the logic of the problem, that is, *attending in an appropriate way to what has been identified as the research problem*. When condensing the cited inputs, I consider research design to be a systematically created chart of how research processes are supposed to unfold. It essentially highlights the approach to be taken by the researcher throughout the process of the study. For this study I chose a qualitative case study approach as discussed below.

#### **4.4.1 Qualitative Research Approach**

Creswell (2014:3) asserts that the decision to adopt a research approach rests upon the nature of the “research problem” or the phenomenon in question along with investigators’ “personal experiences”, and the consideration of what value the participants can contribute to the study. I was drawn to a qualitative approach fuelled by the consideration that it espouses traits which make it easy for the researcher to interact with participants during data generation as stated by McMillan and Schumacher (2006:315). Through the interactive nature of this research approach, I arrived at the point where I felt that the relationship of trust between myself as a researcher and themselves as participants had been established. This enabled me to grasp what McMillan and Schumacher (2010: 321) mean when they remark “a qualitative inquiry entails a process of understanding where the researcher develops a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in natural settings”. Thus, its ability to engender participants’ reflections, reactions and responses (Simmons, 2012:63) is a trait I could not resist even if I tried. These reflections, reactions and responses to which Simmons (2012:63) alludes, comes as a result of the explorative nature of the research questions (Stake, 1995:17). Essentially, qualitative research questions tend to start with *how* or *what*, to broaden the researcher’s “understanding” of the current state of affairs relative to the “topic” (Patton, 2002; Seidman, 1991). In light of this I believed that adopting a qualitative approach would help generate reflections, reactions, and responses to the following questions:

##### **Main Question:**

- In what regard is KM being applied at selected township schools?

##### **Sub questions:**

- How do teachers, HODs, administrative clerks, principals at the selected township schools understand tacit and explicit knowledge?
- In which ways does HODs’ supervision enhance KM application at the selected township schools?
- How does the administrative clerks’ utilisation of their technical skills and personality traits affect KM application at selected township schools?

- How do teachers facilitate their tacit and explicit knowledge effectively within a classroom environment so that learners learn to create and exchange new knowledge among themselves?
- What leadership style best characterises the principal’s role in facilitating KM application at selected township schools?
- In which ways do teachers, HODs, administrative clerks and principals draw on African Indigenous Values Systems of Ubuntu Philosophy and/or Batho Pele Principles to effect KM application at selected township schools?

In comparative terms, quantitative approach tends to be impersonal and in favour of collating most data through statistical means, whereas a qualitative approach insists on fieldwork as a means to generate data. I personally happen to prefer the “*interpersonal attribute*” that comes with conducting fieldwork over the “*impersonal attribute*” of running statistical analysis to draw the meaning of the phenomenon. In line with Creswell (2013: 44) I came into contact with the selected participants in the comfort of their “natural setting” (schools) to actualise data generation wherein I scheduled and conducted a series of interviews with all of them. Providing meaningful interpretations of observable events, body gestures and spoken words are prerequisites for a qualitative data collector. Knowing more about process of collecting data has opened my eyes and mind to the logic behind Thanh and Thanh’s (2015:26) declaration that the interpretivist paradigm requires that the researcher must chose data gathering methods that will enable the researcher to extract volumes of data. Among many other social and traditional theories, interpretivism can expose “facts [as perceived] about education” (Amineh and Asl, 2015:15) because in it, actors’ “themselves” define their “own experiences” (Caffarella and Merriam, 1999:20). Bogdan and Biklen (1998:1-2) explicate the interpretivist features which qualify qualitative inquiry as an approach that can be applied in the education domain, which are tabulated as follows:

**Table 4.3: Five Features of Qualitative Research in Education (adapted from Bogdan and Biklen, 1998:1-2)**

<b>FEATURES</b>	<b>TOOLS</b>	<b>DESCRIPTION</b>
<b>a. Naturalistic</b>	Note pad, pen, pencil, video or audio or recorder.	- Seeks to know where, when, how what caused and exacerbated the problem.

		Understanding the present reality of our being.
<b>b. Descriptive data</b>	Transcripts, field notes, photography, video recordings, audio recordings, personal documents and memos	- Quotations of utterances and written explanations concerning the body language that was projected during data collection.
<b>c. Process oriented</b>	Schedules, and action plans.	- It regards educational activities as a process that has to be seen through, in order to get a clear picture of the milieu and issues of concern.
<b>d. Inductive</b>	Collected data i.e. transcripts and recorded material.	- The investigators' theories are strongly rooted on data analysis. - Feedback is generated from the ground or where it is being implemented (from "bottom-up" rather than "top-down").
<b>e. Meaning</b>	Collected data i.e. transcripts and recorded material.	- Insists on getting clarity on participants' statements made during data generation by checking with them, if at all, they meant what they said when they were being interviewed.

**Table 4.4.** Succinctly articulates Bogdan and Biklen's views. After much reflection on the subject matter I realised that research in itself is, whether qualitative or quantitative, a science or a philosophy of unearthing issues of concern to the people. I consider that in research of any kind, people are always used as part of a process of finally reporting on the narrative. For instance: *conducting a study that looks into the hardships of wildlife species in the jungle, despite the study being all about animals, would still solicit verbal expressions and observable body gestures from people who have intimate knowledge of the situation.* We therefore cannot

understate the fact that researchers and participants themselves are people without whom the study can never materialise. With this in mind I now express my reflections on the content covered in **Table 4.3** – five features of qualitative research in the education domain.

Whilst reading through the descriptions of the five features I recognised three as being closely aligned to constructivist accounts of how a feature is constructed, namely:

- with respect to *ontology*, using a primarily inductive process in an attempt to *understand people's conceptions of the(ir) reality* as they experience and reflect upon it, through engaging a lot of people for possible answers to the what, how, where, when questions,
- With respect to *epistemology* (i.e., *descriptive and process based*), engaging in the *process of trying to understand, or get a description of people's involvement in KM through eliciting the perceptions of those affected*),
- With respect to *axiology*, that is the morality and ethical conscience with which the researcher treats the participants by trying to create *reciprocity* and also by *checking with them the meanings of what they said* during the interviewing process.

Trying to distinguish the epistemological from the ontological dimensions in a qualitative inquiry is like trying to locate a lost object which fell into the murky waters; I say this because there is a fine line between these two constructs (in the coalface of data generation and analysis). To support this conception, I draw on the statement made – during the course of an online anecdotal forum discussion – by Pradhan (2015) who postulated that the ontology of reality does not bear to admit of any description, since it eventually transforms into its epistemology. I therefore consider that this inter-mingling (between epistemology and ontology) may be what makes the qualitative research a journey of discovery even of things that the researcher never expected to know about. Thereupon, it dawned on me why – often times – I read that a qualitative approach (though proper application) can generate what scholars (i.e., Denzin, 1989; Merriam, 2002; Patton, 2002; Bryman, 2004; Turner, 2010; Dibley, 2011; Anney, 2014; Parag, 2014; Fusch and Ness, 2015; Gjerde, 2016; Olivier, 2018) call “thick layers of data”, and some of whom (specifically, Fraenkel and Wallen, 1990 Bonner and Tolhurst, 2002; Esterberg, 2002; Willis, 2007; Merriam, 2009; Turner, 2010; Dibley, 2011; Simmons, 2012; Parag, 2014; Fusch and Ness, 2015; Gjerde, 2016; Barret and Twycross, 2018; Olivier, 2018) also call “rich data” to a point of “saturation” (Lincoln and Guba, 1985; Guest, Bunce and Johnson, 2006; Bowen, 2008; Merriam 2009; Kerr, Nixon and Wild, 2010; Bernard,

2012; O'Reilly, 2012; Walker, 2012; Anney, 2014; Morse, Lowery, and Steury, 2014; Fusch and Ness, 2015; Sechelski and Onwuebuze, 2019).

#### **4.4.2 The Research Design as a Case Study**

Researching KM application in three township schools makes a perfect fit for a case study investigation. A multiple case study is defined by Gustafsson (2017:2) as an approach to explore a similar phenomenon in more than one context so as to generate in depth understanding of how it affects the studied contexts. Having chosen this format meant that I had to visit each research site (context) to generate a report whose findings were to be analysed on a case to case basis. Also, the same phenomenon (i.e., KM application) was to be studied, but with due considerations of socio-cultural dynamics that each site (context) brought to the fore; the findings that bore resemblance across these sites (contexts) were to be thoroughly scrutinised to establish slight uniqueness and motives in the order of things. This speaks to a call by Yin (2003, 2009); Creswell (2013); Heale and Twycross (2017) for proper inspection of the merits of the sameness of findings in each context because a supposedly “similar occurrence” when studied across different contexts, due to a host of circumstances surrounding each context, that occurrence may not necessarily replicate itself in an absolute same way. Accordingly, Carcary (2009:16) explains that the case study is suitable “in situations where a single explanation” fails to project a holistic “account of the research topic”. To that end, its ability to render “up to date information” (Lewis, 2003; Gengatharen and Standing, 2004), varied perspectives as well as context-based subjectivity make a (multiple) case study method’s intensely descriptive narratives fit for generating rich content.

In outlining the essence of case studies, Rose, Spinks and Conhoto, (2015:1) indicate that the word “case” denotes “an instance of and the central feature of case study research design is the investigation of the one or more specific ‘instances of’ something that comprise the cases in the study”. Thus, Hoberg (2002:37) infers that case studies are helpful in investigating modern-day “real-life” occurrences that are witnessed by the participants. A similar point is also raised by Yin (2009:18). Hereunder lies a broader perspective on the nature of case studies (Gomm, Hammersley and Foster, 2000:4):

- An elaborate study providing, in detail, accounts on small number of cases;
- Data generation and analysis takes into consideration a wide range of factors of each case;
- Cases are studied in their natural setting; understanding a variety of cases relative to how they are influenced by contexts;



- Cases unfold organically without provision being made for manipulation, as is the case with an experiment;
- Encourages the employment of multiple methods of data generation (including interviews, observation, archival documents and even physical artefacts) as a means to triangulate the findings.

Additionally, Nieuwenhuis (2007:75) posits that case studies (whether multiple or a single case) do not draw conclusions based on one person's account, but cater for more than one response on the same topic or issue to get a more comprehensive viewpoint. In the same respect, I did not base my study on a single layer of staff members (e.g., principal) but opted to explore viewpoints of various layers of staff (i.e., teachers, administrative clerks, HoDs and principals) to get a multi-dimensional perspective on KM application at selected township schools. Yin (2009:18) posits that case studies adapt easily to solve problems of complex natures. The adaptability of case studies to different types of contexts and diverse research questions (Rose et al., 2015:9) makes it an appropriate design for a dynamic context such as township schools.

## **4.5 DATA GENERATION**

Data generation is essential in research due to its invaluable contribution in creating a better understanding of a theoretical framework (Bernard, 2002). In order to achieve asymmetrical, balanced data, I used multiple sources. As indicated in Section 4.1, this procedure is often referred to as triangulation. Patton (2002) points out that triangulation empowers the researcher to gather thick and relevant data whilst allowing for cross-checking the findings. In Section 4.1 I provided my rationale for using this term alongside the term “crystallisation” as preferred by certain other authors. The mission of data generation from various sources was fulfilled using *semi structured-interviews* and *document analysis*. From the ethical point of view, my stance was that as an educational researcher I was exploring with participants their involvement in, and understandings around, KM, by paying attention to their expressions while recognising that I too was prompting them to reflect further. Below I guide the reader through the breakdown of how I actualised the data generation processes:

### **4.5.1 How I positioned myself to conduct Interviews**

Coughlan (2009:311) states that in social research the relationship between the inquirer (researcher) and the participants (people) of the inquiry is of fundamental value in ensuring

that the process succeeds. A successful interviewing process is a daunting task which demands “high level” skillful “questioning and an active interpretation” (Griffe, 2005:36). Having realised that this would not be as easy, I carefully planned the order of events prior to rolling out interviews. As a guide I referred to McNamara’s (2009) eight interview preparation principles, as stated below.

- Select a conducive venue;
- Clarify the intended outcome of the interview;
- Touch on issues of confidentiality;
- Clarify the pattern of the interview;
- Stipulate the approximated duration of the interview;
- Provide details of how the participants may access you later when the need arises;
- Ascertain if at all they have questions prior to commencing the interview, and;
- Avoid relying on your memory to recall all their responses.

My planning was also underpinned by the conception that the most viable way of accumulating data from interviews (Coughlan, 2009:311) is through the adoption of a semi-structured interviewing strategy due to its ability achieve credibility, transferability and dependability (Koch, 2006; Todd, 2006). The one-on-one interviewing set up served as the primary data generation strategy (Parag, 2014:90) which was supplemented by document analysis. Conducting interviews was premised on three principles. The first was trying to figure out the participants’ perceptions about KM application in township schools – a natural setting where they work. Therefore, “studying people’s understanding of the meaning in their lived world” (Kvale, 1996:105) makes conducting interviews a worthy cause in a qualitative inquiry. Secondly, following Koch (2006) and Todd (2006), I considered that through qualitative interviews skilfully handled I could achieve some research rigour. Lastly, I opted for interviews because they have proven to be a viable part of triangulation exercise – to compare interview results with other forms of data generation (Merriam, 2002; Yin, 2009). In the next paragraph I discuss how I operationalised the interviewing process; but before doing so I would like to mention that the quality of data generation instrument (i.e., interview guides) was audited by the Research Unit of Mpumalanga Department of Education and also the university’s College

of Education (CEDU) faculty Research Ethics Committee (REC), both of which declared the instrument appropriate for the study. Again, its quality was further strengthened during the times I interviewed the first two participants, namely HOD 1A and Principal 1A in the first school. During the respective sessions I had with these participants, they each hinted about not being entirely comfortable with certain questions as they felt these were too prescriptive and limiting in how they were to respond to them. Ultimately their inputs contributed to the improvement of the suitability of two sub-questions and by implication, two sub-objectives also. (See: Section 5.4 and Table 5.1 for indepth details on this.)

In operational terms, interviews were held at the selected schools, in accordance with the mutually agreed upon “interview time schedules” (Chauke, 2018:16). Before commencement, I always ensured that my voice recorder, pen and note pad were in my possession because I also took field notes during the interviews (Gjerde, 2016:69). The first few questions had a lighter intensity such as “What does KM stand for?” and so forth, before gradually proceeding to ask probing questions to propel participants to divulge information that I deemed to be of crucial value to the study. Drew (2014:78) cautions interviewers to refrain from dominating the process and channelling the participants to give answers that do not reflect their understandings. Perhaps I must clarify that in this context, the word “propel” (which I use a lot) does not connote swaying the narrative of the participants, but more an issue of asking probing questions to derive a deeper meaning. My supposition is that the shrewdness with which the interview guide was composed and my further probing, propelled the participants to unleash rich data as they reflected further on the issues being raised. In the same sense, Turner (2010:757) points out that formulating good “research questions” is a prerequisite for conducting successful interviews.

Using a semi-structured form of questioning enabled me to ask a range of questions and also provided enough flexibility to look into “spontaneous” issues raised by the participants (Coughlan, 2009:310). Although I prepared “interview questions in advance”, I still found myself doing a lot of improvisation – I did not consistently stick to the same questions chronology for all participants (Rivombo, 2018:76). Instead, the open-ended nature of questions determined the questioning chronology for each participant and thus inspired follow-up questions. However, to avoid incoherent influx of information during interviews, I made use of the interview guide as a guide (Kallio et al., 2016:811).

In instances where contentious issues were discussed, I would pause in silence (Kvale, 1996:13) for a short while as an indication to the participants that I was moving with the narrative. At the apex of the interview, I often “echoed” the exact same words participants

uttered, as a psychological tool to propel them to keep divulging more information (Kvale, 1996:13). I noted that this technique worked wonders in accumulating rich data as it made participants feel listened to. Accordingly, Coughlan (2009:311) alongside Roulston et al. (2003:645) state that listening is key in an interview. The researcher must permit participants to relay their stories, at their own speaking pace, without unnecessary interjections. I heeded this call by applying attentive listening and less commenting, which I did as a way of assuring participants that my intention was not to impede their freedom of expression and speech by superimposing my own voice to steer the pattern of interview to squarely focus on the details I hoped to hear about. As suggested by Turner (2010:759), to resuscitate the robustness of the narrative, I occasionally nodded my head and became mindful of the expression I projected during interviews (to avoid acting surprised or pleased as though I approved their misgivings). To accumulate lucid views, I avoided asking too many questions simultaneously, and in instances where I felt that the topic was exhausted and we needed to proceed to another issue, I followed Turner's (2010:759) strategy of expressing my intention to explore the next topic or question. In so doing, I believe I effectively promoted smooth running of the investigation (Roulston et al., 2003:644), whilst at the same time, trimming the structure of the interview to focus on one aspect until a point of exhaustion prior to proceeding to the next one. Throughout each interviewing phase I made it clear that I was not oblivious to the contributions made by the participants in the study and that I was grateful for their contribution.

#### **4.5.2 How I positioned myself to analyse documents**

According to Lewis and Ritchie (2003:35), documentary analysis pertains to the perusal of the readily available documents, intending "to either gain deeper content understanding or to irradiate better "meanings which may be revealed by their style and coverage." These documents can offer a combination of formal, official and impersonal writing (Chauke, 2018:64-65). They play a pivotal role in research in that they are instrumental in measuring the veracity of issues under investigation. They have for the longest time constituted a crucial aspect of research work (Bowen, 2009:27). Written sources may constitute a blend of "published and unpublished documents, company reports, memoranda, agendas, administrative documents, letters, reports, e-mail messages, faxes, newspaper articles, journals, memoirs, or any document" which can be looked at in reference to the investigation (Jansen, 2016:88). In addition, Bowen (2009:30) points out that they contain a detailed orientation of the problem by means of providing its historical perspective. To get in-depth historical perspective of the phenomenon, I collected visual data through "skimming, reading and interpreting" (Bowen, 2009:32) official or organisational documents including programme

guidelines, memos, departmental circulars, newspaper articles, training interventions and infrastructural readiness documents which I will discuss in detail in the next paragraph.

In essence, documents analysis enabled me to explore theories and concepts similar to the issues in question, and thus anchored the examination of possible analytic generalisations that might apply to the issues under consideration. Through document analysis I was able to get a broader glimpse into processes, glitches and readiness of township schools pertaining to KM application. I specifically was able to understand exactly what sort of infrastructure, resources, tools and techniques or the lack thereof, are used to share, retrieve, store and create knowledge on a daily basis.

A variety of documents were perused including what I call the “*Knowledge Workers Portfolio*”: files containing all information pertaining to the actors’ areas of operation in their respective schools. Teachers submitted their files for me to skim through their assessment programmes, lesson plans, time tables and circulars. HODs presented a similar file containing tools, circulars, mark schedules, transgression documents and previously moderated assessments. Administrative clerks presented their files which contained previously received and sent e-mails, nutritional programme documents, leave and housing forms. Principals presented a number of files including the year planning, previously circulated communique, circulars, item analysis, and scheduled meetings and policies. My intention was to inspect their files or to read private information but I wanted to ensure that I reported on the evidence presented.

On the legislative and policy fronts, I referred to the *National Education Information Policy (NEIP)*, the *South African School Administration Management System (SA-SAMS)* manual, the *Curriculum Assessment Policy Statement*, *The Batho Pele White Paper*, the *Skills Development Act of 97 of 1998 (SDA)* as well as the *Personnel Administrative Measures (PAM)* document.

I scrutinised all these documents analytically alongside the interview data, so as to amass sufficient empirically evidence which enabled me to participate in the discourse by a community of scholars regarding KM. For example, I was able to relate to, and add to, the discourse of authors who argue that organisations should consider having friendlier employment conditions that enable constant development of people/workers through adoption of proper legislation (Rainbird, 2000; Grawitzky, 2007; Kraak, 2007; Mizzel, 2010; Hosseini et al., 2014; Mopeli, 2014; Shen, 2014; Mphaphuli, 2015; Kolibáčová, 2016; Aigbavboa et al., 2016; Saastamoinen, 2018).

I followed the notion that people are core propellers of KM, as has been convincingly stated by: Gunnigle et al. (1997); Wasko and Faraj (2000); Rene (2003); Bhojaraju (2005); Barnabaum and Moses (2011); Chu et al. (2011); Lešnik (2006); Gorenak and Košir (2012); Liebowitz (2012); Frey and Osbourne (2013); Wei (2014); and Steward et al. (2015). I expressly examined the Batho Pele Principles White Paper, to familiarise myself with their contents so as to be able to formulate supportive or contradictory constructions in relation to the studies of: Arko-Cobbah (2002); Moran (2002); Khoza (2009); Grobler et al. (2012); Ngidi (2012) and Pietersen (2014). With respect to these works, I looked at the prism of putting people's needs above everything else in the workplace. Overall, my document analysis unearthed issues that would not have come out in the interviews. In line with Bowen's (2009:30) inference, I later triangulated the data from documents with that of the interviews.

#### **4.5.3 How I positioned myself to address potential data-generation biases**

In view of there being ongoing debates around positionality and bias in research, I reckon that it would be a good starting point to look into how both concepts intermingle. Savin-Baden and Major (2013:71) see positionality as a standing point taken by the researcher to facilitate the proceedings of the study. It espouses the individual's "values and beliefs" which are dependant on their religious practices, political inclination, sexual orientation, gender, historical and geographical location, ethnicity, race and socio-economic class (Sikes, 2004; Welington, 2005; Marsch, 2018). According to Malterud (2001) and Grix (2019), positionality shows itself in how the researcher behaves towards or treats: 1) the phenomem under investigation, 2) the research participants, 3) the issue of context and rules of engagement. Suffice to mention that researcher positionality has a bearing on the merits of the research – owing to its influence on both how research is facilitated, its findings and conclusions (Rowe, 2014). Simundic (2013:12) defines bias as any factor or trend that has the potential to overcloud or prejudice the credibility of a research study. Mantzourkas (2005:284) states that in a qualitative inquiry the notion of "value laden or bias" is unavoidable. Hence I acted contrary to what McGregor and Murnane (2010) regard as the positivist's method of achieving an objective (or a value-free) interpretation of results by way of removing oneself from subjective constructions of experiences. In embodying Hughes and Tight's (2013:765) suggestion, I reflected on how my actions or positionality – as influenced by my personal values and prejudices – may have aroused bias in the study. This was so that I could devise means to moderate (as opposed to eliminate) the influence of bias on the findings (Mantzourkas, 2005:284). The following discourse entails a step by step approach taken to reduce potential bias during data generation, with specific reference to how I wore two hats as an insider and outsider researcher.

Various scholars (Addler and Adler, 1994; Breen, 2007; Unluer, 2012; Darling, 2016) maintain that in a qualitative research approach, data generation processes see the researcher straddling two important roles: that of *an insider* and *an outsider* researcher. The former refers to when the researcher investigates a community whose ways of operating they are familiar with; whereas, the latter connotes investigating the environment to which they do not formally belong (Breen, 2007; Bonner and Tolhurst, 2002). As a gainfully employed educator I was in one instance considered an insider-researcher belonging to a group or community of the schooling system professionals (i.e., teachers, HoDs, administrative clerks and principals); however, in most instances I assumed the role of an outsider-researcher (as most of the schools I studied were not my place of work and hence I was not very familiar with the happenings of those schools, and did not know participants well). I therefore had to observe the protocols associated with each of these roles (i.e., insider and outsider researcher) when immersed in data generation at selected schools. Moreover, I was alert to the fact that because I could be seen as an “insider” by participants in the school where I currently work; therefore, I exercised caution in how I interacted with participants, by way of not appearing as though I was mounting pressure on them to respond in a manner that suits my preference. In both instances (whether as an insider or outsider) I was attentive to issues—albeit perhaps more so at the school where I worked—of not intimidating the participants in how I handled my interactions with them.

The debate about the positioning of insider and outsider’s roles is hotly contested (specifically by: Addler and Adler, 1994; Emerson and Pollner, 2001; Bonner and Tolhurst, 2002; Breen, 2007; Unluer, 2012; Raheim et al., 2016). Raheim et al. (2016:2) argue that there is confusion around what it means to be an insider and outsider and when exactly to play what role. This trajectory renders itself a grey issue – leaving others wondering when is the ideal time to draw the line between switching from one role to the other. I understand the logic behind this confusion: I as a teacher stand to be classified as an insider even in schools where I do not work (as they presume that I am familiar with the kind of issues affecting schools) and equally so, even in the school where I work, others (due to their own prejudices) may choose to treat me as an outsider researcher. I surmise that both roles have some advantages and disadvantages. I also understand that the outcomes of data gathering are tied to how the researcher is able to draw the attention of participants to pertinent issues, and his/her ability or inability to circumvent situations that curtail reciprocity between him/herself and the selected participants. This is in regard of both the insider and outsider researcher roles. Raheim et al. (2016:4) have observed that there is no clearly expressed and negotiated nexus between the “positioning” of transitions from one form to the other. Likewise, Darling (2016) refers to this as “dancing a tightrope”.

Often insider-researchers find it hard to adhere to the professional research role, which involves having to replace their day-to-day self (engaged with others in the course of daily life) with their occupational self as “researcher”. Nonetheless, being an insider-researcher meant that I had the advantage of knowing how to liaise with people who could add value to the study (Unluer, 2012:1). Most importantly, I possessed prior “knowledge” about the environment which would take “an outsider” researcher a lengthy spell to acquire (Smyth and Holian, 2008:34). Being an insider-researcher also meant that I did not cause disturbance to the flow of interpersonal relationships between myself and the participants since I was already abreast with their organisational “politics” and managerial dynamics (Unluer, 2012:2). All these dispositions which I was privy to as an insider-researcher put me in good stead to obtain the closest possible to reality type of data.

Equally so, being an outsider-researcher contributed immensely to the development of my research results. The fact that I was not permanently stationed as a teacher in two of the three selected schools meant that I was considered an outsider-researcher. I believe that I appeared to them as an “independent and a non-judgemental” person (Bonner and Tolhurst, 2002:8), one who safeguarded confidentiality. As a result, “participants could readily divulge intricate concerns” (Bonner and Tolhurst, 2002:8) which aided me tremendously in the study as it brought to my attention other perspectives about the phenomenon which did not crop up during my interactions with the school where I was considered an insider-researcher. Submerging myself into that experience helped me to grasp the benefits of being an outsider-researcher can outweigh those of the insider-researcher in certain instances. For instance, Unluer (2012:6) observes that the proximity of the insider-researcher to the participants and the [organisational or community] issues can cause participants to refrain from sharing certain useful information during interviews. Be that as it may, this ‘insider’ and ‘outsider’ researcher duality contributed a wealth of data concerning the KM application in township schools, which would otherwise not have come to pass had there been a single approach to probe matters.

Although I did all I could to collect data “objectively” without my own visions of KM impinging on the data generation process, Wolcott (1995: 186) asserts that “every researcher has a healthy bias”. Nevertheless, I exercised caution in how I actualised the interviewing process, after being made aware that:

Interviews have the potential for bias to occur in relation to how the interview is conducted, how the interviewees are selected and if and how the interviewer has influenced the interview process (Coughlan, 2009:311).



In a similar fashion, Simundic (2013); Barrett and Twycross (2018) argue that “bias” is a prevalent occurrence in research, which, according to my view, needs to be contained to a point that it does not tarnish the study. Readers need to be able to “follow” how one is legitimately interpreting and analysing data in relation to expressions of participants and relevant documentation or the authenticity of the overall data collected will be tainted. As a way of mitigating against bias in my study, I avoided conducting all my fieldwork in one circuit. If I had selected Emalahleni circuit one only, I would have found it easier to recruit participants and schools to partake in my study since I was well known in that circuit. Therefore, as a means of avoiding a situation whereby my data was gathered in schools where I was well known, I opted to study all three circuits. In circuit 2 and 3, I was an outsider researcher. I did this because when I interrogated my ethical self, it appeared to me that focusing on one circuit (especially the one where I could have easily been in a position to influence processes) would have compromised the rigour of my study. By so doing, I aligned my study more “objectively”, having to study two which were relatively unknown to me (relative to ties with staff and familiarity with their organisational issues) against one school whose issues I was familiar with and where I was known to staff members. Another objective factor about my study is that it encompasses all levels of the schooling system, namely: primary, combined, and secondary schools. This gave me a holistic glimpse into the status quo in relation to KM application across all strands of township schools. I also surmounted the problem of bias through employing triangulation. (I employed triangulation by triangulating data from different sets of participants in the schools at the point of analysis and also by linking the data with relevant document analysis.) Through this combination of measures taken to minimise bias, I felt I was on the right path to reporting equitably the results of my study. In the ensuing paragraphs I go into more detail concerning the danger of undue bias in research, as seen from various researchers’ perspectives.

Some studies indicate that the researcher’s pre-existing knowledge can sometimes give rise to biases in research (Hammersley, Gomm and Woods, 1994; DeLyser, 2001; Hewitt-Taylor, 2002; Gjerde, 2016; Barret and Twycross, 2018). They suggest that bias should be minimised as far as possible (cf. Hammersley and Gomm, 1997). Taking a different stance on the issue of bias, other authors simply state that bias does indeed pervade the scientific research domain, especially when coming to the reporting of the analysis of the collated data (Dickersin, 1990; Kvale, 1996; Egger, Smith, Schneider and Minder, 1997; Tang and Liu, 2000; Macaskill, Walter and Irwig, 2001; Sterne, Egger and Smith, 2001; Shwartzner, Antes and Schumacher, 2002; Roulston, deMarrais and Lewis, 2003; Schluter, 2003; Terrin, Schmid, Lau and Olkin, 2003; Knapik, 2006; Chenail, 2009; Coughlan, 2009; Turner, 2010; Sibeko and Stein, 2019).

In certain academic circles, human fallibility is purported to be the cause of biases to infiltrate the research process. It is argued that although the researcher is a “finely tuned instrument with considerable skills, but [is] a person, no less, with values, beliefs and a self” (Hammersley et al., 1994: 59). Similarly, Knapik (2006:78) alludes to over-dependency on the investigator’s “personal reflections” and too much fixation on the technicalities that investigators ought to apply prior to managing “research interviews”. Another cause for bias as pointed out by Barrett and Twycross (2018:63) pertains to the tendency of the interviewer to ask leading questions and make non-verbal signs to sway the responses of the participants.

Against this backdrop I treaded carefully when collecting and analysing data. Notable measures I took to restrain bias in my study included:

- Basing a large proportion of my fieldwork in sites/schools where I was relatively unknown;
- Acquiring more data on the same issue from different contexts (Unluer, 2012; Knapik, 2006);
- Avoiding leading questions and projecting non-verbal signs to sway the responses of the participants (Barret and Twycross, 2018:63);
- Equally prioritising what I considered to be both the negative and positive aspects of every narrative when taking field notes. I hold the view (following Lincoln and Guba, 2013: 78) that field notes should be bloated with multifaceted perspectives, to enable the researcher to later conduct a synthesis drawing on both continuums of the research outcomes, and;
- Working closely with my supervisor to consider ways of rendering my data-interpreting practices trustworthy (Unluer, 2012:10).

#### **4.6 SAMPLING PROCEDURE**

According to Creswell (2008) and Tavakoli (2012), a sample is a smaller number of people or things that is extracted from a bigger population of people or things. As indicated in my Introduction, Section 1.5.4, the population in this study can be considered as the sets of teachers, HoDs and administrative clerks and principals in township schools in Emalahleni. My sample was drawn accordingly from this population. Sampling in a qualitative study is generally smaller than that of a quantitative study; as a result, almost all the sampling in

qualitative study is purposive (White, 2004:53). This is also in recognition that it is difficult to obtain participants of a qualitative inquiry who are willing to endure time-consuming engagements and the tediousness caused by the in-depth-inquiry of a qualitative study (White, 2004:53). *Purposive sampling* was used due to its propensity to allow me to select only participants I regarded as mattering the most in relation to the specific issues being investigated. Since in qualitative study there is no need for randomised selection, Kumar (1999); O' Sullivan, Rassel and Berner (2008) and Leedy and Omrod (2010) maintain that decisions on who is to be assimilated into the study is the prerogative of the researcher.

Schools were selected in accordance with circuit demarcations. Emalahleni (also known as Witbank) is demarcated into three circuits. Therefore, one school from each of the three circuits was selected to represent the wider population of other schools. In the first two schools (namely, school A and B) two teachers, two HODs, two administrative clerks and the principal formed part of the study respectively. This meant that seven participants in each of these two schools were drawn as a sample. The exception happened in the third school (namely, school C) wherein a total of six participants comprising of two teachers, two HODs, one administrative clerk and the principal formed part of the study. In totality 20 participants formed part of the study.

The criteria for selecting participants was based on several factors. For instance: 1) *teachers* were included due to their insights into classroom based KM practices and inclination to modern technology as well as their knowledge of the curriculum; 2) *HoDs* were selected due to their instructional knowledge as well as their supervisory or middle management skills and experience; 3) *administrative clerks* were incorporated into this study prompted by the notion that their technical and their secretarial skills are critical to the implementation of KM; 4) furthermore, *principals'* leadership practices constituted another important aspect of the study. Anney (2014: 278) states that a purposive sampling method puts the investigator at liberty to pay attention to key actors, who possess vast experience of the issue under investigation. I chose the participants hoping that they had accumulated enough workplace experience and life exposure to know enough about KM application in their respective township schools.

#### **4.7 DATA ANALYSIS**

Mouton (2003:108) defines data analysis as an undertaking to dissect the composition of data according to workable “themes, patterns, trends and relationships”. Data analysis is relied upon because it helps generate analytical arguments (Silverman, 2016:5). Thorne (2000:2) makes

the additional point that data generation and analysis tend to occur simultaneously; meanwhile, Mohlokoane (2004:96) argues that “data analysis and interpretation” are often regarded “as one process”. Regarding the process of data analysis, Thorne (2000) and Sechelski and Onwuegbuzie (2019) label data analysis the most difficult part of a qualitative inquiry, which, according to Denzin and Lincoln (2000:637), is epitomised by “highly technical languages and systems of discourse”.

With due consideration to the above-mentioned authors’ (i.e., Denzin and Lincoln, 2000; Thorne, 2000; Sechelski and Onwuegbuzie, 2019), I developed an appropriate data analysis strategy. However, in the end I adopted and infused Creswell’s (2009) *six phases of data analysis* with Esterberg’s (2002) *data analysis inputs* as an overall strategy underpinning the make-up of my data analysis exercise. However, their ideas (Creswell and Esterberg) were not used in isolation, but were infused with mine as well as those of many other scholars in a quest to create a multidimensional lens with which to magnify the context of the discourse. This is a virtue supported by Walsham (2006:325) who posited that “the researcher’s best tool for analysis is his or her own mind, supplemented by the minds of others when work and ideas are exposed to them”. Below I present the table depicting what I borrowed from Creswell and Esterberg’s work on qualitative research.

**Table 4.4: Six Phases of Data Analysis (Creswell, 2009:185 and Esterberg, 2002:157)**

<b>6 PHASES OF DATA ANALYSIS</b>		
<b>Phase</b>	<b>Action</b>	<b>Enabler</b>
1.	Arranging and preparing data for analysis (Creswell, 2009:185).	- Content analysis (aided by the availability of field notes, audio recorded texts)
2.	“Familiarising yourself with data” (Esterberg, 2002:157) by devoting enough time to read through it (Creswell, 2009: 185).	- Content analysis (aided by the availability of field notes, audio recorded texts) - Referral to relevant documentary sections
3.	Venturing into an in-depth analysis and codification process (Creswell, 2009:186; Esterberg 2002:157).	- Reflexive journal

4.	Using the coding process to derive context of the study as well as categories for these analysis (Creswell, 2009:189).	<ul style="list-style-type: none"> <li>- Content analysis (aided by the availability of field notes, audio recorded texts).</li> </ul>
5.	Improving the credibility of the features of data that will factor into the qualitative narrative (Creswell, 2009:189).	<ul style="list-style-type: none"> <li>- Member checking</li> <li>- Audit trail</li> <li>- Revisiting recorded texts.</li> <li>- Revisiting documents to rectify unclear inferences or to fill the gaps left out in the initial descriptions.</li> </ul>
6.	Interpreting the meaning of data	<ul style="list-style-type: none"> <li>- Researcher's own mind, supplemented by the minds of others (Walsham, 2006:325).</li> <li>- Researcher's understanding of the research paradigm, pre-existing knowledge, feelings, life experiences, and theoretical frameworks.</li> </ul>

To find my way around the execution of data analysis, I employed content analysis (Mohlokoane, 2004:97) as the main strategy, through which I was able to *identify, code and categorise data according to themes*. This study relied on *interviews* and *documents* as primary sources whose data were analysed over two stages. The preliminary process unfolded while the research was still pending; and it entailed identifying primary data by means of a synthesis of pre-existing as well as the incoming data.

To optimise data analysis, I drew on a combination of evidence I gathered since the inception of the study up to the present, most notably: reviewed empirical studies, perused documents and the interviews, all of which formed the basis upon which I was able interpret the make-up of data and to identify clusters. To realise this, I had to act in accordance with Esterberg (2002:158) who stipulates that one has to systematically cross-examine their data with a view to “identifying themes and categories that seem of interest”. In a similar fashion, Neuman (2006:460) avers that the process of coding ascertains what data is most valuable versus that which does not really matter. At this juncture I heavily relied on an *audit trail* to sustain the

credibility of data (Gjerde, 2016:74) and to “analyse an account of all decisions and activities” (Carcary, 2009:15). The awareness of data analysis being both a formal and informal undertaking which should be effected on an on-going basis (Lincoln and Guba, 1985:14), precipitated the need for constant review of the influx of incoming data to bolster primary themes of data. I also relied on *member checking*, which is a research technique synonymous with enhancing the integrity and credibility of the data collected. Member checking acted as a platform to *check with the participants*, if their views were indeed projected as they aired them when they were being interviewed (Mohlokoane, 2004:97). I did member checking only after concluding the demanding exercise of *transcribing* (Thorne, 2000:1) *the audio-recorded data* as well as arranging *that data according to specified or decided upon themes*. I then gave all participants their interview transcripts with the themes I had highlighted as relevant. Only four participants were interested in reading them attentively. Two of the four members appeared most concerned about the grammatical elements, and hence after browsing through the transcript they corrected grammatical errors (but without altering their narratives per say). Thereafter, they declared the transcripts satisfactory. The other two were primarily focused on altering their narratives to address the questions that they could not answer during the interviews. In brief, among the two who altered some parts of their narratives, one participant (an HoD) upon on reading the transcript, added points on the difference between tacit and explicit knowing; and another participant (a teacher) added a clarification on knowledge management in general. In summary, all twenty participants were given an opportunity to review the content of their transcripts and after having gone through the content, they endorsed them as a true reflection of their utterances.

I subsequently began amending their utterances according to their request. It was only after concluding the process of allowing members to check the transcribed content that I rendered the data a legitimised body of evidence depicting the participants’ worldview. I then began to analytically mould the data in a way that I felt did justice to my involvement with the range of participants across the study. This is coherent with Throne’s (2000:2) suggestion that researchers must deliver a narrative that offers an expression of participants’ views, also in relation to believable factual occurrences to which they refer. This can also be supplemented by other material (in this case, I used the document analysis).

## 4.8 TRUSTWORTHINESS

To be accepted as trustworthy, qualitative researchers must demonstrate that data analysis has been conducted in a precise, consistent, and exhaustive manner through recording, systematising, and disclosing the methods of analysis with enough detail to enable the reader to determine whether the process is credible (Nowell et al., 2017:1).

The overwhelming appeal of qualitative research is the factor that agitates for “greater disclosure and more sophisticated tools” to engender the implementation of “trustworthy” research outcomes (Nowell et al., 2017:1). During the interview process, I strove to develop a relationship with participants such that “rich” data could be generated and in outlining the process of analysis (for readers) I hope to enable readers of the “results” to ascertain how I finally processed the data generated. Here I explain how I ensured research rigour by following the suggestions of Lincoln and Guba (2001:6-7) who are credited for refining the concept of trustworthiness by incorporating the elements of credibility, transferability, dependability, and confirmability to the domain of research validity.

### 4.8.1 Credibility

According to Wahyuni (2012:77), credibility refers to the preciseness of data in reporting the observed social occurrences. With reference to the study, I acted as follows:

In a bid to warrant transcript exactness, I *studied each “transcript” as I was drafting it, while “listening [and re-listening] to the audiotapes”* (Dodge, 2011:55). Additionally, I took it upon myself to avail a synthesised interview report to participants to afford them the opportunity to scrutinise it (Parag, 2014:96) with the view of furnishing additional details they might have forgotten to highlight when they were initially being interviewed. Only four of the twenty participants expressed the need to amend their transcripts. Two of whom were merely interested in inspecting the grammatical layout of their transcripts, whereas the other two were more interested in adding certain aspects to the narratives they had shared with me during their respective interview sessions. In line with one of the criteria for credibility I *ensured that all participants were allocated ample* opportunity to relay their experiences (during the interview and the member checking encounter). The action taken to revisit participants (for checking their interview utterances) is akin to prolonged fieldwork or engagement (Houghton et al., 2013:12). Whilst prolonged fieldwork contributed to the reduction of misrepresentations of

information (Anney, 2014:276), conducting (member) checking of the final synthesis (of each transcript) with the participants contributed towards establishing credibility and mitigating against bias. I took the transcript to the interviewed participants, and as indicated above four of them (namely, HOD 1A, Teacher 5C, Principal 1A and HOD 2A) amended the transcripts, with two of these locating only grammatical errors, while the rest appeared to be satisfied with theirs. An important exception was HOD 2A who felt that his comment on tacit and explicit knowledge was inadequate. Hence when I showed him the transcript he was quick to modify his response (see Chapter 5, Section 5.6.1) by elaborating on the differences between tacit and explicit knowledge. Teacher 5C also added an elaboration with respect to the definition of knowledge management (as reflected in Chapter 5 Section, 5.6.1).

I recognised that my background, knowledge and propensity to see things in certain ways and not others (Walsham, 2006: 321) may have influenced my interpretations of the data and my final analysis. Hence I had to reinforce my data analysis measures to include *working closely with my study advisor or auditor* as suggested by Unluer (2012:10) as well as *triangulation of interviews and documents* results to surmount the risk of bias. Triangulation entailed scrutinising data from the two sources of collection employed in this study, out of which contrasting and coherent occurrences came to light. Through the triangulation exercise a richer portrayal of the narrative emerged, and as a result the credibility or the truthfulness of the study was enhanced. According to Janesick (2015) a systematic qualitative inquiry values inputs of those who can be taken to be (more) neutral contributors; hence I subjected the study to *peer debriefing* (Janesick, 2007). This entailed approaching two colleagues to read through the results of the study, whilst taking into consideration the relevance of transpiring findings with data and tentative interpretation. Peer debriefing is purported to “provide inquirers with the opportunity to test their growing insights and to expose themselves to searching questions” (Guba, 1981:85). To that end, Lincoln and Guba (1985); Spall (1998); Merriam (2002); Spillet (2003); Barber and Walczak (2009); Fig et al. (2009); Collins et al. (2013) and Houghton et al. (2013) all assert that peer debriefing maximises the credibility of a qualitative report. For example, when I shared my experiences with peers (who also at that time were masters and doctoral students) during the annual M & D conference held at UNISA. Besides their critiquing my study, they also offered invaluable suggestions with regard to the layout of my thesis, data gathering techniques, thus they recommended some empirical studies to enhance the gravitas of my study.



#### **4.8.2 Transferability**

Elo et al. (2014:2) see transferability as the potential to reveal that which is likely to happen in similar circumstances to the settings where the research was focused; it is premised on the core belief that the findings of the research are subject to some degree of “generalisation” or adaptation to other settings or groups. Befittingly, *purposive sampling* was employed to drive the agenda of transferability. In my choice of participants, I consider that their experiences and insight may in some sense “represent” the population of the study – in this case, the population of teachers, HODs, administrative clerks and principals in all three participating education circuits. (See Section 4.6 above.) This type of sampling has become inseparable from qualitative research for its ability to give the researcher free reign when it comes to matters of selecting the kind of participants who are deemed insightful about the issues being investigated (in this case the application of KM).

Ditsele (2015:48) infers that purposive sampling draws a plethora of information in any given context; the richness of information means that other researchers (and indeed lay people) can consider to what extent the situations being studied might “transfer” to any similar situations (especially the population in the three participating circuits but indeed to other contexts too). That is, readers can assess to what extent they feel that the insights transfer to other situations with which they are familiar. Distele’s remark refers to what others commonly refer to as “thick or rich description of data” (Denzin, 1989; Fraenkel and Wallen, 1990; Bonner and Tolhurst, 2002; Esterberg, 2002; Merriam, 2002; Patton, 2002; Bryman, 2004; Li, 2004; Willis, 2007; Merriam, 2009; Turner, 2010; Dibley, 2011; Simmons, 2012; Anney, 2014; Parag, 2014; Fusch and Ness, 2015; Gjerde, 2016; Barret and Twycross, 2018; Olivier, 2018). Without such “richness”, Shenton (2004:69) argues that readers would not be entirely convinced about the overall merits of the study. Research terminology equates “thick or rich description of data” to the provision of in-depth set of details regarding “methodology and context” (Li, 2004:305), another aim which I met in the study. The claim is that by providing the richness of data and insightful analyses, it is easier for readers to assess to what extent they can detect “similar” issues in relation to KM in other contexts – in this case, schools across each circuit and also possibly beyond the three circuits.

#### **4.8.3 Dependability**

I have provided elaborate step by step accounts of the research journey as well of research procedures followed, including availing instruments that were used to collate empirical data

(Wahyuni, 2012:77). The study took a reflexive form as I exercised caution by ensuring that processes unfolded in a sensible, traceable and systematic way and thus clearly defined what transpired. To realise this mission, I provided an *audit trail*, which comprises of a historical inscription of all due processes taken to reach a point where the research is today. I made provisions for keen researchers to “analyse an account of all decisions and activities” (Carcary, 2009:15) taken in my study. To effect this, I have indicated the processes followed in arriving at my final synthesis. Along the path of familiarising myself with this issue, I located several studies (Merriam, 2002; Li 2004; Bowen 2009; Carcary 2009; Dodge 2011 and Gjerde 2016) proclaiming the viability of an audit trail as a tool to secure the dependability of research. Dependability was also heightened by my decisions regarding my handling of the data which was passed by a number of colleagues, as advised by Anney (2014:278) as a way to enhance dependability and credibility.

#### **4.8.4 Confirmability**

Tobin and Begley (2004:392) point out that confirmability is an exercise of trying to legitimate whether the gravitas of the “findings” of the study is truly rooted in data. It basically acts as a confirmation of whether or not the analysis of the study draws strength on the data collected and is not, as Anney puts it, a “figment of the inquirer’s imagination” (2014: 279). To pursue the agenda of confirmability, I *relied on my reflexive journal and on triangulation* (Bowen, 2009:307) as the support base of this study’s confirmability status. Each day I was on the field gathering data I had with me a reflexive journal which contained rough notes of things I observed and wanted to incorporate into my reporting of data. As regards triangulation, as will be further shown in Chapter 5, besides using different sources of data generation, I also triangulated the data from the different sets of participants, by comparing their accounts. This enabled me to proffer to readers a synthesis across different participant experiences on similar issues, which I believe further adds to the study’s confirmability.

### **4.9 ETHICAL ISSUES**

To carry out the study, I had to adhere to certain procedures. Besides the procedures as advised by my ethical clearance certificate obtained from the University, I also followed addition protocol. Below lies a description of how I followed the necessary procedures in acting in accord with a commitment to research ethics:

#### **4.9.1 Reciprocity in Research**

Conducting research in the organisational domain where the researcher works can be a daunting task. A lot can go wrong if the researcher fails during data reporting phase to find common ground between himself/herself as an employee of the domain that is being researched and himself/herself as a researcher. That is exactly the situation I was faced with as I happened to study my colleagues across various hierarchical echelons of the teaching profession (in and across the school of which I am a member and the people whom I come into contact in the other circuits) Although I did not know most of them prior to actualising the study, to the few that I knew I appeared more like an insider-researcher but to those who got to know me during the process of the study saw me more like an outsider-researcher. At times an insider perspective gives credence to “close proximity between” the investigator and the parties under investigation which can be harmful to the credibility of the study (Malli and Sacki-Sharif, 2015:5) whereas in other instances it can be helpful in many respects (Unluer, 2012:2). On the other continuum, outsider-researchers have the privilege of being entrusted with confidential information by parties under investigation (Bonner and Tolhurst, 2002:8) when in other cases the opposite may happen.

While I engaged with participants in the school of which I am a member, I felt that I had to be particularly careful not to appear as if I was exerting pressure towards any particular “answer” – and to ensure them that I was interested in whatever reflections they offered in relation to my questions. This was of course also my orientation in the other schools. What I found rewarding, and which applies to the search for reciprocity, was that nearly all the participants indicated to me on the last question of the interview that they had been grateful to participate in the interview encounter with me as they had had scant ideas on KM before the interview and now had become more conversant with the issues I had raised by being stimulated to think about them.

As far as reporting goes, in academic research the researcher must maintain fair conduct when reporting results (Malli and Sacki-Sharif, 2015:6), an exercise which many researchers often overlook (Raheim et al., 2016:2). In response to the concerns raised above, an ethically grounded and methodologically astute data reporting strategy had to be adopted. Narrating research findings is an “ethical issue” which all researchers must clearly articulate in their “research designs” (Tubaro, 2019:1). That is, it would be regarded as unethical for me to not do justice to the varying and detailed views of the participants when writing up the “results”.

This is one aspect of what Maiter et al. (2008) consider as “reciprocity” of which researchers need to be mindful. Maiter et al. (2008:305) go on to add that reciprocity involves a concerted effort to carry out a balanced exchange between the parties concerned. It frames how best both the investigator and the actor can benefit from the proposed transaction (the research process and its results).

Arguably, the traditional view of reciprocity being an exchange between parties concerned does not suffice when educational research is carried out in indigenous contexts (McGreggor and Marker, 2018:318). McGregor and Marker qualify this point by drawing on Trainor and Bouchard’s (2013:986) statement characterising reciprocity in educational research as a “stance” of *luring* participants, analysing and reporting of research results, which has to happen for the completeness of the research process. Trainor and Bouchard (2013:986) are dismayed that current understandings on reciprocity in educational research overtly sympathise with this “positivistic” orientation as they see it. To this end, McGregor and Marker (2018:318) aver that in indigenous contexts such a stance does not have to follow a prescribed format for it to materialise. I do not necessarily endorse this viewpoint on the basis that McGregor and Marker refer to Trainor and Bouchard’s statement as a proxy to cement their core argument. Yet this study does not limit reciprocity to indigenous educational contexts but discusses it generically within the domain of educational research. Therefore, I refer to Wa-Mbaleka et al. (2019:1) who maintains that reciprocity anchors a mutually beneficial “researcher-participant” exchange of experiences during an inquiry. To that effect, throughout this theme of research I sought to develop a discourse which was pertinent to the following questions, as stipulated in a study by Wa-Mbaleka et al. (2019:1-2):

- How do truth and values systems engender reciprocal exchanges between myself as the researcher and the actors?
- How can the actors’ contributions be reciprocated?
- How can I as the researcher apply research practices that promote reciprocity when dealing with the actors?

I consider that addressing these questions ensured that my research was conducted within ethical boundaries, and fostered the culture of reciprocity in the sense of developing a reciprocal relationship during the research encounter and giving credence to the actors’ visions during my reporting of the results. Hereunder lies an account of how I pressed for the promotion of reciprocity in my study.

To generate a “reciprocal dialogue” in which myself as the researcher and the actors deliberated on issues as “equals” (Maiter et al., 2008:307) I gave myself time to analyse the context of the study and the values systems that the actors ascribe to. I therefore adopted what Louis (2007); Battiste (2011) call “Indigenous research methodologies” as a means to generate and report data fairly. Indigenous research methodologies are hailed by many for relying on the “relational aspect” to depict the actors and the researcher’s accounts (Windchief et al., 2017:2) whilst eliminating the “romanticising, historicising or essentialising” (Grande, 2000; Wainer and Chester, 2000; Crosby, 2002; Ormiston, 2010) of the affairs of “Indigenous communities” (Windchief et al., 2017:2).

In a practical sense being cautious about the need for “relational accountability” bound me to respectfully forge “reciprocal” transactions and bonding with the communities where I happened to conduct my inquiry (Wilson, 2008:40). The conception that actors are the custodians of their “indigenous knowledge” (Chilisa, 2012:307) conditioned me to not superimpose my views but to reconcile them with their expressions. As stated by Chilisa (2012:xvi) carrying out research reporting in this manner is a great attempt at embracing, reclaiming and “internationalising post-colonial indigenous epistemologies, methodologies and methods”. I further heeded the call by Chilisa (2012:279) for researchers conducting indigenous research to refrain from trying to tamper with what may have appeared to me as distorted information coming from the actors. Chilisa (2012:279) adamantly believes that everyone has the right to express how they see the world “for even what may appear [to others] like a bad suggestion helps [other] people to think of better ideas”. Hence I had to be mindful of “the interpretative element” of what constituted the “knowledge of a collective group of people” (Okeke and Okeke, 2016:20) and the rules of engagement in the context being studied. Their elders’ (and in this case the school leadership’s) belief that *Inhloinipho ngumuntu* [respect is the bedrock of humanity] (Khuphe, 2014:149) served as a constant reminder for me to reciprocate the values of Ubuntu during my engagements with the actors.

In the light of a [schooling] community being “a reflection of their culture and language” as claimed by Khupe and Keane (2017:30), I was at all times mindful of cultural diversity and sought to accommodate the actors linguistically. I therefore subtly offered an invitation for actors to not shy away from using their languages. I did that subtly because I avoided running the risk of being misconstrued as claiming that they did not possess a good command of English. As such in circumstances where I could see that the actors were falling short expressing certain issues in English, I immediately switched to vernacular to bring them on board.

When summarising my efforts of establishing reciprocal relationships between myself and the actors I consider that I: 1) was mindful of the rules of dialogical engagements between myself and the actors (Maiter et al., 2008; Okeke and Okeke, 2016; Keane and Khupe, 2017; McGregor and Marker, 2018) ; 2) used values of “*inhlonipho*” [mutual respect] (Khupe, 2014:149) and the values of Ubuntu to observe the protocols of the context being studied; 3) took advantage of the “insider-outsider” positionality (Harrison, McGibbon and Morton, 2001:323); 4) not tampering with the actors’ feedback (Chilisa, 2012:279) except for when I needed to adopt their accounts to emphasise a similar point (and in which case I would acknowledge that I have borrowed their statement); and 5) showing appreciation for the “language and culture” of actors (Khupe and Keane, 2017:30). All these strategies were very helpful in cultivating the atmosphere where every participant reciprocated the treatment and humility with which I approached our engagements. This is another aspect that I got to learn about through peer debriefing.

#### **4.9.2 Processes of Securing Permission to Conduct the Study**

Due processes were followed to obtain permission to conduct research. Firstly, I wrote to the head office of Mpumalanga Department of Education asking them to allow me to conduct the study in some of their schools. I indicated the practicality and the benefits of conducting the study. Permission was granted. I subsequently contacted the selected schools asking them to permit me to base my study on their premises; they too gladly agreed. The next plan of action included interacting with various participants about their possible participation in my study. I used both verbal and written forms of communication to explain to them that their participation should be on a voluntary basis (i.e., no one was obliged to take part unwillingly); after which a sufficient number agreed to take part in the study. I formalised our agreement by asking the participants to fill in a written undertaking, which also outlined the terms and conditions of our relationship of trust as we were about to work together.

With reference to confidentiality, I made it clear to participants and the departmental authorities that I would not under any condition divulge the names of the schools where my research was conducted. I proposed calling schools by numbers instead of their actual names. I also omitted the participants’ personal details such as names and surnames when reporting their narratives in my study. I assured the participants and the relevant schooling system authorities that the nature of the study was such that it did not carry any experimentation or derogatory connotations that could compromise their health and safety, political, religious and belief systems, culture and traditions as well as self-concept.

In order to comply with the norms of scientific writing and to produce a praiseworthy study, I undertook to acknowledge all the sources consulted when compiling this study.

Furthermore, I subjected my proposed study to the University of South Africa's Ethics Committee, and received clearance. Getting ethical clearance from a legitimate statutory body made it easy to obtain permission from institutions and the relevant schooling system structures and authorities. In addition, I followed other peripheral but equally important procedures, which are outlined as follows:

- I wrote and submitted under supervision several research proposal drafts guided by the UNISA CEDU prescribed guidelines, which were eventually approved;
- As per the requirement I uploaded every draft on TURNITIN software prior to submitting it to my supervisor;
- I allowed my supervisor to exercise oversight over the proposed content of the interview schedule. It was edited and declared fit for the purpose.

#### **4.10 CHAPTER SUMMARY**

This chapter explicated the methodological composition of the study, namely: research paradigm; research write-up monitoring tool; research approach; data generation; sampling procedure; data analysis; and ethical issues. For my research to bear logical sense I had to dissect all the important elements that contributed to its being. For instance, epistemological, ontological and axiological considerations were scrutinised. I also demonstrated the extent to which evidence was constructed by means of a coalition of data generation methods. Most importantly a concise narrative was given as an indication of how steadfast I had been in attempting to minimise the risk of undue bias as well as the kind of (insider and outsider role) transitions I had to straddle in a quest to generate rich data when conducting interviews in the selected schools with the selected participants. Ethical issues that were applied to effect the study were also discussed. I now proceed to chapter five, which expressly brings to the fore the analysis of the data that were generated on site.

## **CHAPTER 5**

### **DATA PRESENTATION AND ANALYSIS**

#### **5.1 INTRODUCTION**

In this chapter I bring to light the truths as expressed by the participants in relation to their perceptions of KM application. Fieldwork or data generation was carried out in three schools situated in Emalahleni Circuit 1, 2 and 3, wherein one school in each circuit was selected to form part of the study. In two of the three selected schools (namely, school A and B) whose participants included two teachers, two HODs, two administrative clerks and the principal. This meant that seven participants per school were drawn as a sample. The exception happened in the third school (namely, school C) wherein a total of six participants comprising of two teachers, two HODs, one administrative clerk and the principal formed part of the study. In totality 20 participants formed part of the study. I also discuss how I executed the coding process as a means to develop a synthesis of the findings. Further to this, I present the data and my analysis hereof that were solicited from interviews and document analysis. Lastly, I briefly discuss how as a researcher I ensured that my pre-conceptions did not taint the credibility of data analysis.

#### **5.2 DATA ANALYSIS STRATEGY**

Considering the thickness of data that were drawn out from the semi-structured interviews held with the selected participants at their respective schools, I had to devise a strategy to break down data into manageable chunks, but without compromising the overriding ideals of these data. Patton (2002:432) posits that “qualitative analysis” converts “data into findings” and since there is only “guidance but no recipe”, the researcher is at liberty to generate his or her preferred strategy of converting data into findings. In the same tone, Luvalo (2017:176) states that there are various ways of analysing qualitatively generated data, and one way of doing this is to start through coding. Creswell (2015:156) defines coding as an exercise whereby the researcher rips apart the transcribed “qualitative data” to inspect the important elements of it “before putting the data back together in a meaningful way”. Coding aids the development of a creative way of presenting “new” data (Elliot, 2018:2850) so that one’s study contributes a



unique dimension to a particular research discourse or domain. Ironically, of all qualitative research methods or steps, coding is scarcely documented (Elliot, 2018:2851). For example, Elliot (2018:2851) has noted that only a handful of scholars determinedly write about coding. (See- Holton, 2011; Miles, Huberman and Saldaña, 2014; Corbin, Strauss and Strauss, 2015; Richards, 2015; Bernard, Wutich and Ryan, 2016; Saldaña, 2016). There is a view that the paucity of studies documenting coding and content analysis somewhat deprives researchers of much needed scholarly guidance (Elo and Kyngas, 2007:113); thus scholars are unanimous in that content analysis is one of the most challenging aspects of research. A validation of this comes from Erlingsson and Brysiewicz (2017:1) who maintain that oftentimes data analysis poses serious challenges to “novice researchers”. There are numerous cases of doctoral students who have completed their fieldwork but despondently jostle with the intricacies of the coding process (Elliot, 2018:2850). These statements sufficiently illustrate that there is an urgent need for more literature on coding. Below lies an account of how I carried out the coding exercise.

The nature of my study entailed content analysis, which is frequently employed by qualitative researchers. To facilitate the process of labelling “condensed meaning units” into codes (Erlingsson and Brysiewicz, 2017:2) I opted for the inductive content analysis format so as to establish categories and abstraction (Elo and Kyngas, 2007:109). Content analysis is naturally “reflexive” implying that the process of inspecting raw data in a bid to identify and condense “meaning units, coding and categorising” happens a multiple times (Erlingsson and Brysiewicz, 2017:1) and this process can only be declared exhaustive when the researcher has found workable themes. It is located within the “constructivist ontological” paradigm, “an interpretivist epistemological” paradigm, “inductive” theoretical underpinnings, and “themes” embedded “in the data” (Bryman, 2012: 13). In the next paragraph I discuss how I dealt with the technicalities of coding, categorising and the theming of data.

I initiated the data analysis process by listening to the recordings of the interviews, which I did repeatedly before I could even begin to do transcription. In accordance with Chetram (2017:65), I too, at all times during the transcription phase ensured that precise “expressions of the participants” were documented word by word. Once I was done with transcriptions I then proceeded to the actual process of coding. To align my analysis with the focus of the study, I recorded my research objectives and questions on a sheet of paper that I kept nearby as I interrogated data (Erlingsson and Brysiewicz, 2017:7). I subsequently took all the transcribed narratives and inspected them repeatedly “line by line, and splitting them up into

significant analytical” chunks (Maree et al., 2007:105). Already at that juncture I began to develop basic ideas of the kind of issues participants considered a priority in relation to KM application in their respective schools. I used highlighter pens bearing different colours to highlight the transcribed narratives and wrote notes in the margins. Hence I was able to recognise the emergent data and grouped them according to themes, most of which conceived sub-themes. The sub-themes were established and tabulated alongside the main themes. These themes and sub-themes provided a framework through which I based my discussions of the findings of the study.

### **5.3 RESEARCHER’S PREFERRED CODING TOOL**

#### **5.3.1 Manual Coding**

I intentionally did not follow the growing trend mostly preferred by contemporary researchers of employing computer software applications to code data. I had my own reasons for shirking this approach *in favour of manual coding*. The first reason pertains to the perception that mastering the coding software is a time consuming exercise (St John and Johnson, 2000; Welsh, 2002; Sapat et al., 2017). I thus considered my geographical location and realised that I would not be able to attend training. The second reason relates to the finding that, occasionally, the sophistication of the software can result in users acting impulsively and end up underestimating the precision with which to handle the inspection of data before codes are assigned (Welsh, 2002). Thirdly, I refrained from using the coding software on the basis that several studies (see: St John and Johnson, 2000; Basit, 2003; Sapat et al., 2017) established that computerised coding tends to quantify data. Resultantly, the user is propelled to focus more on the “volume and breadth” at the expense of “depth and meaning” (St John and Johnson, 2000:393). This contradicts what a qualitative analysis ought to be (Blair, 2015:22). Thus its “deterministic processes, privileging of coding and ratification” (St John and Johnson, 2000:393) constituted the fourth reason I decided against using a coding software. The conception that it removes the researcher from the actual reality of analysis (St John and Johnson, 2000:393) became the fifth reason behind my decision to desist from using the coding software programme. I wanted to fully and uncompromisingly be a part of the entire “interpretative process” in relation to my research data and methodologies (Lewins and Silver, 2009:3). The software is purported to fast track the usually lengthy process of developing codes so much so that it is likely to “proliferate codes” beyond the scope of the researcher’s ability to “remember them all or deal with them usefully” (See Richards 2015:118). I thus did not want to miss the thrill that one feels after having completed a mammoth task such as manual

coding. This is not to say that I am suggesting that all researchers should follow my specific reasoning for refraining from the use of qualitative software. It is to offer my way of making the decision (supported by certain literature) in this regard. Other researchers might deliberate differently around this issue.

### **5.3.2 Justification for Manual Coding**

I believe that manual coding enhanced the rigour of my study as I was immersed in the experience of data gathering, more than I would have had I opted for the coding software. After having read and highlighted the transcripts, “I began to know exactly which sheet held which comment, and I felt this approach gave me an overview (cognitively and literally) of the data and allowed for connections to be made” (Blair, 2015:22). A preview of the content analysis format similar to the one I adopted in this study is reflected in studies by Grbich (2013: 197) and Harding (2013: 24), who explain that it should entail the following steps:

**Step 1:** Repeatedly reading through the transcriptions and highlighting emerging themes.

**Step 2:** Clustering common themes together.

**Step 3:** Coming up with a list of themes/categories relative to the total number of participants (data reduction).

**Step 4:** Assigning data to relevant themes.

**Step 5:** Interpreting meaning within the content.

Following the identification of patterns and commonalities, I arranged similar ones together for purposes of drawing and verifying conclusions. I further presented recommendations as indicated by the selected participants coupled with the recommendations from the literature that was reviewed. This aided my endeavour to generate theoretical perspectives that accompanied descriptive narratives of what transpired during the interviews. This led me to believe that “my research findings and recommendations could be useful in similar contexts despite the fact that generalisation is not permissible in qualitative research” (Moyo, 2015:114).

## **5.4 RESEARCHER REFLEXIVITY**

Blair (2015:23) posits that applying reflexivity when coding one’s research is unavoidable. In a nutshell, reflexivity happens when the researcher constantly introspects on the merits of the actions he/she took at some stage(s) of the research (Blair, 2015:15). Doing so is said to augment the credibility of the study whilst being aware of possible researcher “bias during the

analysis and in results” (Erlingsson and Brysiewicz, 2017:7). Hence I needed to be mindful of ensuring that my pre-existing ideas did not cloud the formation of themes and sub-themes. Having my research questions and objectives in front of me during the coding process, as suggested by Erlingsson and Brysiewicz (2017:7), recalibrated the composition of my research questions. For instance, while interviewing the first batch of participants in school A, two participants (an HOD and the principal) during their interview sessions, expressed that they did not really identify with the respective leadership styles that I had prescribed in my research questions. I then had to revisit my research questions and (subsequently) altered them such that they solicited what leadership style the participants personally preferred to use in their lines of duty. Below I provide an example of interview extracts that led to the modification of these research questions.

**Table 5.1: The evolution of research questions.**

<b>Initial Research Questions</b>	<b>Response from participants</b>	<b>Altered Research Questions</b>
<ul style="list-style-type: none"> <li>To what extent do HODs’ <i>instructional leadership</i> enhance KM application at selected township schools?</li> </ul>	<p>“Mine is a mixture of all of these things. I’m not democratic yet I’m not autocratic yet I’m not even laissez-faire, and I am not necessarily instructional but multi-faceted” [HOD 1A]</p>	<ul style="list-style-type: none"> <li>In which ways do HODs’ <i>supervision</i> enhance KM application at the selected township schools?</li> </ul>
<ul style="list-style-type: none"> <li>How does the principal draw on <i>transformational leadership</i> to facilitate KM application at selected township schools?</li> </ul>	<p>“I am not completely transformational because as a leader sometimes you have to be autocratic and democratic in some cases” [Principal 1A]</p>	<ul style="list-style-type: none"> <li><i>What leadership style</i> best characterises the principal’s role in facilitating KM application at selected township schools?</li> </ul>

I must also point out that the aforementioned narrative only represents the reflexivity applied during the coding phase; whereas in real terms I applied reflexivity way more than this during the course of my study. I provide another instance, where upon reflecting on the homogeneity

of the context being studied (i.e., township schools) I realised that I needed to add a research question pertaining to Indigenous value systems (see Section 1.4.1 in Chapter 1), as well as pertinent literature (see Section 3.3.7 in Chapter 3). Ultimately, what was meant to be five sub-research questions and objectives ended up being six sub-research questions and objectives.

I acted in line with Palaganas et al. (2017:426) who advise that researchers need to cautiously examine their role in the creation of knowledge and of “lived experiences” across various stages of research. Additionally, Barrett, Kujamaa and Johnston (2020:9) point out that researchers are bound to elaborate on how they applied reflexivity at different stages of their study. Since reflexivity is rooted in the conception that the researcher is not a neutral observer but a co-constructor of knowledge alongside the participants (Gray, 2014:606), therefore it demands that the researcher has to embrace new perspectives that may emerge during the course of the research and if needs be, be prepared to overhaul the research pattern (Palaganas et al., 2017:426). Likewise, I embraced the new perspectives brought to light by the participants. Incorporating these perspectives somewhat cleansed the study from my own bias of pre-empting what leadership styles participants were likely to adopt in their work. It did not end there but also during the introductory, literature review and methodology chapters, reflexivity implied examining whether my personal views appropriately and contextually endorsed or disqualified the views projected in the literature. While conducting the reflexive exercise, I found that there were many instances where my expressions on particular matters were too subjective and far-fetched from the context. Through reflexivity I was able to detect these mishaps and contextualise them appropriately.

## 5.5 THE PROFILE OF PARTICIPANTS

The participants comprised: six teachers, six HODs, five administrative clerks and three principals. The total number of 20 participants took part in the study. To protect their identity, I assigned them numbers. Also letters of the alphabet were assigned to the schools for the same purpose. Further details are tabulated as follows:

**Table 5.2: Profile of participants**

<b>Designation</b>	<b>Allocated Number</b>	<b>Designated letter of the alphabet</b>	<b>Meaning</b>	<b>Gender</b>
Teacher	1	A	Teacher number one based in school A	Female

Teacher	2	A	Teacher number two based in school A	Female
Teacher`	3`	B	Teacher number three based in school B	Female
Teacher	4	B	Teacher number four based in school B	Male
Teacher	5	C	Teacher number five based in school C	Female
Teacher	6	C	Teacher number six based in school C	Male
HOD	1	A	Head of department number one based in school A	Female
HOD	2	A	Head of department number two based in school A	Male
HOD	3	B	Head of department number three based in school B	Male
HOD	4	B	Head of department number four based in school B	Male
HOD	5	C	Head of department number five based in school C	Male
HOD	6	C	Head of department six based in school C	Male
AC	1	A	Administrative Clerk number one based in school A	Female
AC	2	A	Administrative Clerk number two based in school A	Female
AC	3	B	Administrative Clerk number three based in school B	Female

AC	4	B	Administrative Clerk number four based in school B	Female
AC	5	C	Administrative Clerk number five based in school C	Female
Principal	1	A	The principal of school A	Male
Principal	2	B	The principal of school B	Male
Principal	3	C	The principal of school C	Male

## 5.6 FINDINGS FROM THE STUDY

Fundamentally, this study was grounded in the main research question, which was then broken down into six subsidiary research questions. The main research question was: *In what regard is KM being applied at selected township schools?* The six subsidiary questions are:

- How do teachers, HODs, administrative clerks, principals at the selected township schools understand tacit and explicit knowledge?
- In which ways does HODs' supervision enhance KM application at the selected township schools?
- How does administrative clerks' utilisation of technical skills and personality traits affect KM application at selected township schools?
- How do teachers facilitate their tacit and explicit knowledge effectively within a classroom environment so that learners learn to create and exchange new knowledge among themselves?
- What leadership style best characterises the principal's role in facilitating KM application at selected township schools?
- In which ways do teachers, HODs, administrative clerks and principals draw on African Indigenous Values Systems of Ubuntu Philosophy and Batho Pele Principles to effect KM application at selected township schools?

The study resulted in my construction of six themes accompanied by seventeen subsidiary themes, as tabulated below.

**Table 5.3 Summary of primary themes and subsidiary themes**

Themes	Sub-themes
1. Teachers' rationalisation of knowledge, knowledge work and knowledge management.	<ul style="list-style-type: none"> <li>a. Teachers, HODs, administrative clerks and principals' worldview of tacit and explicit knowledge.</li> <li>b. Teachers, HODs, administrative clerks and principals characterisation of knowledge work</li> <li>c. Teachers, HODs, administrative clerks and principals' definition of KM</li> <li>d. Constraining factors</li> <li>e. Realised KM benefits</li> </ul>
2. Teachers' ways of facilitating tacit and explicit knowledge in the classroom	<ul style="list-style-type: none"> <li>a. Stimulating knowledge sharing and creation among learners</li> <li>b. Evaluating learners' comprehension level of the shared knowledge</li> <li>c. Archiving learners' academic performance</li> </ul>
3. Aspects of HODs' supervision	<ul style="list-style-type: none"> <li>a. Supervision of curriculum delivery</li> <li>b. Supervision of teacher development and appraisal</li> <li>c. Supervision of knowledge sharing processes among teachers</li> </ul>
4. Administrative clerks' scope of knowledge work and the requirements to carry out the work	<ul style="list-style-type: none"> <li>a. Manual knowledge work</li> <li>b. Technological knowledge work</li> <li>c. Required formal training</li> <li>d. Personality traits</li> </ul>
5. Principals' approach to leading KM application	<ul style="list-style-type: none"> <li>a. Organisational culture and communication</li> <li>b. Leadership style</li> </ul>



6. Ubuntu and/or Batho Pele Principles practiced by teachers, HODs, administrative clerks and principals to enhance knowledge sharing	
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### **5.6.1 Theme 1: Teachers, HODs, Administrative Clerks and Principals’ Rationalisation of Knowledge, Knowledge Work and Knowledge Management**

During interview sessions held with participants I explored with them a variety of issues underpinning my study. My participants comprised of two teachers, two HODs, two administrative clerks and the principal in each of the three schools which equalled to 20 participants. This theme was applicable to all of them as each one of them performed knowledge work. I scheduled my interview sessions as per the employment category (i.e., teachers, HODs, administrative clerks and principals). Content analysis projected the following sub-themes rooted on the overriding theme (as seen above in a bold text).

#### ***a. Teachers, HODs, administrative clerks and principals’ worldview of tacit and explicit knowledge***

With regard to school A, the first interview session was held with Teacher 1A who rationalised the term “*knowledge [as] an understanding that one has about something like I have the knowledge to teach Afrikaans*”. We then expanded the conversation by discussing her perceptions of tacit and explicit knowledge to which she responded:

*Tacit is the knowledge of higher order which you have to size before asking sharing with learners, because if you present to them high cognitive lessons they can be overwhelmed and confused. But if you size it well they can learn a lot from it. Explicit knowledge is exactly the one that you would share with learners because it come prescribed by the department of education for you to teach as it is.*

Her explanation of knowledge was logical and easy to understand. Having observed her body language as she commented on tacit and explicit knowledge, I realised that unlike the time when she shared about knowledge under generic terms, she was somewhat out of her comfort zone. Denham and Onwuegbuzie (2013: 670) indicate that it is important to take account of “nonverbal communication”, such as body language during the interview, as part of the researcher’s description and interpretation of the data.

In the same school, Teacher 2A made it clear that one's possession of knowledge makes them powerful but also posited that knowledge is gained through various means.

*Knowledge is power, it is the intervention that you get whether it is through learning, written texts, or learning by going to school or institutions or sometimes from experience. Sometimes it has to do with the feeling, your intuition, you look at something and you think what it means to you.*

Her definition is in line with indigenous epistemologies which see knowledge accumulation as a virtue of not only formal education and avid reading but also of life experiences (cf. Chilisa, 2012, 2019; Romm, 2017; Lwoga, Ngulube and Stillwell, 2020). I subsequently asked her to share with me her understanding of tacit and explicit knowledge, to which she responded:

*Tacit knowledge is knowledge that a person has through experience. That obviously is something that is not taught or learnt through written literature. It is something that is not really easily transferable to another person. It is an inborn ability. Explicit knowledge would be all the book that we are reading in my line of duty, it would be all the policies, and all the SACE regulations that we need to comply with. They tell us rather how to teach, behave. It is something that is written.*

Her understanding of explicit knowledge by way of these examples was convincing to me, and offered “flesh” to definitions given in the literature on KM. Her narrative on tacit knowledge being not easy to codify and to share with others unless there are favourable conditions to do so (Nonaka and Takeuchi, 1995; Nonaka and Konno, 1998; Chugh, 2013) was also sensible, and yet she might have lost ground on clearly articulating tacit knowledge.

I went on to ask similar questions to participants in School B starting with teachers 3B and 4B. They both appeared to be receptive to the manner in which I conducted their respective sessions. Teacher 3B characterised knowledge as the state of being aware of what is happening around one's surroundings whilst at the same time being insightful about academic developments:

*And to me knowledge is about being in the know-how of everything, whether it's aural whether its literature or whatever. Basically it's a whole cocoon really of knowledge coming from every dimension. It's being all rounded, being streetwise and at the same time being in academia. At the same time knowing what is going on in the world, because without that you would not really fit into society.*

By mentioning that knowledge is being “*in the know how*”, Teacher 3B unknowingly touched on Chugh (2013) as well as Nonaka and Takeuchi’s (1995) depiction of tacit knowledge. This to me made sense, but the question remained as to whether she knew how to distinguish between tacit and explicit knowledge. I then proceeded to that question, to which she responded by giving a classroom-based scenario (but only on tacit knowledge):

*I am also a mother so when you are teaching them you are not teaching them about the academic part but you are also teaching them the spiritual part where it is not covered by the curriculum. So if you are busy with them and one child misbehaves in class now you have to tap into your tacit knowledge and impart words of wisdom to them to say, ‘You know what if you don’t listen, these are the results that you are going to get.’ I was not taught that at school but through life experience I have that knowledge.*

Although she did not attempt to describe the term tacit literally, her explanation typifies it in which she mentioned the sharing of “*words of wisdom*” with the learner who lacks knowledge on the importance of listening and behaving well in class. She effectively tapped into the vein of her tacit knowledge to share that which life experience has taught her personally about the importance of listening in class. In her statement I suspected that she might have deliberately left out her response of what she thought constituted explicit knowledge due to her not knowing much about it. My suspicion was proven right when I asked her a followup question concerning explicit knowledge, to which she replied:

*“When it comes to knowledge you have got informal and formal knowledge. You have got learnt knowledge and knowledge that you just get on the street”* [Teacher 3B].

In another session with Teacher 4B he posited:

*I personally think that tacit knowledge is the one that the teacher possesses with regard to the curriculum, classroom management, filing, marking a classroom register and interaction with the community and colleagues or his/her personal professional standards. It is the type of knowledge primarily used by an individual teacher to do his job to the best of their ability. Explicit knowledge I think it is the type of knowledge that can be easily transferred to the learners which helps you how to do the job and tacit helps you to prepare for this.*

He presented a clear indication of what constitutes both types of knowledge from the paradigm of teaching. I subsequently moved to school C, where I sought to understand teachers’

perceptions on the composition of tacit and explicit knowledge. Teacher 5C responded in this fashion:

*Tacit is obviously built with experience. It is the result of your day to day experiences with certain things. It becomes so engraved into your mind and you can basically mind map the whole content in just a fraction of time and so forth.*

Her response of tacit knowledge being rooted on the accumulation of experience strikes a cord with Mashologu (2017) who adds that sharing experiences would help transfer workers' tacit knowledge into organisational knowledge. Teacher 5C went on to share with me her understanding of explicit knowledge as “*more guided because you get a textbook and it tells you this and that. It is prescribed and it gives you the facts*”. In that regard she was referring to the prescribed curriculum which comes in an explicit form and should be taught as per the set guidelines. Satisfied with Teacher 5C's responses, I subsequently held a session with Teacher 6C. He admitted being clueless about tacit knowledge and stated “*Menneer I am hearing about these things for the first time so I don't know them to be honest*”. He nonetheless shared with his generic interpretation of what the word knowledge meant to him.

*When you talk about knowledge, you talk about something that you know but maybe it happened a long time ago or someone told you and you keep it in your mind or you can get from others and keep it in your mind and give to others. It is what you know*  
[Teacher 6C].

He was insightful of the fact that socialisation and witnessed occurrences (or experiences) are catalysts for knowledge accumulation. In that regard, he referred to the notion knowledge as a disposition based on a person's willingness to share with others “something that you know” as opposed to hoarding it.

I now draw on the views of HODs to add another dimension to this discourse. In one of the most interesting and lengthiest interview sessions of the study, HOD 1A stated:

*You know, from my own perspective I will start by saying knowledge for me is information. So as a school we are imparting of knowledge of different levels and intensity.*

Her juxtaposing “knowledge” to “information” is sufficiently supported by literature. To mention but one, I cite Murray and Barclay (2003:2) who state that many KM scholars use the word “information and knowledge interchangeably” (as did this participant). However,

she did not venture to distinguish between tacit and explicit knowledge but referred simply to the category of “knowledge or information”:

*I think tacit and explicit knowledge is just a definition that is technically used by those in the field of KM. To me knowledge is knowledge or information as I said to you when we started this conversation [HOD 1A].*

Here HOD 1A pointed out that the use of “technical” (scholarly) terms such as tacit and explicit knowledge may be slightly above the radar of lay persons such as herself – a factor which she regarded as a stumbling block to answering of questions posed during the interview. She basically argued that she was not fully conversant with the technicality of words used to facilitate our session. I respected this view and tried to encode questions in a manner that would appear to within her grasp.

In the same trajectory HOD 2A stated that he did not want to “*lie to me*” in regard to whether he had previously thought about the difference between “tacit” and “explicit” knowledge. He however tried to share with me his thoughts about what he thinks constitutes knowledge. According to him knowledge is: “*a thing that you have mastered or have understood well after you have been taught it or you have experienced it at some point in your life or journey*”. When asked to share his understanding about tacit and explicit knowledge he posited that “*I really do not want to lie to you but I assume that they are different though I do not know how, but they complement each other [HOD 2A]*”. A few weeks later, I went back to this school for member checking, and it was during this period that HOD 2A asked if he could infuse a few more points to his previously given response. He added that “*tacit knowledge is the knowledge that lies within a person’s mind and explicit is the written or projected type of knowledge*”.

In school B, HOD 3B characterised “*knowledge [as] the abundance of thoughts that are in your head that you can put into practice to deal with situations you are faced with*”. In this way HOD 3B offered a somewhat simplistic summary expression of what constitutes knowledge. But the momentum dropped when he proved to have difficulty in articulating the difference between the two knowledge types.

*Tacit is the knowledge that broad and needs to be contextualised like your case studies and in maths they solve for X and you find that there are different answers for it but all are correct. So tacit knowledge is like that, it wants a teacher to help learners be able to interpret it in their different ways to get to the same answer. Explicit is the opposite of tacit [HOD 3B].*

HOD 4B perceived knowledge along the lines of *“the information gained by learning and listening to others and you still continue to get every day as you watch tv, talk to people or study”*. He here pointed to knowledge accumulation and expansion as a daily exercise that cannot happen without interaction with different sources of knowledge. Furthermore, he linked this with learning and listening in relation to various sources – thus expanding one’s viewpoint in this process. Based on my observation of his body language, it was clear that, like some of the other participants, he lacked orientation when I asked him about the tacit and explicit knowledge. This was confirmed when he responded: *“I really need to familiarise myself with these terms but I just think they mean different things that need to happen so that knowledge is well balanced”* [HOD 4B].

I further probed HODs based in school C on the same issues. HOD 5C stated with a chuckle, *“Knowledge is an empowerment the thing that you have in your mind by learning. You acquire knowledge every day”*. When analysing his inference what comes across strongly is the word “learning”, which he associated with knowledge accumulation. This view is sufficiently supported by literature (i.e., Friehs, 2003; Garvin et al., 2008; Ozmen and Muratoglu, 2010; Salim and Suleiman, 2011; Argote, 2012; Popova-Nowak and Cseh, 2015; Purwhihartuti, 2015; Sule and Muizui, 2015). He appeared to be disinterested in delving into what he thought constituted tacit knowledge. He was keen to share his thoughts on explicit knowledge as follows:

*This explicit type means I must be well informed so that each and every one, you need information about management issues. I must be able to understand about management so that I can be able to develop my subordinates in my work* [HOD 5C].

I forwarded the same question to his colleague (referred to as HOD 6C) who posited that

*Knowledge is the information you possess in your head about things you have studied and done successfully and unsuccessfully and your upbringing lessons like morals and respect and so on and on”*.

His attempt of distinguishing between tacit and explicit knowledge drew a blank. I understood that he too lacked the orientation on the subject matter.

I broadened the scope of the discourse by asking administrative clerks the same set of questions. I started in school A where they aired their world views on the issue in question. According to AC 1A, *“Your skills to do something and the mental capacity to reason common*

sense”. She refused to be drawn into the discussion about tacit and explicit knowledge as she said with a chuckle, “*No comment, sir*”. Meanwhile, AC 2A opined that “*Knowledge is the information that is stored in your brain and you are able to use it at work or everywhere you go*”. On the issue of tacit and explicit knowledge, she replied doubtfully,

*Tacit can be the knowledge that is academic that we use at schools and universities, and explicit can be the one that we use in life and is not academic at all [AC 2A].*

I proceeded to school B wherein AC 3B opined that:

*Knowledge could mean anything. It depends on where you stand on this, to me it can mean education I have making me excel in my job well and to you it can mean being good in taking smart decisions that bring results. To the next person it could be something else.*

When asked to distinguish the two knowledge types she said:

*I do not know much about tacit and explicit knowledge. But what I know for sure is we all have tacit and explicit knowledge. Otherwise if we did not have it I do not understand why we would have a research like this asking us how do we share it or manage it like your research [AC 3B].*

It emerged afterwards that, just like some of the participants, she too had never heard these terms before. AC 4B added “*Knowledge is the ability to use what you know to do things. The things you do can be teaching, counselling or anything*”.

She also made it known that she was clueless about what constitutes tacit and explicit knowledge, but merely took a guess.

In regard to school C, AC 5C said, “*Knowledge is information gained through training, listening and doing things practically*”. She proceeded to distinguish tacit and explicit knowledge in stating that “*explicit is something of high substance and tacit is of lower substance*” [AC 5C].

I extended the invitation to the three principals participating in this study. Principal 1A explained that to him knowledge is nothing else but the curriculum activities that the school is mandated to cascade to learners. He opined that tacit is knowledge “*that teachers have and can explain it well to learners and if my memory serves me well, explicit means that something is clear. So that could be common knowledge that is not so difficult to understand*”.

In school B, Principal 2B stated that

*Knowledge is the wisdom to rationalise thought processes and it can grow as a person continues to live. I think we all have different pockets of knowledge but having wisdom takes a lot of time and needs a persistent effort from us to search for it in many ways we can like going to school, listening to radio or surfing the net.*

I presume that he implied that at the core of every knowledgeable person lies wisdom to apply the knowledge to effect desired outcomes in whatever they set themselves to accomplish or decided upon.

With regard to school C, Principal 3C stated:

*Tacit is the knowledge to reason out things at a level that the next person sees that you know what you are talking about; like a good teacher, learners can see that he is well training and informative because he has knowledge. Explicit I reckon is the extension of tacit but with variations here and there.*

Despite his admitting to not explaining “explicit” clearly, I agreed with him on tacit knowledge being the insight of a person that manifests itself when it is being shared by its possessor to others—through people “seeing what you are talking about” on a level that is not rendered explicit.

***b. Teachers, HODs, administrative clerks and principals’ characterisation of knowledge work***

Teacher 1A characterised knowledge work as “*applying my mind and knowledge to help learners understand my subject*”. As a follow up question I asked her if she saw herself as a knowledge worker and why. She indicated that “*Definitely I do see myself as a knowledge worker. I am employed to transfer knowledge to children so that they are empowered to stand on their feet one day* [Teacher 1A].

Teacher 2A stated:

*I do regard myself as a knowledge worker because firstly you need to understand the knowledge that you have first and acquire more knowledge, and then, you find suitable ways to impart that knowledge to your learners. So I try by all means to impart the knowledge that I have to my learners.*

They regarded themselves as cognisant of their obligation towards performing knowledge work. In fact, all teachers that formed part of the study regarded themselves as knowledge workers because:



*We are required to think carefully and prepare how to share knowledge in a classroom, and we have to apply our knowledge to create a learning experience that our learners for years to come because they would have learned skills that they use at that time from us [Teacher 3B].*

HODs overwhelmingly owned up to being knowledge workers. HOD 1A and HOD 2A posited that their job descriptions are knowledge oriented. HOD 5C asserted that, by virtue of the job description [as stipulated in *Personnel Administrative Measures*] (DBE, 2016), they ought to perform a supervisory role. As a result, they need to be well acquainted with regulations and processes that affect teachers.

*Yes ... I am because at this point I have knowledge in term of as the manager I know how thing are being done. Also as I am teaching the learners, I am managing them because I have to give them guidance how they must behave, how they must respect and how they must do their work in the class because at the end of the day I want the good result from them. I am also managing the teachers in terms of how to do their work as there is monitoring and controlling, as you are calling it moderation, and every term we need to moderate the work that is being done by the teachers. Then if you don't have knowledge to say what am I going to moderate in the work. Firstly, I need to understand the subject that I am teaching and also the subject that the teacher is teaching as a manager in that department that I am heading I must be the first one to be knowledgeable. So that when the teacher has a problem and says 'My manager, can you come and assist with this?' so it must start with me to have the knowledge so that I can be able to develop the teacher [HOD 5C].*

AC 1A asserted “*That’s my daily job. I deal with documents and files and data capturing everyday here at work*”. AC 2A added “*I work on the computer searching for information, sending e-mails and receiving some. That is the knowledge work that I do*”. Effectively AC 1A and AC 2A discussed the scope of the knowledge work they perform which is mainly manual knowledge work (in the case of AC 1A) and technological knowledge work (in the case of AC 2A). AC 5C added “*Knowledge work is my daily routine and I cannot imagine myself doing another job than this one*”. The principal said “*We do knowledge work as a matter of our calling in the teaching profession which is very knowledge centred*”.

It transpired that teachers, HODs, administrative clerks and principals are unanimous in their vision of themselves as knowledge workers, in that their respective designations are

characteristically knowledge based. Principals were no exception to this. They too proclaimed themselves as knowledge workers, and their justification for them identifying with the title of a knowledge worker was undisputable. Principal 3C stated, *“I am a strategic thinker, as you know thinking sound ideas and arriving at the tough decisions we take”*.

Principal 2B stated:

*I always have to process ideas before taking final decisions, and the decisions that I take are sometimes not welcomed by the SMT but I take them because in my mind I am thinking they will improve our school. Sometimes they do, sometimes they do not. It is the risks that people in my position take. Knowledge work is like that, you think a lot and try things out hoping they will work.*

Principals’ narratives cemented the claims made by the participants in declaring themselves as knowledge workers. Thus, all twenty participants were unanimous on this point.

***c. Teachers, HODs, administrative clerks and principals’ definition of knowledge management***

Teacher 1A viewed KM as an exercise which requires members of organisations to be receptive to learning from one another as stated in, for example: Friehs (2003); Garvin et al. (2008); Ozmen and Muratoglu (2010); Salim and Suleiman (2011); Argote (2012); Popova-Nowak and Cseh (2015); Purwhihartuti (2015); Sule and Muizui (2015).

*The idea of Knowledge Management to me, it means that the knowledge you acquire while learning because we are always lifelong learners and sharing that knowledge with colleagues, with learners and in my case - teaching Afrikaans and sharing more about the Afrikaans community with our learners [Teacher 1A].*

In her narrative she expressed that knowledge sharing should be rolled out broadly to benefit not only learners but also colleagues. In an academic institution sharing knowledge in a broad based approach does not only moderate its inflow but also filters its outflow (Akosile and Olatokun, 2020:410).

Teacher 2A posited that *“Knowledge management has to do with creating knowledge, sharing knowledge and just making sure that the knowledge that is shared is implemented”*. Here she introduced the idea of “creating knowledge” (as an endeavour between people) and implied that knowledge management also involves ensuring that what has been created is

“implemented”. Subsequently, she appeared to have exhausted her responses to this issue as she replied “*Basically that’s it*” to a follow-up question I had asked. But at this juncture I felt that what she said was enough to shed light onto her orientation with regard to the definition of KM. Although she did not state how knowledge is created (and shared), so that her answer lacked some depth, she pointed to some process of co-creating, sharing, and implementing knowledge. Like Teacher 1A she too indicated that prior to the interviews she had never heard of the existence of KM.

In school B, Teacher 3 and 4B both felt that the key value of KM is to ensure that knowledge is acquired and put to good use so that the school can use it to sustain its endeavours. “*In my view with regard to knowledge management, it is a process of acquiring, sharing and using knowledge to the best of your ability with the aim of empowering everyone involved in the process*” [Teacher 4B]. In school C, Teacher 5C said:

*For me knowledge management would entail what you know and how you acquire your knowledge, how you grow it and feed it and improve on it basically. It’s about being able to comprehend the know-how of things.*

As in the case earlier with Teacher 3B, I noted that Teacher 5C unknowingly but logically links Chugh (2013) as well as Nonaka and Takeuchi’s (1995) theory of “know how” with KM. Such intellectually stimulating comments illustrate the point made by Chu et al., (2011) and Chugh (2013) in stating that people often do not know the wide extent of tacit knowledge they already possess. To get a broader view, I continued to probe Teacher 6C who referred to how KM works in a classroom context.

*Knowledge management means that as a teacher you have to know all the characteristics of the people you are working with. To share knowledge, I give learners work from the CAPS document that we are using and then after that I do corrections with them and then when they differ with me, I explain until we agree on one thing because sometimes learners can give you examples that are different from the teacher and the teacher analyses that and compare the answers from the learners and the ones that are needed. Then we agree on one answer [Teacher 6C].*

In the same vein as Adyanga and Romm (2016) and Romm and Ngulube (2020), Teacher 6C perceives dual interactions (which in this case ensued between teachers and learners) in the learning experience as a collective enterprise. He demonstrated this stance by contrasting and harmonising the learners’ work with his prior comments with a view to reaching agreement

based on both perspectives. Therefore, his way of managing knowledge is by directing the flow of dual knowledge exchange such that learners' learning experience explores multiple perspectives to pave ways for innovation and redefinition of knowledge.

During interview sessions held with the so-called HODs (also referred to as senior teachers or subject heads in other countries' schooling systems). In defining KM, HOD 1A opined that KM is primarily all about keeping track of the state and relevance of the knowledge that the school possesses in its repositories.

*Knowledge that needs to go according to time and trends and therefore we need to check on how and how much knowledge is imparted in terms of how much are we gaining, how much knowledge are we imparting, how much are we gaining as well, and how to ensure that the knowledge is well archived for later or future usage.*

HOD 2A added that:

*Knowledge management is the method of making sure that knowledge is used to benefit the organisation like improving the way people record documents for clerks and memos for teachers.*

HOD 3B briefly described KM as “an effort made by employees in charge especially the management to make sure that they do not lose their knowledge”. This suggested to me that in his world view, schools should be content with the amount of knowledge they have and thereby employ mechanisms to prevent the loss of it. To correct HOD 3B's misconception of KM being an activity squarely fixated on controlling/preventing the loss of existing knowledge, I include here a statement made by Teacher 5C:

*For me knowledge management would entail what you know and how you acquire your knowledge, how you grow it and feed it and improve on it basically. It's about being able to comprehend the know-how of things.*

She gave this definition when I came for member checking as she had initially indicated in the interview that she did not know much about KM. Nonetheless, her statement offers some insights into how she views KM. Teacher 5C is mindful that knowledge is a predisposition that does not always deliver itself to the attention of the recipient. Her narrative indicates that the acquired knowledge needs to be rationalised and inspected to see how it can be improved and grown. HOD 3B added that once knowledge has gone through these phases, it should be stored so that it can be accessed in future. Taking care of the “security and distribution, storing and

sharing” (Liebowitz and Beckmen, 1998:17) processes of knowledge is what in the first place created a space for the invention of KM.

I asked HOD 4B the same question, to which she replied “*it is preparing to accommodate the information that we get from different places like the circuit and district or from parents when we meet with them and how we mix it with the information of ours*”. As vague as this statement is, what comes across quite clearly is the acknowledgement that preparation forms a crucial part of managing knowledge successfully. HOD 5C perceived KM as the school management’s pursuit of knowing more by listening to everybody’s inputs (regardless of seniority) whilst also keenly sharing what they know with one another in the interest of mutual development and self-development.

*Iya.... the idea to me is that you need to know most about what is happening in the management and how also you are going to work with the other colleagues that you are heading, because it is very important that you need to create a very good relationship with your subordinates, and then the issue of how you are going to work together and how you are going to share knowledge with them. Also, the issue of how you are going to develop one another because it’s very much important that as a manager you need also to listen to your subordinates and that one also build you to become a good manager. It doesn’t mean that as a manager then you need to say I am the boss then I know everything. No... . Listening is very good and you must be willing to learn from your subordinates and this will build your confidence. You need to share the knowledge and the information [HOD 5C].*

From the office administration perspective, administrative clerks almost all defined KM in a similar sense. Like HOD 3B, both AC 1 and 2A reiterated the point that KM is predominantly about controlling the movement and maintaining the state of the school’s existing information.

*Knowledge management is like controlling the knowledge we have so that it does not get lost like having back-up for in case they break into the school or the system collapses or when there is a natural disaster.*

AC 2A said, “*Knowledge management is a way of managing the knowledge that is here*”. AC 3B contributed a rather refreshing idea of what constitutes KM as she stated:

*KM is the culture of motivating people who use knowledge in class like teachers or in the office like us clerks and the principal to make sure that they do not lose their knowledge and they continue to get more knowledge.*

AC 5C added “*KM is creating a filing system for storing and accessing information when you need to use it or update it*”. AC 4B supported this view in stating “*Knowledge management is being aware of how we are contributing our knowledge to the knowledge that our school has*”. AC 3B, 4B and 5C emphasised that KM is about reconciling personal with organisational knowledge.

The principals’ thoughts on the matter were as follows: Principal 1A dissected KM from the perspective of curriculum delivery. To him it is important to form a linkage between pre-existing knowledge with new knowledge. This ensures that knowledge sharing takes an upward trajectory and is delivered maximally.

*It is how you control and manage - in our case - the school curriculum. How do you use the previous knowledge of learners or of educators to teach new topics relative to how to use the educators according to their strength - getting the best out of everyone? In terms of learners we start from the known to the unknown. If you basically want a learner to learn something new, you have to know does he/she knows.*

According to Principal 2B, KM is being mindful of how the knowledge is used across different areas of the school operations. He further posited that part of KM was the need to keep constant check of the relevance and sufficiency of knowledge alongside introspecting on the readiness of the staff to execute quality knowledge.

*KM is a deed of sitting together and consolidating all sources of knowledge we can think of. We would check things like how can we get the relevant knowledge to bolster specific areas of our operation such as the curriculum, also how can we develop our people to be ready to produce knowledge of high quality, and once we have the knowledge we needed from these people, how can we make sure that it does not run its course, and that is where research comes in to look at trends stay relevant. Maybe we may have to retrain them on recently added parts of knowledge or we have to do other activities like SWOT analysis to weigh where we stand. In short that is how I take KM.*

Principal 3B chose to give a practical example of what KM means to him. He stated:

*KM is collecting information as it comes and now and then going through it when you need to use it. The files that you see here and the boxes full of papers that we have in*

*the store room and the information saved on our computers and the cupboards full of question papers in classes, are all our methodological effort of managing knowledge.*

The advantage of interviewing Principal 3B last presented the opportunity for me to identify with what he was talking about as I had already spent time in the classrooms and the office block interviewing the other participants.

***d. Constraining factors***

Several studies (i.e., Hammer et al., 2004; Akhavan et al., 2005; Gyaase et al., 2015; Tyreteou, 2016) illustrate that most KM initiatives are habitually marred by constraints of varying magnitudes. Schools “generally” exhibit “some” constraints in applying “KM” (Ozmen and Muratoglu, 2010:5370). The same fate manifested itself across all three participating schools, namely school A, B and C. The participants mentioned constraints to KM application that they contend with in their varying capacities of employment. Teacher 1A was dismayed by too many people meddling with the reporting of information. She posited that very often they received contradictory messages about the decisions taken by the school leadership from HODs and deputies, leading to confusion. Towards the end of her narrative she alluded to the accuracy of messages being lost somewhere in the hierarchy of the organisational structure.

*I only report to my HOD because I only teach one subject but a lot of teachers have more than one person to report to; and that causes confusion because of the different subjects that they teach. So, in that sense, the principal makes some decisions and some are left for the HODs. I do not understand of this vice principal in our school because the HODs and the principals make decisions. I think that the vice principal is there to support either one of the decisions so I am confused by others. For the most part I think that we as educators Post Level One report to our HODs. I think that information gets lost between the principal, the vice-principal and the HODs before it comes to the teachers.*

Teacher 1A maintained that the organisational structure is rigid and results in the messages meant for teachers losing their meaningfulness because the more they move from one designation (principal, deputy, HOD) to the other, they lose their core tonality by the time teachers receive them. Khumalo (2009) and Luvalo (2017) attribute weak communication to the long chain of command associated with the top-down hierarchical structure. Over-reliance on hierarchy, position-based status, and formal power is what Riege’s (2005) study cautions

about because it has proven to be one of many barriers to knowledge sharing. In a similar fashion Teacher 3B stated:

*What I have noticed especially at my school, communication gets lost in that pyramid of communication. When it gets to you, it's no longer what it was initially meant to come out. I will make an example, I received a time table for our workshops and it was incomplete. I had to go and enquire about this matter because I did not understand how come I would not be having a workshop for this term and yet I needed guidance with the additions that were introduced to the syllabus. So now if the knowledge was transcended directly to me I would not have had a problem.*

Teacher 2A blamed the school leadership for the current anti-collaborative school culture which makes it harder for teachers to contribute in deciding their fate as well as that of the school.

*The organisational culture does not allow one to develop and to even share knowledge. Instead it's quite the opposite, whenever you feel that you want to impart a certain knowledge to your colleagues, it makes you feel like you are doing something wrong. This really started with the top management and now it is affecting the entire staff. Leadership need to be mindful and change a lot of things when it comes to knowledge management and us young teachers. They should not disregard the fact that although we are new in the system we also have knowledge.*

Linking this statement to teacher 2A's remarks (as mentioned above) in her discussion of the definition of KM as "...to do with creating knowledge, sharing knowledge and just making sure that the knowledge that is shared is implemented", She feels that there is insufficient encouragement of teachers to participate in developing and sharing knowledge as would be the case in a more collaborative context.

With visible frustration Teacher 4B also blamed the leadership for not controlling the movement of messages to staff. She said openly that the leadership tends to treat them autocratically with little regard for their inputs in decision-making processes.

*With regard to this question I think that our organisational structure is not conducive for effective knowledge sharing because the leadership style is autocratic and of which is not open for discussion. In most cases you get information as a secondary source. You find that it may have been distorted, making it rare to get the first hand information where you can engage in finding a solution to the problem. Only certain*



*individuals have the right to tell others what to do. Our role is to impart knowledge to others and I can also say that with regard to KM if I have tacit knowledge that kind of a knowledge is not helpful to the entire masses of the people. So what is key is the explicit one that is where we have the ability to impart it to the masses, and if that knowledge is seen as the knowledge that can help to develop the practice then it can be beneficial to the organisation and its workers.*

Furthermore, Teacher 4B cried foul on the basis that “*the platforms are very minimal for now because we do not have structures or teams where we can share knowledge*”. This point was also reiterated by Teacher 5C who argued “*I think there isn’t really much of a platform. People are just left to their own devices*”. Teacher 6C appeared to be more worried about naughty “*learners disrupting our classroom proceedings*”.

I then interacted with HODs who are classified as “the middle management” owing to their location in the middle sphere of the hierarchy. They are directly responsible for supervising teachers. HODs in school A said expressly that teachers tend not to peruse information that is cascaded to them by the school management. Other issues of concern to them pertained to teacher absenteeism and the inadequacy of computers.

HOD 2A asserted that “*teacher absenteeism makes it hard for us to share knowledge in class the best we can*”. This persistent problem can adversely impact the performance of learners (Obeng-Denteh, Yeboah, Sam and Monkah, 2011:7).

HOD 1A posited:

*There is that little sticker of classroom management but it would remain there; people do not even see sometimes. We do have a computer lab but our computers are not yet enough for each and every learner in our school, and a lot of people have got a problem of classroom management”.*

Both HOD 3B and 4B cited heavy workload as the primary reason behind the inadequacy of time to arrange more knowledge sharing platforms such as phase and subject meetings and internal training. They would appreciate a fair distribution of workload so that they could channel their attention to other aspects of their work (Nkambule, 2018:145). To lay a claim to this, I cited studies conducted in the last nine years including Mpisane (2015) and Nkambule (2018), which established that classroom teaching consumes a lot of HODs’ time. Alongside the overwhelming workload, HOD 6C also observed that teachers, for unknown reasons, do

not read the information that is circulated in the comfort of their classrooms. These include circulars, policy updates and many others containing crucial information.

*Sometimes the messages take long to reach where they are supposed to reach. Let us say you have got a circular that you are receiving today then the principal will receive and give it to the vice principal. Then the vice principal maybe was supposed to call a meeting so that he could give it to all the staff. Sometimes when you give them maybe they will paste it and ignore it. Some people are ignorant until you ask him, did you see what is there [HOD 6C].*

HOD 6C's claim was echoed by HOD 1A, in saying

*Some other people do not like to read. A lot of people have got a problem of classroom management. Now that little information that I have got I have written down on paper and I gave each and every one, there is that little sticker of classroom management but it would remain there, people do not even see it sometimes.*

AC 1A and 2A, 5C commented about SA-SAMS glitches. They are not impressed by the frequency of these glitches particularly at a crucial time when they are expected to complete their duties hurriedly.

AC 1A posited:

*Sometimes the system does not want to open it keeps on buffering". The department likes to change the patch late in the term when I have already given it to teachers and some of them have already written a test and recorded a mark. Hooo.....I get frustrated when that happens every term.*

AC 2A further posited:

*It takes a long process to get foreign learners because their passport numbers most of the time do not have thirteen numbers like ID's. When the system rejects them, you have to find more documents to support the enrolment before the system takes it.*

Beyond the constraints already mentioned by her counterparts, AC 5C stated:

*I do not like it when we receive the batch late and it comes with a virus that wipes information from your computer. It happened once to us; luckily we had back up in another computer that we did not use a lot, and I am not the only one who complains about this, many clerks complain. Another problem is that we have no technicians working for the department and we have to pay private technicians to fix our system and it is very expensive.*

AC 1A, 2A, 3B and 4B and 5C reportedly felt that their efforts are often under-appreciated specifically by HODs and to a lesser extent by teachers. More often than not, HODs do not give them the credit they deserve (Bayat, 2014, Bayat et al., 2015). In his narrative, HOD 5C articulated a reason why teachers are at loggerheads with administrative clerks. Apparently, administrative clerks are now and then blamed by teachers for the discrepancies in the mark sheets.

*Internally in our school we normally- I think you will share with me this- in terms of SA-SAMS most school marks are being punched by the admin clerk. We realised that the admin clerk can punch but the problem comes when now when you have your copy of your marks and when you compare them with the marks you submitted, you will find that the teachers say this is not correct. So we developed the teachers how to use SA-SAMS so that they can punch their own marks into the SA-SAMS. So that when there are any irregularities now when I moderate I have to check who did punch the mark into the system [HOD 5C].*

I (as a teacher in a township school) know that once marks are erroneously captured, they can cause mayhem in the reporting of learners' academic progress. You may find that marks given to a diligent learner are erroneously captured under the name of a learner who performs below average in class. Luckily due to internal moderation these errors are normally picked up by HODs when they inspect the marks or even by teachers themselves. But I have witnessed cases where, due to the pressure and time constraint, these errors are not picked up by the school but by parents of diligent learners. These unfortunate incidents can spiral out of control to a point where teachers may blame administrative clerks and parents may clash with teachers, a situation which damages the reputation of the school.

With regards to principals, it became apparent that budgetary constraints, shortage of equipment and theft of technological equipment were major concerns to them

Principal 1A shortage of resources as a result of limited budget.

*Not really, our school does not have the financial muscle and the department of education does not include IT in their programme. We need to buy laptops or computers, maintain them and buy programmes, get the tutors and that is expensive. Let me put it like this, I actually went into an IT centre, when you look at that IT centre, you look at the equipment then what we have is nothing compared to them. It doesn't mean that you have got a cell phone and a laptop that you have got enough IT*

*equipment. IT equipment includes printers, internet. Therefore, some we have and some we don't have. In terms of that I would say we have started but say about 35 to 40 percent capacitated to participate in the fourth industrial revolution.*

In the same spirit, Principal 3C also admitted

*I am greatly worried too about there being not enough financial allowance to procure new gadgets and pay computer tutors”.*

Principal 2B added *“sadly they keep stealing our IT equipment and once it is stolen it takes time to replace it because we do not have that kind of money.*

#### ***e. Realised KM benefits***

With regard to realised KM benefits there were two contrasting opinions. On the one hand, Teacher 1A hailed the current curriculum as the footprint of KM. Introduced in 2012 CAPS entails a series of thematically divided learning outcomes spanning various subjects and a prescription of how teachers must manage its execution in terms of teaching and assessing learners (Maharaj, Nkosi and Mkhize, 2016: 376). The content to be taught and learned (Maharaj et al., 2016; Thaanyane, 2010) is filled with many exercises and assimilations that are contextually relevant to how we live and relate to one another daily.

*I believe in the years we have been doing CAPS I believe that now only we are starting to understand what it needs. It took us a few years to gain the knowledge in it and now we can better manage it. I believe in times to come we will do even better in it. Yes, we do have resources, we have posters, we do have things, we have textbooks, and we have information that we can get because there is internet. It is just not in the classes. So, we can get enough information to make it easier to share knowledge.*

I did not fully follow her assertion; therefore, I probed further especially about the curriculum. When asked to elaborate on what it is that exactly impresses her about CAPS she replied:

*As an educator we work with the CAPS policy. That is our structure we basically follow it but most of the themes that we use and the knowledge that we convey is situational. So our themes have something to do with everyday learning transport, it has to do with what we do, the manners and things that kids can use.*

After this assertion it then became clearer to me that she was in favour of the content covered in the document and the breakdown of lessons into manageable chunks to be taught over a specified period of time. I also agreed with Teacher 1A on grounds that CAPS ensures that all

schools, regardless of their quintiles and locations, adhere to a standardised method of curriculum delivery. On the other hand, Teacher 2A did not hesitate to express that, at this rate of application, no real KM benefits are realised.

*I previously said that KM is not properly applied therefore currently there are no benefits, where we transfer, share knowledge. It's ineffective. As a concept it's never been talked about. We would have educators who grow. Otherwise we are stagnant. KM for me now has to do with development, has to do with growth and has to do with the process of getting somewhere that you possibly don't know.*

Teacher 2A laments the lack of personal development and growth. The disgruntlement of teachers (Eller and Eller, 2013; Whitaker, 2014) is usually an indication that knowledge sharing efforts are below par (Kazaure et al., 2016:166). Coming back to a positive trajectory, Teacher 3B inferred “yes, KM yields benefits to our school because it keeps it running”. Teacher 4B commented that all was not gloom with regard to KM application because some areas of operation such as the School Governing Body (SGB) do benefit handsomely from KM.

*I think yes only on the side of the SGB and SMT because they meet on a regular basis to discuss issues regarding school infrastructure, hiring of employees etc. The fact that we see development in terms of building new classrooms, paving the school yard, installation of JoJo tanks. I mean that people are talking to one another about these things, and these are some of the benefits from KM in our school [Teacher 4B].*

Teacher 5C averred that KM presents opportunities for teachers to converge and exchange knowledge on how to better manage different situations that they are confronted with in their classes.

*I think it does offer benefits if the knowledge of say classroom management. If we were to sit and share about how to deal with classroom management and all those things [Teacher 5C].*

HOD 1A made reference to the convenience that knowledge sharing technologies bring to their work. She specifically mentioned the social media aspect of technology like WhatsApp and Facebook as a quick way of sending messages.

*The rate we are moving makes me not to be afraid to declare that we are really moving towards that revolution. Even in classes we have got those white (or smart) boards wherein also the information is also stored over.*

*So, we are really in the twenty-first century. Just fortunately we do have these new teachers, these vibrant teachers who are technologically inclined. For us to communicate when I am not coming to school then you would know by six o'clock in the morning that I am not in. Whoever teacher that is not in, through WhatsApp we are able to communicate. We are communicating through Twitter, we are communicating through Facebook as well. The last time our learners was lost over the holidays it was all over our Facebooks. We are so technologically inclined that we are not having this mishap of we can't manage anything. So if I come to school in the morning I already know that this teacher is not in and what must I do with his or her class. Already we are able to manage that situation. For us it's really working so well.*

HOD 2A said that KM was sufficiently implemented to keep the school afloat even in the midst of certain difficulties.

*For the mere fact that we are still considered a performing school despite having challenges here and there, confirms that we are doing something right and we are truly doing our best to apply KM in class and in the office.*

HOD 5C added that KM sustains constant dialogue between teachers and himself framed around managing curriculum delivery in class. He thus expressed that the existence of SA-SAMS propelled teachers to play an active role in capturing of marks.

HOD 6C talked about KM powered technologies specifically cloud and email being instrumental in helping schools share knowledge promptly at a distance – a far cry from the days of where distance was a barrier in dispatching information timeously.

*You can work with files e-mails. Then there is cloud whereby I can send any document that you need using technology. Using technology make things easier I can e-mail it now to you then you can email it back to me. Then you say maybe can you update one two three from your file whilst you are there wherever you are you can monitor may work. Unlike the old system of using the files.*

All administrative clerks made it clear that the SA-SAMS glitches do not outweigh the benefits. They were appreciative of the user-friendliness of SA-SAMS in capturing, storing and retrieving every sort of information about their schools (Mokwena, 2011 and 2014).

AC 1A said:

*I mean we are having a well arranged filing system. Like you should go into the principal's office you will see there that we have a lot of files in hard copy that we also have on soft copy in our system. I even think that we have much more information on hard copy than we have on soft copy like your policies, memos and circulars etc.*

AC 2A who has been at the school for more than twenty-five years talked about the convenience that SA-SAMS brings to his daily duties.

*SA-SAMS is helping us a lot, we can now record information on it and if you are not able to finish, you can save the document and just come back later and continue. I used to struggle with using a pen to record information but now I know that I can use SA-SAMS. Sometimes the computers are crashing and everything is just lost. But definitely hardcopies are well saved and now and then we just go back and look into them and amend them there and there so that we could just meet the standard and the trends of our life situations.*

AC 5C concluded, *“They just need to take care of a few problems it gives us, but it is the best thing to have ever happened in the thirty years that I have been working as a clerk. SA-SAMS has everything that concerns the school”*. This programme is a perfect example of how indebted organisations are to “computer technology” for “knowledge generation and management” (Nemani, 2010).

Principal 1A echoed a sentiment which had already emerged in one of the earlier interviews (HOD 1A): the convenience of social media in knowledge exchange transactions.

*We are utilising the Smart Board system with the computer and all the marks are being projected on screen. All the educators can see the content. The school has got a WhatsApp group. The phases also have their WhatsApp groups where we can communicate information like meetings and when something is happening or news that have happened then we use WhatsApp. Facebook - some of the educators do use it. SMS's since the introduction of WhatsApp, SMS's are seldom used. E mails we use to mainly communicate with the department of education. They are the stakeholders that is what we use e-mails for. Also telephonically.*

Principal 2A also followed the trajectory of putting the social media as the foundation of knowledge exchange. Additionally, he talked about bulk SMSs and the privilege of preparing

learners for the knowledge era through offering Computer Application Technology as one the subjects that they can exit the schooling system with.

*Today we have bulk SMSs, you just text once then you send to all the parents of the data base. This is a good way of reaching as many people as possible. We have a WhatsApp groups as teachers and the members of the SGB. If there is an urgent issue or emergency, we communicate through it to arrange meetings. We just opened a Facebook page for the school with our learners in mind, and we post assignments and learning materials, and learners can reach us if they need to, even school during holidays when we are in recess. Not forgetting that we have a computer laboratory because we are an MST school we offer CAT at FET phase. CAT brings learners closer to 4IR. Those are benefits that I can tell you about.*

Principal 3C appeared to have been intrigued by the sophistication of SA-SAMS. He also talked about a directory book containing reference numbers and the theme of every file in the cabinet which he compiled over the years.

*SA-SAMS works wonders for me. I do not know how familiar you are with it but it has many features that I use frequently'. I can show an index book which tells you exactly where in the cabinet you can find a file containing the information you need about the school. This cataloguing method is KM and it saves a lot of time because if you need some information, you simply page through the index book which will direct you exactly where in the cabinet to find the files you need.*

When consolidating these narratives into one message, what comes out strongly is the accord with which teachers, HODs, administrative clerks and principals perceive KM benefits as far outweighing the accompanying constraints. In the next theme I explore the way in which teachers impart KM in their respective spaces of implementation.

### **5.6.2 Theme 2: Teachers' Ways of Facilitating Tacit and Explicit Knowledge in the Classroom**

The ecology of the school places teachers at the core of knowledge work (Petrides and Guiney, 2002:1714) and much of this work requires them to critically “analyse, develop and implement” the curriculum (Carrol et al., 2003:42). They are the vessel for learners’ content knowledge acquisition. Their level of education (Kumar, 2011; Spink, 2014) and “daily critical



thinking” (Spink, 2014) assist them in making a success of the mammoth task of transferring knowledge to learners.

*a. Stimulating knowledge sharing and creation among learners*

Dwiyanti (2017:82) argues that discursive engagements between learners with their peers, teachers and their learning environment enhances knowledge accumulation in a learning process. To understand the methods used to actualise this process, I asked teachers to take me through the process.

Teacher 1A mentioned “*storytelling, group discussions and sometimes the form of essays to be presented in class*”. She said:

*In my class I believe in open communication so learners can share what they have learnt. We do have books where we write in, we give homework but most of our homework is to go find out something, come back and share it. Write a story of what you have seen or tell me what you have seen yesterday. Storytelling, news sharing whatever they have heard on the news. I am encouraging the learners to follow the news. In that we can base our Afrikaans on what we have learnt on current events in our country, in the world whatever is happening.*

Teacher 1A here insisted on open communication as the gateway of knowledge sharing. This is consistent with Dwiyanti’s (2017:87) point that open communication cultivates the spirit of collaboration among learners under the direction of the teacher leading to the creation of new knowledge.

Teacher 2A mentioned role play as a method she uses the most to keep learners actively involved in exchanging knowledge.

*I think you need to form discussions, learner centred approach, they teach each other and sometimes it could be role play. Sometimes they need to experience something for them to understand it. So, you relate it to their daily lives, and remember that when they role play they are doing it while others are watching so they are sing their peers do something and that’s how they learn.*

Role play is an exercise which requires a person to use their imagination for a certain period of time to tap into the other person’s life, emotions and habits of doing things. It helps learners get a glimpse into different life contexts. Studies found that role play keeps learners fully involved in the learning process (Kusmana, 2011:1) by building their confidence in expressing

themselves through acting and spoken words, resulting in improved communication skills (Samsibar and Naro, 2018:110).

Teacher 3B mentioned “*marking together with their peers, doing informal assessments, presentations, orals and plays to ensure that learners share their knowledge with their peers*”.

Teacher 4B mentioned she relies on group work and question and answer method to perpetuate a knowledge sharing culture among learners.

*I normally encourage group work where they have to work together, and I also tell them it's very much important to work as a group because you develop each other as individuals within a group. Question and answer method I like a lot because it involves them in the process.*

The gist of Teacher 5C's narrative is based on storytelling, group discussions, assimilations and group assignments.

*I think that when we are teaching and we are telling kids stories about whatever you are trying to teach them, and say to them, guys this how things happened so and so many years ago and this is how it is affecting us today. Or even my personal experiences, I would tell them this is what I went through and this is how I came across this knowledge and what it does for me. I basically correlate the two. I just show them that it is not just in the textbook, it can happen also in real life. Assimilations I also do. I make them work in pairs or in groups or you give them a task where everyone has a responsibility to make a contribution, whether it something outside the classroom or its going to be a project where they can work together and share their knowledge. What I am seeing is that you leave them to their own devices the other one would think but Oh man said this, this is how it is supposed to be. So everyone gets a chance to express how they feel.*

#### ***b. Evaluating learners' comprehension levels of the shared knowledge***

Evaluation is also known as assessment in the education sector. It is a process that comes as a diagnostic tool, after the teacher has taught a proportion of work, to gauge both the effectiveness of the teacher's teaching strategy and the level at which learners comprehend it (Shipman, 2020:2-3). To get a glimpse into the teachers' assessment strategy, I probed them on this matter, to which teacher 1A and 2A responded, “*We do have books where we write in,*

*we give homework but most of our homework is to go find out something” [Teacher 1A]. “Tests and projects are very useful in getting a clue of where your learners stand” [Teacher 2A].*

Teacher 3B divides the period in two segments: the first segment is for teaching purposes; the second is for classwork and assessing if all learners are receptive to what they are being taught before forging ahead with another topic/theme within the syllabus.

*I have an exercise for them every day, and they loathe coming to my class every day, because they know they will have some work to do. I use the thirty minutes of an hour to go through the work they must, and during the last thirty minutes we do an exercise from that I can tell who know understands well and who does not. I do not proceed to the next part of the lesson if about eighty percent of them do not say ooooh! because that ooooh! Tell’s me a majority of them understand.*

Teacher 4B tended to ask questions at regular intervals to ascertain whether learners were still on board in as far as the lesson is concerned.

*While I am teaching I keep on asking questions. Asking these questions, I usually go to the ones that I think their attention is not good enough. If I can see that they did not successfully gain the information I repeat and go back to the information that they did not grasp well.*

Teacher 5 and 6C added informal and formal tests in the list of methods.

*Normally this is when you have informal and formal assessments (where they have to go home study and come back) that is where you see whether they have understood or did not understand. Also when they have to work on their own and put what they have learnt in class in their own words or in their own controlled environment. I normally go back [when they have not grasped the concept] and tell them guys you didn’t understand, you guys are going this direction and you would even see that they are missing the point at a certain level. So you break it down a bit further or give them more examples or activities so that they can write the work or read it so they can understand it [Teacher 5C].*

### **c. Archiving learners’ academic performance**

Keeping documents is very important as they act as proof of work accomplished, and in case of moderation, a teacher can be in a position to prove to his/her moderators or superiors that she/he has indeed complied or failed to comply with the required performance standards. I keenly asked participants about their methods of archiving learner academic performance.

According to Teacher 2A, “*you do filing, you do. There is a learner profile where you keep everything about the learner. It is both manual and computerised*”. Further explanation about this came from Teacher 1A.

*We manually write the marks down, we manually write the register down and then it is being recorded in a system. We correlate the two together – every teacher writes their own manually using a pen and paper like the old way; but there is somebody that puts it in a new way like capturing it on the computer and from there we send it to the circuit. We use a filing system. You are supposed to have a file and also a file for your marks. So a planning file, a file for your marks and also a register that you keep daily.*

Teacher 3B commented “*I record on mark sheets and mark books. I also have a subject file which entails everything I do in the classroom, and all my documents correlate with each other*”. In a similar fashion Teacher 6C made it known that “*always after they have written any assessment, I mark and record in my file what they have obtained. Learners’ book are evidence, and also the lesson plans*”.

Teacher 4B uses what he called a “teacher’s portfolio” to keep a historical record of learners’ academic progress throughout.

*Normally when I have given them the tasks there is this teacher’s portfolio where in the marks that they have got goes into it and the parent s are expected to sign them. Another thing, as a class teacher, in class I have this document where I register the names of those learners who are present in class on a daily basis. If there are learners who bunked the classes, it’s written there. If the learner comes to say that the teacher didn’t give me the work because of one, two, three, then that book is going to be served as evidence.*

### **5.6.3 Theme 3: Aspects of HODs’ Supervision**

Various authors suggest that we can regard HoDs as being strategically placed as a mouthpiece of teachers to the leadership (Nkabinde, 2013, 2020; Mpisane, 2015; Seobi and Woods, 2016; Bripath and Nkabinde, 2018; Tapala et al., 2020). Their execution of a multiplicity of supervisory tasks alongside a reasonable amount of classroom teaching (Nkabinde, 2013, 2020; Mpisane, 2015; Nkambule, 2018) makes them more familiar with teachers’ affairs than any other part of the SMT. With politicians using education as a politicking tool (Asmal cited in Sunday Times, 2001), stakes are high and HODs are under immense pressure to ensure that in

every classroom teaching and learning activities are carried out accordingly. I now turn to the following sub-themes to unearth what was discussed in the interview sessions with participants.

**a. Supervision of curriculum delivery**

With curriculum management being the HODs' primary duty (Akoma-Sey, 1999; Tapala et al., 2020), I asked them to share with me their methods of supervising curriculum delivery.

HOD 1A shared the following:

*I sit down with them and ask how about developing a tool to do this and that. Ultimately, whatever information we come across we write it down. Once we have come up with a relevant tool for it then good then when we moderate a paper like an assessment it's accompanied by many tools and you will be amazed. (You know) they bring a paper to me I pre moderate that paper with a tool for pre-moderation and thereafter I give the feedback. After giving that feedback of that paper, if they change that paper somewhere because I said change this and that. Also considering the taxonomies and everything, and we believed that all the content subjects the Bloom's taxonomy is the relevant one; whereas all the languages and everything the Borough taxonomy is the relevant one. We have realised the difference between these two taxonomies. That's why when we merge them together we are able to meet the content and we have got tools for that. After they have marked and everything, they bring for post moderation. There are three papers that I need to fill. Afterwards is the question paper with pre-moderation tool and with some other papers and the question paper as well as the memorandum. After that it is the post ... it is another paper, another paper ... so that information if you come and say that mam can I please have a previous question paper for English may be June, I am going to take out a pack. (In that paper) You are going to all the alteration in the paper and everything. Each and every teacher has got that pack. So it in their files and their files have been labelled I did the filing for them. I did cover the files for them. So for us information is well archived.*

HOD 1A asserted that it was important to ensure that assessments cover the content that was stipulated in the ATP or CAPS document. According to her, the assessment paper should consist of different cognitive levels (by means of slotting in high, low and middle order questions) as envisaged in Bloom's Taxonomy and Borough's Taxonomy. She further stipulated that assessments would have gone through two stages (namely, pre and post moderation) prior to the being meted out to learners. In another conversation she explained that

she protected the loss of teaching and learning time by seeing to it that absent teachers' work still gets done even in their absence. This came to light as she uttered "*so if I come to school in the morning I already know that this teacher is not in and what must I do with his or her class. Already we are able to manage that situation*" [HOD 1A]. In case of underperformance on the part of teachers, she said, "*We are changing even people who are teaching subjects to say you have not performed so well in this one and we realise that we can put this one in*" [HOD 1A].

HOD 2A cited that she conducts classroom visits to keep track if teachers are coping with the pace of the syllabus, and also to inspect the conduciveness of the learning space.

*I go through learners' books to see if they have written the right percentage of work that is required for that cycle. Lesson plans are checked to see if they match with the content or are done, because sometimes teachers are lazy to do something as easy as a lesson plan. With me I carry an instrument to check if the teacher has made the atmosphere in the classroom friendly for teaching and learning purposes.*

HOD 3B mentioned lesson preparations and classroom visits as his way of propelling curriculum delivery.

*We agreed that every Monday they have to bring their lesson preparations and copies of the exercises they will give to learners. But if the work is taken from the textbook I just need them to bring the textbook and I check the exercises. Sometimes the number of exercises is not enough for the cycle then I ask them add a few more. Time and again I go to classes for scheduled class visits and check the progress made.*

HOD 4B said mentioned "*learner books, teachers' files and the moderation of assessments*". He thus mentioned wandering around the school premises to ensure that there are no learners loitering around.

*All learners are in class, but if I find a few outside I ask why before deciding what to do with them. If the learner is found transgressed I show them what the code of conduct says about dodging classes. Depending on the regularity of this transgression I act and parents have to know about this because they entrust us with their children's future. So making sure that learners are in class to learn is something I emphasise on. Really, it is our constitutional mandate to do so.*

HOD 6C mentioned that they downloaded a tool called "a tracker" to track if their pace of curriculum delivery is on par with it as per the two-week cycle. In the event that the teacher is

behind schedule, HOD 6C said to make up for this, “we are using a catch up programme”. Below he stated how the catch up programme works.

*The educator can say may be I didn't finish the ATP then I will make maybe morning classes as our school starts at 7:45 then you tell learners can you please come at seven. The he or she teaches what he did not touch before. As I have said to you we have got the ATP and the tracker. I know the teachers do have lesson plans. Also what we encourage them to have is a lesson preparation because you can write a lesson plan as it is but what are you going to do when you come to class. As I said our lesson plans are catered for two weeks. In that two weeks maybe let us say we will be talking about compound nouns. Then on Monday I will be treating compound nouns. Then we write a lesson preparation as they are and what I am going to do and what activities that I am going to give out to the learners. Then maybe it depends on how fast you are and how fast are the learners with the work you want to teach them.*

Seemingly HOD 5C also used the catch up programme (which he calls a “content coverage plan”) to make sure that teachers who are absent make up for the contact time they have lost with learners. He inferred:

*Even when the teacher is absent there is a content coverage plan. We write their dates when they were absent and your teacher must give in the template where you have to indicate how you are going to cover the time lost. You must indicate and the HOD must monitor that to ensure that it is being done.*

In addition, he talked about having several tools to monitor teachers' adherence to teaching time.

*We sign the Z8 by 7:20 am but once its 8 am it is being taken and you are highlighted. This is to say I need to honour my period. I even need to sign the period register to show that I am controlling the presence of teachers in class. We enforce policies to make sure that teachers share knowledge with learners effectively and learners are aware of their role in this. There must just not be policies staying in the carport that is why I have tools to control the attendance and the pace of the teacher in delivering the curriculum.*

***b. Supervision of teacher development and appraisal***

To shy away from their schools being declared dysfunctional owing to “poor learner performance” attributed “to poor-quality teaching” (Seobi and Woods, 2016:1), HODs preside over the “planning, organising, and controlling” (Ankoma-Sey, 2019:59) of teacher development and appraisal activities. I therefore explored with participants the methods they use to up-skill teachers.

HOD 2A, 3B and 4B talked about the *Integrated Quality Management System (IQMS)* as the tool to realise this ideal.

*We implement IQMS where every teacher is part of the group that will assess him or her. That teacher must write on the Personal Growth Plan what his weaknesses are so that his or her developmental needs are looked into at the end of the day. Peers assessment is what we emphasise on in the IQMS [HOD 4B].*

The IQMS provides information and feedback to teachers regarding effective practice and offers a pathway for individual professional growth. It allows a mechanism to nurture professional growth towards common goals and supports a learning community in which teachers are encouraged to improve and share insights in the profession.

HOD 1A stated:

*Basically, we are inducting, we are mentoring, we are coaching and also emphasising that at the end of the year we do the strategic plan. We do it ourselves, already we have it in our phase even before going to the school’s strategic plan- where we identify the gaps. So, we are intensely looking into that because we need to see our learners performing.*

She insisted on induction, mentoring and coaching as crucial elements of her style of controlling and actualising teacher development programmes. Nghaamwa (2017:ii) postulates that induction provides an opportunity for “novice teachers” to absorb information on the school’s operational protocols including “classroom management skills, such as planning, teaching and learning as well as filing”. Mentoring and coaching are similar in many ways (Utrilla and Torraleja, 2013:390) but contain slightly different yet interwoven characteristics. “Coaching can be viewed as a form of mentoring, or as a certain aspect of mentoring, but one that has a narrower focus, generally relating to an individual’s specific job task, responsibilities, or skills” (Fielden and Hunt, 2011:346). In her view, mentoring happens in such a manner that



older teachers are paired with middle career or newly appointed teachers so that they can develop them in certain areas of competency, and coaching is done to streamline teachers who have already mastered the content but need fine tuning or lack an approach to transmit content knowledge effectively. It also came to light later on in the interview that she acts as an advisor for teachers in terms of the skills programmes they can partake in as catered for by the Department of Basic Education.

HOD 5C mentioned internal and external workshops as the main platforms for developing teachers' knowledge. He made reference to two internal staff development workshops: one for training teachers in capturing marks on SA-SAMS and the other pertained to completing the learners' profile form. He further cited cases where many teachers were sent for external training to capacitate them in their respective areas of expertise, and mentioned an upcoming training session scheduled to train teachers to upload their Continuous Professional Training and Development (CPTD) points as per the South African Council for Educators (SACE) requirement.

*Internally in our school we normally I think you will share with me this, in terms of SA-SAMS most schools' marks are being punched by the admin clerk. We realise that the admin clerk can punch but the problem comes when now you have your copy of your marks and when you compare them with the marks you submitted, you will find that the teachers say this is not correct. So we developed the teachers how to use SA-SAMS so that they can punch their own marks into the SA-SAMS. So that when there are any irregularities now when I moderate I have to check who did punch the mark into the system. You cannot hide to say it was not me because I would have done pre moderation of the marks. Even after you have punched we are going to compare the two to check if they are a true reflection. No one is going to blame the other one. Also the issue of learner profiles, we had the problem before of how to do it. And we organise a workshop to teach teachers to fill the learner profiles. Externally, we did encourage teachers to take the skills development especially in their subjects that they are teaching. Even myself I went for an external workshop whereby I was given the skills development in EMS because I have got seventeen years teaching this subject. I was a cluster leader and still the cluster leader so I need to be knowledgeable because they say that the teacher is a lifelong learner. So whenever changes happen I need to run with them so now I have empowered myself in terms of getting the Advance Certificate in EMS teaching and also I have got another skills development that the department gave me in terms of how to teach technology. Then there are*

*teachers who have done skills development in mathematics and English others they have done in Social Science. They have completed now other one internally is that one of the CPTD so that if they go to the workshop they must come back and upload their courses.*

The SMT and HODs as agents of internal development (Nkambule, 2018:122) appear to have participated in training in tandem with the needs of their school. Their in-house training programmes provide teachers with sets of sought after skills. As an experienced teacher I have observed that in most schools most teachers (especially mid to senior level ones) who were trained previously in the segregated but now defunct teacher training college system lack proper orientation on operating these technologically oriented computer applications.

***c. Supervision of knowledge sharing processes among teachers***

Knowledge sharing is unarguably one of the most pivotal elements of KM (as propounded by scholars of KM as well as the participants in my study). I asked HODs to share their views on how they monitor teachers' knowledge sharing initiatives. Although mentorship contributes to knowledge exchange among teachers of varying experience, HOD 1A admitted that older teachers generally still tend to resist sharing their knowledge with younger ones. She further relayed an incident where a new teacher could not cope with the complexity of an assignment for a formal postgraduate qualification that she had to complete. After realising that senior teachers were refusing to assist their inexperienced colleague, HOD 1A called in a *phase meeting* to brainstorm ideas that would help the younger teacher complete the assignment without them actually knowing that they were doing all this to assist their struggling colleague.

*Yes, at first it was so difficult (you know) these people externalising their information as they had this mentality of saying "if I'm giving information, I'm losing whatever. People are capacitated, are going up or expanding because of the information that we are giving. Making a simple example: there is one teacher who is busy with assessment right now. It's an assignment on assessment and definitely the teacher is still young. When she goes to older teachers to ask about this (you know) I just went to them and said "please give out the information" and somehow I realised that they still would not give; I just called a meeting and said "We are going to do assessment" and I just tipped that one and said "come along with your questions to that meeting, come along with that tape or something". In that meeting they began to open-up I asked "If assessment is like this we have got this format, we have got this.....now which one do you like". And (you know) they were opening up and at the same time*

*that teacher was gaining the information. So that's sharing and ultimately that old teacher who is selfish or whatever- shared information in a very casual type of way. We thanked her because it's all about experience in teaching.*

HOD 3B and 6C relied mostly on subject meetings to promote knowledge sharing among teachers.

*Basically what we do here is we have subject meetings quarterly then after quarterly we can see maybe it is too long we review and maybe we make them weekly; whereby we go and sit with each other and impart knowledge. Also to share information and to check if they are on par with the ATPS [HOD 6C].*

HOD 5C relied on staff meetings as a platform that is conducive for authentic knowledge exchange among teachers.

*I will set an example, last week Friday we had a meeting with the whole staff whereby we developed a code of conduct for learners so the teachers were giving their inputs as to how can we review that code of conduct, and they gave their input because this school does not belong to the principal. It is our school all of us. So we need to make sure that everyone has an input and to feel free that there is something that I am doing in the school.*

HOD 2A added:

*We are using the IQMS tool which includes Personal Growth Plans (PGPs), Staff Development Teams (SDTs), DSG. We are also part of learning communities of education. When educators get together they talk education, when science teachers get together they talk science, when EMS teachers get together they talk EMS and so goes on and on. So this thing of learning communities which has now started is an old thing, it only gets a new name now. It's been there since the beginning of the teaching profession.*

These learning communities he is referring to are famously known as communities of practice which are premised on the cordiality of individual members' contribution to the discourse that they feel strongly about, as I detailed when discussing Wenger's account of Communities of Practice (CoP), and Rodrigues and Pai's (2005) formulations in Chapter 3, Sections 3.2 and 3.3 respectively. These learning networks foster mutual agreements, joint enterprise, and shared repertoire (Wenger, 1998:73; Rodrigues and Pai, 2005:582). HOD 2A makes the point that while authors such as Wenger and followers may have coined a term to express the

processes of developing “learning communities” (CoPs), this has been practised in various ways “*since the beginning of the teaching professions*”. This important point made by HoD 2A lends substance to my decision to use as theoretical basis for this study the work of Wenger and followers, and Rodrigues and Pai, coupled with an exploration of how “knowledge sharing” might be practised according to the various participants in the settings of the selected township schools.

#### **5.6.4 Theme 4: Administrative Clerks’ Scope of Knowledge Work and the Requirements to Carry Out the Work**

Based in the school's front office, the administrative clerk is the first port of entry into the school. They do just more than the administrative duties but also liaise with people who come into the school for various purposes, a task which requires a range of soft skills adjacent to educational qualifications. Despite the good work that they do in keeping the school administratively afloat (Bayat, 2012, 2014) it is a concern that their role is not adequately documented in literature (Bayat et al., 2015:293). My incorporation of them as participants in this investigation contributes towards narrowing down this lacuna. During the interview sessions I asked them individually to take me through their scope of knowledge work that they perform. As a result of interrogating the main theme, sub-themes emerged as envisaged below.

##### ***a. Manual knowledge work***

With the dawn of technology, administrative clerks’ work has become more bearable than what it was prior to this development. But not all the primitive or manual methods of information management have fallen by the way side. Below I explicate manual KM work carried out by administrative clerks. Both AC 1A and 3B predominantly perform the so called “day-to-day administrative activities” alongside acting as the “principal’s” aide, “maintaining a filing system”, controlling the “feeding scheme” and processing “confidential documentation” (Bayat et al., 2015:297) as stipulated below.

*Making copies, scanning of documents, filling in forms, registering new learners and doing stock taking for our nutritional programme. Also scribing minutes during meeting and others that did not cross my mind now. Oh ya I am the HR clerk so because salaries are a private matter so I am the one who has to physically go to all the classes during month ends to give teachers their payslips. Registers are mine I first check them manually and insert missing information before putting them on the computer, and sometimes I have to fetch and return them to the teachers [AC 1A].*

AC 3B also mentions this range of manual work.

*I do all your ordinary clerical work. I am doing registers, minute writing, completing forms for pension or leave or housing or death benefit. Typing and duplicating of copies and PMDS, oh... and yes I do assist with counting money sometimes when I am asked to”.*

Like their colleagues in the profession, AC 2A and AC 4B also performed the “day-to-day administrative activities” (Bayat et al., 2015:297) but tended to be more focused on procuring “goods and services”, maintaining “the inventory” and “administering school funds” (Bayat et al., 2015:297).

This dimension came to light in AC 2A’s narrative:

*I count money since I am the financial administrator. I write receipts for school fees and I collect them from teacher maybe let’s say when they have bought something that they use in their subject with their money, then I refund them, and cheques for SGB paid staff. Then I operate photocopy machines. I do a lot actually and some of the work does not happen every day but I do it, like writing minutes and putting together all the slips and financial documents for audit which happens once a year.*

Also responsible for school finances is AC 4B who stated:

*Ever since I joined the school twenty-six years ago I have been involved with the finances. What I do in a nutshell is collecting school fees, and process budgets requested by different committees within the school as part of the SGB work. For that I need to write cheques, I also have to accept invoices for the work done around the school like recently we just had a guy who came to fix our roof. When there are fundraising events I count monies and bank them. I am the go to person when teachers or principal or even the laddies in our nutritional programme need petty cash to buy something. Then I have my usual other things like copies, files, handle inquiries.*

AC 5C is the only exception in this arranged working order. She is currently the only administrative clerk employed in the school, which ironically happens to be the biggest in terms of staff complement and learner enrolment. She claimed to be doing both strands of work; but also mentioned that her principal is hands on when it comes to financial issues.

***b. Technological knowledge work***

Literature proves that technology anchors much knowledge work (Edge, 2005; Reynolds, 2005; Allameh et al., 2011; Kurniawan, 2014; Makambe, 2017). In their earlier responses administrative clerks cited technology as the greatest benefit to their work. To find out the extent to which they make use of technologies, I asked participants to fill me in on how they interface with technology. AC 1A posited:

*I use a lot of SA-SAMS to do HR and the administration of nutritional programme, registers, and report cards. Downloading policies or e-mails and sending them. A lot of typing and printing, entering marks and enrolling new learners on the system.*

I further probed her using social media to share knowledge and she mentioned, “*We have WhatsApp group here at school and I usually send information to staff or receive information like circulars from the union or our supervisor at the circuit office.*”

AC 2A remarked:

*Is it not that telephone is technology? – because I use it every day to communicate and receive information about what we must do here at school and from parents. We have WhatsApp. SA-SAMS I am using every day to record marks and print out mark sheets. Sometimes the mark sheets have to be corrected and I am doing that when teachers ask me to do so. My spreadsheet with the details of monies.*

AC 5C and 4B talked about the role played by internet as well as mobile and land landline telephone in the knowledge work that they do.

*I use internet to search for suppliers or to search for previous question papers when I am being asked to. Almost every day we receive e-mails and we send some. Plus, working on SA-SAMS which is an online system [AC 5C].*

AC 4B added:

*Knowledge I share through a telephone when I report something to parents, and I receive calls from different institutions. All of us use our cell phones to discuss certain things, we dial and talk and chat on WhatsApp. I operate the photocopy machine to print and make copies. I do a financial breakdown on spreadsheet and budget statements.*

AC 3B said, “*We send bulk SMS’s to parents and we communicate with teacher through social media and the intercom we use to talk to learners in class when we announce information about something*”.

In this era much of the work is captured on computers; thus, it was no wonder that most functions mentioned by participants are computer oriented. In a broader view, gadgets like cell phones and ordinary telephone/fax lines are all part of a family of KM technologies that make it relatively easy for one to create, store, reproduce and share knowledge with a wider population in a wink of an eye.

### ***c. Required formal training***

Spink (2014) states that the one’s acumen for knowledge work is often dependant on their level of formal training “and daily critical thinking”. Understanding administrative clerks’ competency for knowledge work therefore became relevant in that regard. I used interview sessions to ask them to briefly share with me how they honed their skills for the work they do. AC 1A commented “*I studied for three years for Personnel Management Diploma at an institute*”. AC 2A stated, “*After finishing matric I worked here without a qualification but a few years later I attended part time training for 18 months at FET College where I studied as a financial clerk*”. AC 3B said, “*My background is in HR, I qualified with a National Diploma from a technikon but I could not find a job in that field so I have been here ever since*”. AC 4B stated, “*I studied for a national certificate in Secretarial Studies where I majored in computer and office practice for one year*”. AC 5C mentioned, “*After matric I went to do a Data Capturing Course for six months*”.

I deliberately asked them not to divulge the names of the institutions from where they obtained their qualifications, because I did not deem that necessary to the findings of the study. Participants were of the view that qualifications ranging between a year and a half and three years respectively sufficiently prepared them to cope with the intricacies of knowledge work.

### ***d. Personality traits***

Wei’s (2014) study explicates that personality traits of organisational members affect the intensity of commitment to share knowledge both internally and externally. I explored with administrative clerks the personality traits that they deem crucial for the execution of significant knowledge work. AC 1A said:

*This is very demanding and sometimes people do not show appreciation for the hard work you put into it. To cope you need to have a big heart and you should not entrain*

*HODs' shouting at you for being slow or for a minor typing error. That is why it important to make sure that you concentrate when you do your job to avoid be shouted at for things that are not so serious.*

In this narrative I noted a constraint which AC 1A did not touch on in section E. She alludes to being improperly addressed by HODs' at times. She, however, made it clear that to cope in this climate, one needs to be emotionally fit and must avoid drawing of the superiors' negative attitude towards them by becoming detail-oriented when doing their knowledge duties.

Thankfully this emerged during the first few line of interviews, so that I was able to research on it and located a study by Bayat et al. (2015) which affirms this occurrence in the Western Province. Subsequent to gaining a deeper understanding of this occurrence, I asked probing questions to all the other administrative clerks on their feelings about this matter.

AC 2A also expressed a similar view but to a lesser extent. I respected that she perhaps did not feel comfortable enough to expand on this issue. Apart from that, AC 2A reverted back to the issue of personality traits.

*Must have passion and dedication and love for children because they come to the office all the time to ask for copies and you need to be patient with them because they say things that you do not understand and you end up losing your temper if you do not like kids”.*

It is noteworthy that she sees it necessary for administrative clerks to condition their attitude towards children who come to the office for various purposes. In light of this she stated an incident where Foundation Phase learners are sent by teachers to ask administrative clerks to make copies. In this sense, the children share knowledge (by conveying the message from their teachers) with the administrators and thus they are worthy of attention, empathy for their stage of development and patience on behalf of the adults as they are participants in cascading information. If they are not approached in this way, they will feel intimidated and will fail to share the knowledge desirably. In that light Broberg (1999); Slechty (2011); Sokół and Figurska (2017) classify learners also as knowledge workers in their own rights.

AC 4B posited:

*Dedication and caring for the people you see around you. You must again have the patience to do things over and over again until it is right because computer work can be tricky sometimes with the fonts and layouts and everything most especially when you need to submit to the district.*



AC 5C casually cautioned:

*You need interpersonal skills and Ubuntu if you want to enjoy this job. Do not take your frustrations from home and bring them here because you will be more frustrated when working with demanding staff and parents.*

### **5.6.5 Theme 5: Principals' Approach to Leading KM Application**

Umar, Mu'azu and Ibrahim (2020:79) aver that the future of the school lies in the hands of decisions that principals make. I explored with the principals their views about issues housed under these sub-themes.

#### **a. Organisational culture and communication**

Organisational culture refers to the spirit that permeates the organisation which can either negatively or positively impact communication, relationships, performance and the wellbeing of employees. In this regard, Principal 1A commented:

*Communication is good at our school and we sit and discuss things a staff and together we come make decisions. The organisational structure although we use top down approach but it does not bother use because information gets to where it is supposed to go. Yes, we do argue sometimes, eventually we set our differences aside.*

This contradicts what Teacher 1A and 2A said about communication getting lost in the hierarchy and taking too long to reach teachers as well as teachers' inputs in decision-making which were not considered by the SMT.

Principal 2B asserted:

*I cannot say our communication is perfect but it works for us. I have competent HODs who always inform teachers about everything that needs to happen in the school. In meetings we brief them on everything they need to know. I see that they [SMT members] get along as a team, which is the reason we are one of the best schools in the area. To prove this, eighty percent of my staff have been here for more than ten years. If they were unhappy with the school culture, I think they would have left one by one a very long time ago.*

His statement appears to be a subtle acknowledgement that at times information gets lost in the hierarchy, although he contends that HODs do inform teachers and that meetings are another form of communication. He considers that the staff get along as a team, which implies what

the literature refers to as the formation of CoPs, as detailed in Chapter 3. However, it can be said that this is nowhere near the desirable level, as was revealed by the comments of Teacher 3B and 4B. (The matter of CoPs is discussed in detail in Section 6.3 below.)

Principal 3C stated:

*We communicate effectively and we have an open door policy which makes it easy for the SMT to be engaged. We meet regularly as staff to discuss a range of issues with all members of staff because to us communication is the key to success.*

Out of the three participants Principal 3C was not criticised by other staff on faulty communication but on the insufficiency of the learning communities among staff (a point raised by Teacher 5C). This became apparent when he was backed by two of his staff members on different occasions. Their comments were as follows:

*The SMT does not keep secrets. If there is some information they send everything to us so that we can know about it. Sometimes it happens that a circular directed to a particular phase does not reach the teacher because they would not find you in class, and they do come back later to check if you are back in class so that they can show it to you [Teacher 6C].*

HOD 5C reiterated that:

*From where I myself is standing I would say it is conducive because from the top there are circulars as a means of communication, and then now the principal will take the circular down to the deputy principal. The deputy principal will take it to the HOD. HODs must ensure that the teachers receive the circulars. So now to be conducive there should be an attendance register where they need to sign to give knowledge that I have received that circular that says on this date there is a workshop but as a school we will be having let me say for an example if I am going to have a staff meeting I need to draft a circular and on that circular there must be a raw call where the teachers must sign as an evidence to say that today at one o'clock we are having a meeting but it need to be given prior the day of the meeting.*

Principal 3C's handling of communication processes purportedly keeps staff content, stabilises the school climate and enhances curriculum delivery (Rasebotsa, 2017:18). In his school there is no "mistrust, frustration, confusion and rivalry" (Nyembe-Kganye, 2005) that exist in the other two schools, as experienced by certain participants.

### ***b. Leadership style***

Ozmen and Muratoglu (2010:5371) point out that principals' role in KM is to engender the culture of continuous two-way communication and collaboration not only with the teachers, learners and other staff members at schools, but also with external stakeholders of the school and external organisations. The prospects of this exercise are dependent on the calibre and suitability of the leadership style(s) employed by the principal. As I explored with them the leadership style(s) they apply in their respective schools, Principal 1A labelled his leadership style as follows:

*Democratic because before we implement, we have discussions. All duties are being discussed with educators and the rest of the staff, and sometimes we also discuss things with learners.*

In the same narrative he enunciated, *"I am not completely transformational because as a leader sometimes you have to be autocratic and democratic in some cases"* [Principal 1A]. This suggested that he was a situational leader but he did not know about the existence of this term to characterise his style. My deduction was corroborated by the literature, which labels situational leadership as the kind of leadership whereby the principal relies on a variety of leadership styles to deal with different contexts or situations (Adams and Yussoff, 2020:2). But on the basis that he opted to attach "democratic leadership" to the manner in which he leads the school, I will hypothetically use this leadership style as the key to unlocking his leadership style as I interpret it.

Ordinarily I would have outrightly endorsed his assertion that he employed a democratic style, but with the teachers' grievances (concerning rigid communicating of information and under appreciation for collaboration) lingering at the back of my mind, I had to delve deeper into the core of this matter. I consulted literature on leadership to assess if Principal A's utterances were anything to go by. After having noted that democratic leadership is premised on the leader's appreciation for ongoing consultative engagements among staff (Hornáčková et al., 2015:717), I was persuaded that Principal A was acting contrary to these ideals. After reconciling the views of participants, the perspective of literature and my impression of his personality I concluded that he is a *laissez-faire* leader. I came to this conclusion based on these three conceptions. Firstly, his over-dependency (Benjamin, 2016:1) on HODs and deputies' effectiveness in keeping the school afloat weakened the confidence that teachers had in his ability to lead the school, as pointed out by the comment "does not exercise strict control over his subordinates

directly” (Al-Malki and Juan, 2018:31). Secondly, his unwillingness to discuss, or even consider the ideas of others (Benajmin, 2016:1) does not promote unity among layers of staff. Lastly, despite him supplying “ideas and materials”, his involvement in instructional matters is limited (Ongunyika and Adedoyin, 2013:64) since he chooses when and when not to participate in the process. All the aforementioned point to *laissez-faire* leadership.

Principals 2B and 3C did not approach the answering of questions as was expected. Unlike Principal 1A, they opted to recuse themselves from attaching names to how they lead their respective schools. Nonetheless, I was able to get hints from their synopsis concerning how they lead the school.

Principal 2B characterised his leadership style as follows:

*Well... we have a strong SMT and together we steer the school. Everyone has a say in this school. As for the way I lead, people say I am strict and I agree. But in my strictness I show appreciation for the effort they have put in doing something, and I do not police them because I regard them as adults who know what they are here for. They will tell you themselves I spend a lot of time in my office doing work. Sometimes I am unpopular for this high work ethic. Look, if the school produce bad results, who will account? For what it's worth I would not do things out of policy.*

Principal 2B’s limited familiarity with what is happening on the ground blindsides him from the “situational and organisational challenges” (Yukl, 2011; Yukl and Mahsud, 2010), an issue raised by participants. Thus, his use of performance as a yard stick to issue out “punishment or reward” means that he is a transactional leader as defined in literature (Bass, 2008; Avolio, Walumbwa, and Weber, 2009; Nazim and Mahmood, 2016; Smith, 2016; Khan, 2017; Hickman, 2017). Liu et al. (2011) and McCleskey (2014) state that transactional leadership is based on a give-and-take type of an arrangement between “the leader and the followers”. The leader in this regard uses “rewards, negative feedback or corrective” steps to capture the attention of workers (Bass, 2008; McCleskey, 2014). This came across through Principal 2B’s gesture of rewarding (through extending appreciation for) the efforts made by staff, which is in itself according to Mabaso (2017:27) some kind of an “extrinsic reward”. Again, ignoring things that are happening on the ground a long time and only stepping in when things are dire (Smith, 2016:68) clearly illustrates his transactional tendencies. Also his preoccupation with good “results” above everything represents the characteristics of a transactional leader (Hickman, 2017:35). He has the attitude of: *I am in charge, and if I order you to perform a*

*duty, you will be rewarded if you execute it successfully; but if you do not succeed in it, I will most definitely punish you* (Sultana et al., 2015:4).

Principal 3C characterised his way of leading the staff as follows:

*We communicate effectively and we have an open door policy which makes it easy for the SMT to be engaged. We meet regularly as staff to discuss a range of issues with all members of staff because to us communication is the key to success. I use “we” because this is not my school, it is ours, so it does not make sense for me to say “I” when I am not the only one responsible for what is happening around here.*

In line with Ziduli, Buka, Molepo and Jadezweni (2018: 4), subordinate staff that took part in this study portrayed Principal 3C as a leader who values dialogue and staff participation in policy formulation. It also came to light that his stance makes the delegation of duties to subordinate staff systematic and carefully thought of and thus empowers staff to formulate groups that help improve each other's skills and knowledge (Kane and Patapan, 2010:371). Thus in the event of clashes that emanate from the difference of opinions and “the lack of experience and knowledge” on the part of individual staff members, the principal reportedly acts resolutely to avert this situation from worsening (Ziduli et al., 2018:4). The cited characteristics embody democratic leadership which is alternatively called “participative” leadership style (Nemaei, 2012; Khan et al., 2015; Khumalo, 2015; Liphadzi, 2015; Allahverdyan and Galstyan, 2016; Odiri, 2016; Allie and Sosibo, 2017; Hickman, 2017; Rees, 2017; Xu, 2017; Kalu and Okpokwasili, 2018; Adedokun and Kayode, 2019; Heller, 2019; Nasser, 2019; Saleem, Aslam, Yin and Rao, 2020; Woods, 2020).

#### **5.6.6 Theme 6: Teachers, HODs, Administrative Clerks and Principals’ Practices of Ubuntu and Batho Pele Principles to Enhance Knowledge Sharing**

School-based public servants are expected to be bound by the Batho Pele White Paper to service members of the public with utmost respect and diligence (South Africa 1997; Arko-Cobbah, 2002; Khoza, 2009; Ngidi, 2012; Pietersen, 2014). The Batho Pele White Paper is a configured extension of the values of Ubuntu in the workplace. I therefore probed participants on how they apply the Batho Pele Principles and/or Ubuntu to enhance knowledge sharing transactions with internal and external members of the school community.

All participants admitted to applying Ubuntu and/or Batho Pele Principles to enhance knowledge sharing encounters with fellow colleagues and external stakeholders. To clarify matters I draw the reader to the attention of the narrative by Teacher 1A who initiated her narrative by depicting her school as socially and morally cognisant of their role in spreading

the values of Ubuntu to the broader sphere of the community. She further mentioned the internal *modus operandi* of the school, whereby the school opened their facilities and shared their resources with the less fortunate surrounding schools.

*Our school does practise Ubuntu. So I would say that we are open to the community to learn from us. Our community is not very interactive with each other, uhhhm but I believe that if you have a problem, someone can help you. So, in a sense we do share information and express our feelings with the communities that are situated in the next township. We have a good relationship with other schools so with that I say that we get along so we do practice Ubuntu for the fact that we can communicate with other schools in the community. Because we have better resources than them they come here for exam copies and they use our netball and soccer fields. We are friendly, we accommodate people, we are open to student teachers for their practical, we are open to different ministers coming to share their word. So I believe that we are open and receptive to the community. I assist student teachers because I do know how it is as a student teacher, you are often vulnerable. So I make sure that they know they can learn from someone who has been there. I always make sure they understand the system and assist with questions and answers wherever I can [Teacher 1A].*

HOD 1A extended the scope of the practice of Ubuntu:

*It does not matter whether you are in a township area or in a rural area, because you grew up in a family and a family is composed of different morals. You are taught on how to greet. You are taught how to apologise. That is Ubuntu I mean if a learner comes into my class late and I'm already teaching and if the learner does not say "Mam, sorry I am so late" I feel offended. Not that it is written somewhere no but because I feel hurt because it is Ubuntu [to greet others]. Then the issue of Batho Pele starts within yourself and ultimately transcend into other people that come in.*

To her, greeting and apologising are key principles of displaying the spirit of Batho Pele and Ubuntu in the school. She however observed with concern that practicing Batho Pele Principles is made to sound as though it is the prerogative of only those who work in the front office of the school. "Most of the time we are just putting that pamphlet of Batho Pele in the front office as if they are the only people who are supposed to practice it" [HOD 1A]. She put matters into context by stating that:

*In reality everybody has to practice it. When I am the SMT member and I'm passing by the office and seeing a parent coming into the office not yet reaching there I need*

*to greet that person and say how really can I help you before even taking that parent to registry [HOD 1A].*

AC 2A pointed out, “*You smile, you greet, you remain calm even when they shout at you for turning them down when there is no space for their child*”.

To exhibit the ethos of Ubuntu, Principal 1A ensured that in the school, equality triumphs over discrimination.

*Irrespective of your race, breed, religion, background you are treated the same as everybody is being treated. If you have to be punished you will be punished the same. If you have to be praised you are praised the same. If you have to be helped then you will be helped the same way. In fact it is against the law in South Africa to discriminate.*

In school B, Teacher 4B emphasised approachability as a key virtue of extending Ubuntu to learners during lessons.

*Even in the classroom situation a teacher has to be approachable. Let us say, a lesson has been presented by the teacher, and learners do not understand that then learners have to be free to ask.*

Mpisane’s (2015) study established that teachers saw Ubuntu relative to abiding by the Batho Pele Principles.

AC 3B stated, “*Greeting and asking them how can you assist. If they maybe they want to see a teacher or the principal you offer them a sit while calling that person they want to see*”.

HOD 4B added, “*A little bit of kindness would be nice and show them that you care in your behaviour and actions. Afterwards ask them if there is anything more you can do for them*”.

Teacher 6C stressed exhibiting cheerfulness and friendliness towards learners as being one of the best methods of radiating the spirit of Ubuntu.

*I am always happy and in the class when learners make noise I try to keep them in order but sometimes they continue. To show that I am friendly, they come the small ones and tell me that Sir you are so lenient, please just show them who you are. But because of the schools act you cannot hit them. Any way I am so friendly that even you, Mr X is so happy with me. Other parents tell me they do not sleep at home because their kids talk a lot about me.*

According to HOD 5C, staff manifest the act of Ubuntu by providing hospitality even to parents who come to the school out of visiting hours, allowing by letting them into the school premises and offering them a seat up until such time that they are able to see the person they came for.

*If may be you did check at our entrance; we said the visiting time of the parents is half past one. There is a board there which says half past one. Then normally we monitor those visitors at the gate and then immediately when time says one clock, we allow them to come in because we are avoiding the issue of standing at the gate. Then we allow them to come in and they must sit down there and then when they are there I explain to them to say yes you know the time is half past one to come in; but because some of you I don't know your condition, I am just allowing you to come and see us.*

Principal 3C was insistent on attentive listening and maintaining composure when liaising with people who come to the school for various reasons.

*I pay attention to them as they speak and show them the reasons why I can help them or why I cannot. Even when they are not happy with the response they got and start losing temper I remain composed.*

Some participants mentioned occasions where their practice of Ubuntu is affirmed by those whom they served. For example, HOD 6C was thanked by one of his deputy principals for extending his stay in the school after-hours to keep company a subject advisor who was not even there for him after his fellow colleagues (HODs) who work under the academic supervision of the visiting subject advisor had long gone home.

*Ya, I can say so for instance a recent one [complement] was yesterday. There was a CI for NST and I am not an NST teacher or HOD but they knock off at three. I had to be behind and stay with them, and the vice principal said "you know some of them are gone by now but you are still here but you do not even teach that subject and that means you are doing something good".*

Teacher 6C stated that he felt that I regarded him as a kind person through the way he saw me reacting to his comments during the interview. He went on to tell me he was so friendly that "other parents tell me they do not sleep at [night] home because their kids talk a lot about me".

Teacher 3B shared how her colleagues, learners and their parents regularly appreciated her personal warmth.

*I mean I have got kids who come and sit with me during break. Parents would come and say wow you are that teacher and our child loves you. Our colleagues who come*



*as well and say good things about my personality. I believe umuntu ngumuntu ngabantu.....so if ungasinguuntu then unenkinga (loosely translated as follows: we are because of others and if you are not humanity personified then you have a problem).*

Principal 1A proudly mentioned how almost daily encounters with parents affirm the flair with which he solves problems raised by unhappy parents.

*We treat parents as our clients are always right and we do not discriminate and everybody is treated the same. Normally when people come to this office they come in and they are unhappy but after having met me they go out with a smile.*

As a closing remark I draw on a suggestion given by HOD 4B during our interview session, as stated below.

*Ubuntu has to happen with co-workers and with outside people who come to us every day, and it is very easy to treat people with Ubuntu, when you are talking to another person, just examine what your conscience tells you is the best behaviour. Your conscience will never sell you out on this, it always wants you to do the right thing.*

His statement validates the point I alluded to earlier in the write-up (see Chapter 3: section 3.3.8.5, entitled “sharing knowledge in indigenous contexts”), where I referred to of all of us having some sense of Ubuntu that we can unleash to improve knowledge sharing transactions in all spheres of our existence. Having “*unembeza*” (a Zulu word meaning “the conscience”) like we all do (Maphalala, 2017:10239) makes Ubuntu a natural instinct that we all possess.

## **5.7 SYNTHESIS**

A plethora of issues emerged from all twenty face to face interview sessions held with participants in their respective schools. A total of *six main* themes containing *seventeen sub-themes* were used to articulate the gist of the study. The rationale behind the first theme was to gauge the level at which participants are familiar with understanding knowledge as a science, as an occupation and as a management concept. For organisational knowledge to keep growing, re-modified and protected, Chu et al. (2011:143) suggest that knowledge workers’ scope of understanding must be put under scrutiny. Doing so presents a clear landscape as to whether knowledge workers are cognisant of their roles within the organisation (Wiig, 1999:3-6). While most participants were able to provide a generic overview of what constitutes knowledge, as was expected in the first sub-theme (i.e., their world view on knowledge), they however

struggled to distinguish between tacit and explicit knowledge. An overwhelming majority of them acknowledged that they were hearing about these knowledge types for the very first time. In the midst of this conceptual unclarity at times, they found themselves having to describe the concepts with no prior familiarity and they ventured to create responses. Some of their responses cast light on issues from novel angles (in relation to the literature) through the examples and views they expressed; equally so, there were responses where I would say they proved to be out of depth in relation to certain terms associated with knowledge management in the scholarly literature. During this process I was more or less able to draw a parallel between that which they understood and that which they were unfamiliar with. Little did they know that as that they attempted to reason out what they perceived to be tacit and explicit knowledge, they were revealing their tacit knowledge (Tyrteou, 2016:49).

I then proceeded to probe them on sub-theme two (i.e., their characterisation of knowledge). The crux of this was to ascertain whether they were cognisant of what constitutes “knowledge work”. They convincingly displayed layers of understanding based on their obligation to making sure that knowledge work prevails in their respective schools. I observed that they fervently identified their professions as the epitome of knowledge work. In line with Ozmen and Muratoglu’s (2010) study, they too perceived schools as custodians of knowledge whose being is hugely reliant on the contributions of many individuals of their calibre. To lay a claim to this they enunciated their flexibility in coping with the unpredictability of “non-routine” knowledge work (Reinhardt et al., 2011:151) which is also characterised by a mixture of “convergent and divergent thinking” to solving a problem. Divergent thinking is rooted in the belief that people engage with other perspectives and admit that divergence can help them generate fresh ideas as people learn from one another.

In relation to the third sub-theme (i.e., their definition of KM), I found particularly interesting how participants defined KM, drawing on their job description as practical examples of how it works. Pockets of them used “knowledge” and “information” interchangeably (Barclay and Murray, 2003:2). Their narratives alternated between stressing the association of KM with knowledge sharing, creating, re-creation and to a lesser extent the storing of knowledge. This indicated that many possessed a rather non-holistic idea of the meaning of KM, and it was a concern that less than a desirable number of participants could articulate the symbiotic nature of KM processes (*creating, sharing, reproducing and storing*) in their narratives. Even though participants knew that sharing forms a crucial part of KM and that knowledge is worth being stored for future re-use, the point remains that they generally lack proper orientation regarding the interwoven nature of KM processes. The prognosis of the first three themes is that there is

a gap that needs to be filled with regard to their current understandings of tacit and explicit knowledge as well as KM processes. In the next few paragraphs I reconcile the findings that emerged with regard to theme four: *teachers' methods of imparting tacit and explicit knowledge in the classroom*.

Sub-theme four pertains to the constraints to KM application in the participants' schools. Teachers in both school A and B were particularly unhappy with too many people meddling in the reporting of information. Apparently, SMT members in their individual capacities tend to communicate the same message with variations, leading to confusion among teachers. Also, many found it worrisome that communication tends to get lost in the hierarchy of the school, a factor which according to Luvalo (2017) and Makambe (2017) habitually happens in a top-down approach. Another hindrance was said to be the counter-collaborative school culture which hinders adequate formation of CoPs (cf. Chapter 3). Generally speaking, School C was relatively progressive in their approach to KM. Participants from this school only mentioned a minor constraining factors to KM, such as the need to intensify the already existing culture of collegial interactions (CoPs). Teacher 5C appeared concerned that the autonomy they have in improvising might breed confusion sometimes, hence she implied that the SMT should reconsider a greater focus on re-energising the formation of platforms where teachers can actively discuss pertinent issues (cf. CoPs). Her colleague, Teacher 6C mentioned disruptive learners' behaviour as a factor that constrains his efforts of sharing knowledge in the classroom.

The second category of knowledge workers comprises of HODs. Collectively HODs across all three schools generally enunciated as constraining factors: teacher absenteeism, poor classroom management skills, teachers not perusing available information and heavy workload.

I now turn the focus of attention to the findings on what administrative clerks perceived to be constraining factors. It emerged that a myriad of SA-SAMS glitches prevented them from effectively carrying out knowledge work. In their interview sessions each one mentioned glitches, which I categorised as five major glitches: i) weak SA-SAMS' network which makes it harder to access the system at crucial times such as submission deadlines; ii) last minute changes of the patch (in which they have to log information) sent by the provincial office; iii) the presence of viruses in the SA-SAMS' patch, which if not urgently cleared can collapse the computer drive; iv) cumbersome enrolling of foreign learners which requires additional documents before the system agrees to it due to the composition of foreign identification documents which contained fewer digits than the thirteen that the system is programmed to capture; and v) the lack of the departmentally employed IT technicians assigned to service schools when they experience difficulties with SA-SAMS.

I learned through literature that these constraints are not new. Buttler (2016) ran an expose on this thorny issue in schools in the Eastern Cape. Alongside the SA-SAMS glitches, administrative clerks were reportedly unhappy with the treatment they receive from their HODs. They alleged that HODs often undermine the work they do and do not address them professionally when problems arise between both parties. It would seem that it is not an isolated incident but occurs widely. Similar incidents were laid out in studies by Conley et al. (2010); Bayat (2012); Bayat (2014); Bayat et al. (2015). The most recent of these studies (i.e., Bayat et al., 2016) depicted HODs' oft demeaning attitude towards administrative clerks as a major concern. To lay a claim to this, the study explicated that in the first instance, HODs are the ones who set administrative clerks up for failure, on the basis that they are the ones who often make erroneous submissions to administrative clerks, yet they blame them for the poor quality of work. Furthermore, it emerged from HOD 5 and 6C that teachers confront administrative clerks to voice their dissatisfactions with the discrepancies in their mark sheets, usually at the end of each term.

On the leadership front the selected principals appeared to be constrained by the inadequacy of technological equipment, budget constraints and theft of technological equipment.

Sub-theme five pertains to the *realised KM benefits*. All participants conceded that KM is of more benefit than inconvenience to the programmes of the schools. From a pedagogical point of view, teachers hailed CAPs as a wonderful KM document: it is standardised and provides a pace oriented delivery of content that is divided into manageable chunks of lessons. It makes knowledge sharing easier to handle. The other dimension to KM benefits is that it keeps the school afloat. This is evident in the existence of committees and governance structures such as the SMT and SGB who sustain a consistent dialogue leading to exchange of knowledge on how best to run the schools. The workshops and meetings that take place (despite being not enough) go a long way towards imparting knowledge to staff on pertinent issues as well as developing the competencies of staff and mutual learning. The general sentiment is that as much as they deem KM application in their schools to be imperfect, the little effort they put in managing their knowledge better, helps them store, retrieve, share and receive knowledge that is crucial to the growth of their respective schools.

What was uncovered in sub-theme six (i.e., stimulating knowledge sharing and creation among learners) is that teachers predominantly use role play, storytelling, group discussions, essays, presentations, question and answer type of interactions.

Coming to sub-theme seven which looks at how teachers evaluate the learners' comprehension levels of the shared content knowledge, it transpired that a variety of methods are used particularly classwork and homework, formal and informal assessments such as tests, assignments or projects. To archive learners' academic performance (i.e., sub-theme eight) teachers reportedly use files, attendance registers, transgression books, learners' profiles and learners' books.

In this paragraph I offer an exposition of three of the sub-themes that emerged from theme three, namely, *aspects of HODs' supervision*. The first point of entry into this discourse became sub-theme nine (i.e., supervision of curriculum delivery). To evaluate the quality, validity, fairness and standard of the assessments (Department of Basic Education, 2017:8), HODs conduct a compulsory pre and post moderation of all formal assessments. They further mentioned conducting classroom visits to ascertain whether teaching and learning processes happen in line with the set standards. During these class visits they inspect teachers' files and lesson plans as well as learners' books. Randomly they would go around the school premises to ensure that all learners and teachers are in class for teaching and learning. In ensuring that the curriculum is delivered according to the stipulated regulations, a tool called the "tracker", which is downloadable from the internet, is being used.

According to one HOD the tracker tool works well and is specifically designed as a pace setter for keeping track of the ATP or CAPS document. To deal with the negative impact of teacher absenteeism proactively, HOD 5 and 6C have come up with a plan that seems to be yielding positive results. In such an event where the teacher has missed a lesson, it is mandatory that he or she has to compile and submit to the HODs, a "*catch up recovery plan*" also known as "*a catch up plan*" detailing exactly when and how the teacher proposes to make up for the lesson. Then the deputy principal will monitor whether the responsible HOD does actually monitor its implementation. As for sub-theme ten (i.e., supervision of teacher development and appraisal), since HODs are agents of internal teacher development (Nkambule, 2018:132) the study revealed that they conduct induction of newly employed teachers, and also assign senior teachers as mentors for novice to mid-career level teachers. Should the need arise, HODs act as coaches to teachers on a host of professional issues. Mentorship and coaching have been tried and tested and proven to be some of the most effective ways of transmitting tacit knowledge (Uttrilla and Torralja, 2013:397).

Alongside coaching and mentoring, HODs posited that after conducting a needs assessment, they identified a knowledge gap on the part of teachers. As a mitigating strategy they arrange and often facilitate internal workshops, which according to De Clercq and Shalem (2014:133)

are instrumental in reinforcing what teachers already know and in orientating teachers on how to effectively tackle the not yet understood sections of the “curriculum” in accordance with the prescribed norms and standards, including its “sequencing and pacing”. HODs are said to be advising teachers on the appropriateness of choosing programmes that are in line with the developmental needs of the school and they in certain instances select who is to go for training. They basically advise teachers based on the needs of the school as to what courses/training programme to opt for.

In terms of sub-theme eleven (i.e., supervision of knowledge sharing among teachers), HODs reportedly use subject meetings, phase meetings, general staff meetings and IQMS.

With reference to theme four, namely, *administrative clerks’ scope of knowledge work and the requirements to carry out the work*, sub-theme twelve (i.e., manual knowledge work) indicated that administrative clerks manually scan, duplicate, staple, enrol learners, and fill in forms. It further emerged that in a school where there are two administrative clerks, there is likely to be some duties that they both execute, like those stated above. Also there are those duties that each one of them specialises in. One would perform “day-to-day administrative activities” alongside being the “principal’s” aide, also “maintaining a filing system” as well as controlling the “feeding scheme” and processing “confidential documentation” (Bayat et al., 2015:297); whereas others would perform “day-to-day administrative activities” fusing them with financial administration especially procuring “goods and services”, maintaining “the inventory” and “administering school funds” (Bayat et al., 2015:297) reimbursing staff for monies they used to purchase school equipment, giving out receipts, and writing of cheques to pay SGB workers and contractors.

In terms of technological work (i.e., sub-theme thirteen) administrative clerks mentioned that they use SA-SAMS to capture report cards, registers, marks, nutritional programme, leave management, and attendance.

To communicate information, they reportedly use social media such as Facebook and Whatsapp. Using these social media oriented technologies constitutes the third space, known as the *cyber or systemising Ba* whereby the sharing of explicit knowledge spreads to a wider internal audience (Nonaka and Konno, 1998:47). This set up can also be classified as a CoP of some sort (cf. Chapter 3), but now perceived in terms of a focus on how technology can aid CoP processes. Bulk SMS’s have also proven to work well in sending messages to the masses. The intercom was also mentioned as a tool to send quick messages internally; e-mails also

proved to have a value in sending and receiving knowledge. Additionally, telephones and mobile phones also helped a great deal in exchanging knowledge.

In as far as sub-theme fourteen (i.e., formal training) is concerned, participants mentioned training ranging from a six-months certificate, one-year certificate, one-and-a-half-year certificate and three-year diplomas in the fields of data capturing, secretarial studies, financial accounting and human resources management respectively.

With regard to sub-theme fifteen (i.e., personality traits) administrative clerks cited interpersonal skills such as patience, interpersonal skills, sympathy, attention to detail, the love for the job and caring for the people, hard work and determination.

In the next paragraph I address the findings of theme five, namely, *Principals' approach to leading KM application*. Sub-theme sixteen is about *organisational culture and communication matters*. It is in the best interest of knowledge management systems that principals should open up communication channels by reaching out to teachers and other layers of staff with the aim of engendering a climate of ongoing socialisation (Ozmen and Muratoglu, 2010:5371). All three selected principals claimed to be acting in accordance with this suggestion. Specifically, they projected themselves as effective communicators of knowledge. They also claimed always to keep in mind the ideas offered by subordinate staff in every decision they take. As noble as their assertions may be, it would seem that not all of them are a true reflection. Other participants in School A and B refuted these claims by saying that these principals undermined their inputs, communicated ineffectively, and disregarded the formation of learning communities. Rasebotsa (2017:3) points out that the persistence of ineffective communication will leave the school no choice but to contend with “uninformed decision-making” and mediocre content knowledge delivery. Nonetheless, the SMTs of these schools rally behind one another. I say this based on the observation that the HODs stood by their principals. This came out clearly in their narratives which corroborated their principals' versions. The only strata of employees that feel alienated are teachers (Lunay and Lock, 2006:171) and to a lesser extent, administrative clerks. Only school C did not appear to experience these challenges. None of the teachers in school C complained about the communication discord in their school and being side-lined when decisions are being taken. They however did express in various ways the desire for a more vigorous formulation of teacher groups (CoPs) to improve their teaching practice.

With regard to sub-theme seventeen (i.e., leadership style) three leadership styles emerged from the principals' narratives (with some interpretation on my part in re-characterising their

self-reported style in terms of my knowledge of the literature). In the case of school A, the principal can be characterised to be in favour of a laissez-faire leadership style albeit that he did not use this term. He trusts so much in his SMT that he delegates most of his duties to them. The problem then ensues when individual members of the SMT all want to occupy the alpha role and hence the problem of too many people communicating the same message differently. Nonetheless, it is through the determination of the current SMT and a high work ethic that was left by the previous principal that Principal A's school manages its knowledge sufficiently enough to be recognised as one of the performing schools in the circuit.

In school B the principal is also somewhat relaxed and uncaring about the state of affairs on the ground. He only interferes when he feels like the situation has the potential to curtail the progress of the school. However, when his staff does well, he is always sure to compliment them; equally so when they have underperformed he is quick to seek punitive recourse in line with policies. This behaviour renders him a transactional leader according to definitions per the literature. Despite teachers and administrative clerks expressing their frustrations about stifled communication and collaborations, the school keeps delivering on its mandate so much so that it is declared a functional school. Empirical evidence suggests that the lack of the leaders' visibility at the foundation of KM operation inhibits KM application. To accentuate this point, I borrow from authors who argue that without the top level commitment, KM initiatives will never live up to their utmost potential: Potgieter, Dube and Rensleigh (2013); Bishop, Bouchlaghem, Glass and Matsumto (2008) and Du Plessis (2008). Putting this matter into context is Du Plessis (2008:288), who avers that "active support" from the leadership is of paramount importance as it helps create an atmosphere of "trust" and "the feeling of integrity in the organisation and recognition for the knowledge" that staff members "share".

Finally, Principal 3C has heeded the call by Bishop et al. (2008), Du Plessis (2008); Potgieter et al. (2013), for leaders to be actively involved in their organisations' KM initiatives. In terms of his way of leading the school, Principal 3C can be declared a democratic leader. He keenly engages all layers of sub ordinate staff in decision-making processes, and in case of clashes arising from the freedom of expression, the principal acts resolutely in pacifying the tensions (as advised by Ziduli et al., 2018:4). In the next paragraph I deal with theme six, which pertains to the participants' practice of indigenous values of Ubuntu and/or Batho Pele Principles.

Okeke and Okeke (2016:19) argue that indigenous communities abide by a set of rules of engagements guiding their approach and reaction towards each other as well as with people who come in their midst. In this context Ubuntu (and its offspring, the Batho Pele Principles, customised for the workplace) are recognised as rules of engagement. It came to my attention



as I discussed with the participants that they all admitted to be practising Ubuntu and/or Batho Pele in their dealings with each other and with outsiders. Participants described how they practise the ethos of Ubuntu and/or Batho Pele Principles by, for example, greeting everybody they come into contact with, be it an insider or an outsider. Showing mutual respect is another method they use frequently to maintain cordial relationships among each other as staff members. When outsiders such as parents and families of staff and learners, departmental officials or members of the public, enter the premises of the school in need of specific information, participants indicated that they serve them with respect and humility. They further mentioned that knowledge-sharing transactions would start with greetings followed by asking in what they could assist the one who is in need of assistance. Subsequently participants would then assist in whatever way they can or refer the visitor(s) to the relevant person. All of the participants concluded their narratives by mentioning several occasions where they received compliments for being of assistance to either their fellow colleagues or school visitors. Collectively the narratives included several nouns (humanness, sympathy, openness, care, love and service, friendliness, approachability, partnership, greeting, apologies, courteousness, cheerfulness and attentiveness) to illustrate their embrace of Ubuntu and/or Batho Pele Principles.

However, as a whole, some factors weakened the ethos of Ubuntu: i) communication discord between the leadership and subordinate staff; ii) inadequacy of communities of practice; iii) alienation of teachers in decision-making processes; and iv) the under valuing of administrative clerks' contribution to the school. Selective application of Ubuntu and/or Batho Pele Principles is the single most factor that has exacerbated what Metz (2012:20) calls the scantiness "of respect among many people in the workplace". The irony about this situation stems from the narratives of the participants as well as my observations, that when it comes to the knowledge sharing encounters between the participants and external stakeholders who come to the school for various reasons, they appeared to be practising the ideals of Ubuntu and/or Batho Pele Principles resolutely.

The last aspect of the synthesis pertains to gender disparities among the leadership or management echelons of the studied schools. Similar concerns were raised by several scholars (Cf. Report of the Gender Equity Task Team, 1997; Coetzee, 2001; Kiamba, 2008; Bond, 2010; Kagoda, 2011; Kanjere et al., 2011; Maposa and Mugabe, 2013; Lumby and Azaola, 2014; Phakathi, 2016). While there was a fair amount of gender balance within the category of teachers, the same could not be said about the management (or SMT) band. There was a noticeable presence of males at SMT level across all three schools. For example, of the six

HODs who formed part of the study, only one was female. Among the category of principals, all three were male, and as such there were no females in that rank. This translated into one female of the nine SMT members. This effectively meant that eight males occupied managerial/leadership positions. Kanjere et al. (2011); Maposa and Mugabe (2013); Phakathi (2016) argue that women's potential to lead schools is stifled by patriarchal tendencies that still dominate all sectors of our lives. I argue that this underrepresentation of women in school management stifles a female voice in decision making processes. Phakathi's (2016) study found that the availability of policies due to poor implementation bear little value to career prospects of women aspiring for leadership positions at schools. Furthermore, she observed that teacher trade unions do not do enough to develop potentially fine crops of female members to take leadership positions at schools (Phakathi:2016:14). The administrative clerk category was the only one whose staff were totally female. For an indepth discussion on patriarchy and gender dynamics in organisations, particularly schools, I refer the reader to Chapter 2, Section 2.12.4.

## **5.8 LOCATING THE FINDINGS WITHIN THEORETICAL FRAMEWORKS**

Grant and Osanloo (2014:13) elucidate that a theoretical framework is a guide containing the pattern of a study. A theoretical framework explicates the research study's adopted philosophical, epistemological, methodological, and analytical postures (ibid). Hereunder lies a concise narrative of how the adopted theoretical frameworks (or as I prefer to call them "considerations") were used to account for the analysis of the findings of the study.

The findings of the study are framed around three crucial aspects of KM, namely: people, processes and technology. The first aspect (which concerns people's dialogue, skills and attitude) was underpinned by Communities of Practice (CoP). People being referred to in this instance are teachers, HODs, administrative clerks and principals. This framework is exhibited throughout the discussion of the findings which are rooted in how people become motivated, empowered, organised and knowledgeable when they work as a collective and are being receptive to another's constant verbal exchange for purposes of applying KM in their respective schools. Blueprints of indigenous epistemologies of Ubuntu Philosophy and its offspring the Batho Pele Principles are apparent in parts of the findings detailing the impact of people's application of moral values or lack thereof in their workplaces, as they engage in KM. Lastly, Rodrigues and Pai's Eight Dimensions of KM Enablers and Activators elucidates the orderly

format that typifies the organisations' structure of coordinating the integration of people, processes and technology when applying KM.

## **5.9 CHAPTER SUMMARY**

The crux of this chapter was to report on the findings of data gathering. I initiated the discourse by explaining the approach I took to analyse the data. That was followed by a justification of why I chose manual coding over software coding (which I contend was not the easiest path to follow). I also touched upon how I as the researcher ensured that my pre-conceptions did not unduly taint the credibility of data analysis, in that I took care to indicate how I was engaging with the data and offering justifiable interpretations in my analysis with detailed reference to the data. Prior to reporting on the findings of field work I accounted for how participants were to be recognised by numbers and by letters of the alphabet (in the case of schools). Furthermore, I tabulated the themes and sub-themes that emerged during content analysis. I presented the data that were solicited from interviews and compared these with document analysis (i.e., the Knowledge Workers Portfolio, The National Education Information Policy (DoE, 2005), the CAPS document, the Batho Pele White Paper, SDA, the PAM document and the SA-SAMS Manual) as well as with scholarly literature regarding KM. In the last section I provided a synthesis of the findings encompassing all the six themes and seventeen sub-themes that emerged.

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

The previous chapter was devoted to presenting the findings of the data that emerged from the field. In this chapter I start by summarily highlighting the main findings of the data that were presented in Chapter 5. Based on these findings I draw conclusions and offer recommendations to improve KM application in the selected schools. As part of the chapter, I acknowledge the study's delimitation and limitations, and I provide some suggestions for further research. I also justify how this study contributes a new dimension to the body of existing knowledge on the subject matter through my way of handling the research and my way of engaging with literature gaps. I conclude the chapter by providing a synopsis of how I built up the study across all chapters. This study was rooted in investigating the main research question, which was then broken down into five subsidiary research questions. The main research question was: ***In what regard is KM being applied at selected township schools?*** The five subsidiary questions are:

- How do teachers, HODs, administrative clerks, principals at the selected township schools understand tacit and explicit knowledge?
- In which ways does HODs' supervision enhance KM application at the selected township schools?
- How does the administrative clerks' utilisation of technical skills and personality traits affect KM application at the selected township schools?
- How do teachers facilitate their tacit and explicit knowledge within a classroom environment so that learners learn to create and exchange new knowledge among themselves?
- What leadership style best characterises the principal's role in facilitating KM application at selected the township schools?
- In which ways do teachers, HODs, administrative clerks and principals draw on African Indigenous Values Systems of Ubuntu Philosophy and Batho Pele Principles to effect KM application at selected township schools?

In the next section I provide a synopsis of the major findings from the perspectives of literature review, document analysis and content analysis.

## 6.2 MAJOR FINDINGS OF THE STUDY

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*In response to the main question, namely:*

*In what regard is KM being applied at selected township schools?*

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The following findings from different sources of data that were consulted along the journey of the study provide answers that are pertinent to the main question of the study, which is stated above.

### 6.2.1 The Perspective of Literature Review

The study established that KM is a very plausible concept that is applicable within the domain of primary and secondary education. Literature points to several studies demonstrating that schools of mid to lower socio-economic strand such as township schools can – despite inadequate resources – fruitfully apply KM. It also emerged that in Africa as a whole there is a paucity of KM literature, especially in regard to the schooling system as a focus of attention.

### 6.2.2 The Perspective of Documents Analysis

A variety of documents were perused including the *Knowledge Workers Portfolio* which is the file containing all information pertaining to school staff's areas of operation in their respective schools. Teachers submitted their files for me to (passively) go through their assessment programmes, lesson plans, time tables, circulars and so forth. HODs presented a similar file containing the tools, circulars, mark schedules, transgression documents, previously moderated assessments and so forth. Administrative clerks presented their files which contained previously sent and received e-mails, nutritional programme information, forms for leave, housing and so forth. Principals presented their numerous files including the year planning, previously circulated communique, circulars, item analysis, and scheduled meetings, policies and so forth. The aim was not to thoroughly inspect their files but to triangulate my data so that it did only rely on the strength of the interviews and literature review.

On the legislative front, the National Education Information Policy (DoE, 2005) was found to have been the hallmark of technologically focused KM, which has notably recalibrated the efficiency of KM transactions within the schooling system. The main concern is that there is no integrated policy framework encapsulating the obligations that all layers of workers have to meet. In the interim the participants have to rely on units of legislation relevant to their key performance areas such as the SA-SAMS manual for office based staff and the CAPS document

for teaching staff. The Batho Pele White Paper (which upholds the virtues of Ubuntu in the workplace) is familiar to school personnel and is being implemented, although not maximally. I further established that the SDA informs the training programmes conducted by schools and the Department of Basic Education. Thus all the layers of staff produced files documenting their respective scope of knowledge work they perform as per the requirements of the PAM document.

### **6.2.3 The Perspective of Content Analysis of Interview Material**

The primary objective of this study was to *examine knowledge management application at selected township schools across all three circuits of Emalahleni* in Mpumalanga Province. In order to achieve a clearer outcome, the following sub-objectives had to be taken into consideration:

- To investigate the understanding of teachers, HODs, administrative clerks and principals regarding tacit and explicit knowledge;
- To explore HODs' ways of supervising KM application at selected township schools;
- To gain a deeper understanding into how teachers facilitate their tacit and explicit knowledge within a classroom environment so that learners learn to create and exchange new knowledge among themselves;
- To understand the depth at which administrative clerks' utilisation of technical skills and personality traits affect KM application at selected township Schools;
- To delineate and provide an account of the kind of leadership style which characterises the principal's role in effecting KM application at selected township schools;
- To establish different ways in which teachers, HODs, administrative clerks and principals draw on Africa's Indigenous Values Systems of Ubuntu philosophy and Batho Pele Principles to effect KM application at selected township schools.

#### *6.2.3.1 Determining the Understanding of Teachers, HODs, Administrative Clerks and Principals about Tacit and Explicit Knowledge*

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#### ***Relating to Theme 1 namely:***

*Teachers, HODs, administrative clerks and principals' rationalisation of knowledge, knowledge work and knowledge management.*

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As a point of departure I began the investigation by eliciting the extent of familiarity of participants with regard to the transformation of knowledge in one form to the other (i.e., tacit and explicit); also, I recognised the need to get a close look at the participants' familiarity with the duties that are reflective of knowledge work. Thus I recognised the need to ascertain whether participants were able to contextualise the definition of KM within their operational purview of knowledge work. I had considered that against the backdrop of the existence of a plethora of definitions of knowledge (Murray and Barclay, 2003:2), the multidisciplinary and elusive nature of KM (Okeke and Okeke, 2016; Girard and Girard, 2015) and the absence of a universally definitive definition of knowledge work (Mosco and McKercher, 2007; Pyöriä, 2005), there was a need to contextualise these issues in relation to the state of affairs in township schools with regards to KM application. I chose a qualitative approach so that I could be able to visit the selected schools and ask participants to share their thoughts and feeling with regard to KM application. Below I forward the abridged version of the findings of the study.

***a. Teachers, HODs, Administrative Clerks and Principals' worldview of tacit and explicit knowledge***

The study established that participants possessed a sound worldview of what constitutes knowledge under generic terms. But the same could not be said about their descriptions of tacit and explicit knowledge. Only a few were able to distinguish between tacit and explicit knowledge. They however provided a justification in stating that they were hearing about tacit and explicit knowledge for the very first time in their lives. I also happened to identify with their sentiment as I too only got to hear about these terms (i.e., tacit and explicit knowledge) less than a decade ago during my tenure as a full-time postgraduate student. They acknowledged that knowledge evolves through people listening and learning via a process of sharing. This was depicted in their illustrations of how knowledge transactions work in a classroom space and office space, as well as in all spaces of communication (including via the use of technology). I consider that surveying these knowledge workers' understandings of knowledge and of their knowledge work through the questions that I put to them invoked them to reflect upon the success or failure of KM application in their workplaces. That is, their expressions were generated in relation to my interview questions and the terms that I used as part of the interaction with them. This is admitted and endorsed within the constructivist paradigm which sees data as *generated* rather than simply "collected" (cf. Lincoln and Guba, 2013; Romm, 2018). For example, participants were honest in expressing to me that they might be hearing the terms "tacit" and "explicit" for the first time, but ventured to offer accounts based on their present reflection of these concepts in relation to their knowledge work.

***b. Teachers, HODs, administrative clerks and principals' characterisation of knowledge work***

Murray and Barclay (2003: 3) note that we tend to “treat the activities of knowledge work as necessary, but ill-defined, costs of human resources, and we treat the explicit manifestations of knowledge work as forms of publishing — as by-products of ‘real’ work”. I consider that the meaning of this inference is twofold: it illustrates how unanimous we (as scholars and as lay people) are about the importance of knowledge work; on the other hand, it highlights the stereotypical lens through which we look at the underpinnings of knowledge work. I would argue that the absence of a universally definitive definition of knowledge work (Pyöriä, 2005; Mosco and McKercher, 2007) is the contributing factor to people’s ways of seeing knowledge work. It is in that sense that I report the accounts of participants.

It came to my attention that all participants had no doubt in their minds that their occupations within the ecologies of their respective schools typified knowledge work. To justify this point, they expressed the need for the employment of their formal training skills and their cognitive ability. Their reasoning dovetails with that of Spink (2014) who also cites “high education levels, daily critical thinking” as prerequisites for carrying out knowledge work.

***c. Teachers, HODs, Administrative Clerks and Principals' definition of KM***

In accordance with the suggestions made by Chu et al. (2011), McCampbell et al., (1999) and Wiig (1999), I requested participants to share with me how they would define KM. Pockets of them used “knowledge” and “information” interchangeably (Barclay and Murray, 2003:2) which sufficed fairly well for them. They mostly drew on scenarios about their work to illustrate how they applied KM to effect meaningful changes. Little did they know that by so doing, they effectively invited me to survey their tacit understanding (Tyrteou, 2016:49) of the concept of KM. As I intensified my questioning it became clearer that a majority of participants were out of depth with regard to the detailed understanding of KM processes (Chu et al., 2011: 145).

The major red flag manifested itself when a majority of the participants relegated the number of KM processes to one or two. They used one or a combination of two of the many processes of KM that exist (i.e., storing, sharing, creation and retrieving) to qualify how KM works. Also noteworthy was the body language discomfort shown by most participants such as tone of voice and facial gestures, when I asked them to define KM; yet traces of wisdom were discovered in



their respective definitions. As they reacted in this fashion I remembered the inference made by Tyarateou (2016:50) stating that “everyone thinks that knowledge management is more than what it actually is”.

***d. Constraints with regard to KM application***

HODs expressed only a few concerns, for example, insufficient gatherings for collegial sharing of knowledge. They felt that there should be more of such gatherings to ensure that staff members discuss work related matters. This kind of an arrangement is known as CoPs which Wenger (1998) and Mkhize (2015) describe as forums where likeminded individuals meet up to engender mutual agreements, joint enterprise, and shared repertoire. They however mentioned that in some cases communication from the top does not always reach the bottom layer of staff effectively.

On the contrary, knowledge workers at junior ranks, specifically teachers and administrative clerks, had a lot to say. Most teachers indicated that they did not feel adequately consulted when crucial decisions were being taken. This is confirmed by authors such as Flores and Pérez (2010), Min (2017), and Perez-Soltero et al. (2019) who indicate that schools often do not fully take advantage of the knowledge possessed by teachers, administrative staff and other stakeholders.

Teachers also alluded to an unfriendly organisational culture which they blamed for the scarcity of collaborative knowledge exchange transactions among staff members. They linked the prevalent poor communication and lack of consultative engagement between senior and junior staff as a contributor of the hostile organisational climate. They mentioned that, in the main, communication discord is as a result of too many people communicating one message with variations. According to teachers from two of the three schools, principals are unaware of the tussling that happens around them. Teachers should begin to embrace “networks of co-workers” also known as “communities of practice” (Jones and Sallis, 2012:24) and school leaders must do introspection on where they might have failed in their previous attempts.

Echoing the sentiment stipulated in the previous paragraph concerning the lack of consideration of contributions by junior staff, Conley et al. (2010) and Bayat (2014) also noted that administrative clerks feel under-appreciated at times. They directed this accusation to HODs and to a lesser extent to teachers. It thus came to my attention that teachers often visibly blame administrative clerks for the discrepancies in their mark sheets at the end of each term. Also

the glitches associated with SA-SAMS proved to be their main concern. Apparently the provincial system's network (server) is weak and makes it harder for users to access the system at crucial times when they have to meet submission deadlines. In addition, they disapproved of unexpected and last minute changes in the patch (in which they have to log information) by the provincial office. It was also revealed that sometimes the patch comes with virus which if not urgently cleared, can collapse the computer drive. They further lamented the absence of roving IT technicians (from the Department of Basic Education) to address difficulties with SA-SAMS. Problems relating to SA-SAMS have long been a barrier to the efficiency of school administration. For instance, in 2016 SA-SAMS glitches were subject to Buttler's investigation of schools situated in the Eastern Cape.

As for constraints, HODs cited heavy workload (Mpisane, 2015; Nkambule, 2018) as the core reason behind the insufficiency of CoPs, and delayed communication of messages. As for principals, the inadequacy of resources (Adams and Muthiah, 2020:189) especially technological equipment, the theft of IT equipment as well as budgetary constraints were the only factors which limited their efforts of carrying out KM maximally. At no stage in their narrative did the principals cite communication and lack of junior staff participation in decision-making processes as problems. Many referred to failure on the part of teachers to read the information in circulation and which is posted on the notice boards in their classroom. One HOD (from school C) posited that was tantamount to "ignorance".

#### ***e. Realised KM Benefits***

Teachers deemed CAPS as a KM tool which makes it a lot easier to share content knowledge with learners as it helps them manage the content knowledge they have to share with learners. They were pleased to have access to the KM technologies such as the internet and computer laboratories which facilitate information retrieval in their work. They also mentioned that KM improves classroom record keeping which has to follow a standard format. In the same spirit, HODs praised KM for contributing to orderly archiving of information, both manually and electronically. This, as one of them said, "*It keeps the school running*". Also they admitted to being indebted to the internet which makes it easy for them to access information that they may need daily to improve their practice. They reported that internet enabled programmes such as cloud and e-mail make it easy to store, retrieve and share knowledge over space.

Administrative clerks added that the sophistication of the technological equipment makes it a lot easier to reproduce, store, codify, retrieve and share knowledge. They made reference to the

convenience that SA-SAMS brings to their work as they are now able to perform massive amounts of work in a relatively short period of time; which is a far cry from the days when they relied predominantly on manual ways of managing knowledge. Principals cited modern technologies such as social media (i.e., WhatsApp and Facebook), bulk SMS's, SA-SAMS and internet, as remarkable tools for sharing knowledge with stakeholders in a wink of an eye. They all considered the KM benefits triumphant over the constraints they alluded to.

These findings are a response to this study's first sub-objective. They illuminate participants' depth of comprehension or lack thereof concerning explicit, tacit and knowledge management in general. Furthermore, factors that constrain KM as experienced by each occupational category (i.e., teachers, HODs, administrative clerks and principals) are identified. Also factors deemed as pertaining to the beneficial value of KM are mentioned by the participants in their varying capacities of knowledge work.

*6.2.3.2 Teachers' Ways of Facilitating Tacit and Explicit Knowledge Effectively within a Classroom Environment so that Learners learn to Create and Exchange New Knowledge among themselves*

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***Relating to Theme 2, namely:***

*Teachers' ways of facilitating tacit and explicit knowledge in the classroom*

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Teachers are entrusted with a massive task of safeguarding the value systems and nurturing the professional future of our children. The commencement of the Fourth Industrial Revolution (4IR) calls on "teachers to rise" to the challenge of equipping the nation with knowledge and skills that adaption to the era seamless (Butler-Adams, 2018:1). It is an open secret that the classroom is the epicentre for carrying out this intricate task. But this endeavour demands that teachers must re-energise their teaching strategies so that their learners are stimulated to engage in meaningful dialogues not only among themselves but also with the teacher. Below I report on the sub-themes that emerged during content analysis.

***a. Stimulating knowledge sharing and creation among learners***

Three of the six teachers who took part in the study stipulated that openness paves the way for learner interactions. Openness refers to a classroom climate whereby learners are free to engage with each other discursively and are also unafraid of trying out different activities as part of

their learning journey. Teachers are the main enablers of this climate. Fostering this kind of an environment demands that teachers should adopt appropriate methods of teaching. Therefore, in the context of the study it was revealed that teachers predominantly use role play, storytelling, group discussions, essays, presentations, question and answer type of interactions. Good teachers not only inspire learners to get good grades but also teach them to engage discursively and exchange “ideas” in order to augment their “skills and intellectual talent” (Haripriya and Chakravarthy, 2018:92). Haripriya and Chakravarthy (2018) stress the intensity with which a teacher must inspire dialogue among learners, but without leaving him/herself out of the processes of learning.

***b. Evaluating learners’ comprehension levels of the shared knowledge***

Teachers primarily mentioned informal and informal assessments which come in the form of classwork and homework, formal and informal assessments such as tests, assignments or projects.

***c. Archiving learner academic performance***

Through fieldwork it became apparent that content knowledge that teachers teach is archived in learners’ books and files. Thus, teachers keep attendance registers and learner profiles, which are used to archive achievements, attitude and behaviour of learners. Teachers also keep subject files containing accounts of content knowledge that was taught and that which is about to be taught.

These findings detail the ways in which teachers generally facilitate the transmission of tacit and explicit knowledge in order to harness learners’ participation in ongoing dialogue, leading to knowledge re-production. These findings thus address the second sub-objective of the study.

***6.2.3.3 HODs’ Ways of Supervising KM Application at Selected Township Schools***

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***Relating to Theme 3, namely:***

***Aspects of HODs’ supervision***

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Mpisane (2015: iv) points out that HODs in their capacity as “middle managers” have to oversee processes of optimising quality teaching and learning through “supervision and control”. Their position as immediate supervisors of teachers, places them in the middle of

teachers' teaching activities and learners' learning experiences. They arrange all "educational" programmes between leadership of the school and teachers (Nkabinde, 2012:10).

***a. Supervision of curriculum delivery***

Nkabinde (2013, 2020); Mpisane (2015); Nkambule (2018) regard curricula management as one of the core competencies of HODs. In that regard, HODs reportedly dealt with content delivery through: i) monitoring of teacher attendance and learner attendance; ii) inspection of learners' books to track the pace of teachers' teaching of the curriculum; iii) inspection of teachers files and lesson preparation; iv) actualisation of a curriculum catch up/ recovery plan; and v) classroom visits; and vi) conducting pre and post moderation of assessments, roaming around to ensure that no learners play truant from lessons.

***b. Supervision of teacher development and appraisal***

The study found that HODs have a key role to play in ensuring that knowledge is cascaded to staff. It emerged in the narratives that HODs' supervision of teacher development and appraisal activities entailed: i) conducting internal workshops; ii) coordinating the application of candidature for externally facilitated skills programmes; iii) appraising teacher performance through IQMS; iv) conducting induction/orientation of new teachers; v) getting actively involved in coaching and mentoring of teachers who prove to be lacking some sort of competency. Similar views are expressed in Mestry and Pillay's (2013) study of instructional leadership.

***c. Supervision of knowledge sharing processes among teachers***

Participants' narratives indicate that HODs use the following activities and events to control knowledge sharing processes among teachers: HODs reportedly use subject meetings, phase meetings, general staff meetings and IQMS. Mkhize (2015:53) purports that these platforms afford teachers the opportunity to air their views on a multiplicity of issues and to hopefully generate lasting solutions.

These thematic findings respond to the third sub-objectives of the study pertaining to ways in which HODs supervise the application of KM in their respective schools. Activities that demand HODs' supervision are elucidated alongside the tools/used to actualise this exercise.

#### 6.2.3.4 Administrative Clerks' Utilisation of Technical Skills and Personality Traits to Affect KM Application at Selected Township Schools

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**Relating to Theme 4, namely:**

*Administrative clerks' scope of knowledge work and the requirements to carry out the work*

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The analysis of the interviews suggests that administrative clerks perform a myriad of duties, which require some level of aptitude, behaviour and training. Below I discuss sub-themes illuminating the nature of their work as well as the necessary technical and personality attributes needed for this endeavour.

**a. Manual knowledge work**

Administrative clerks manually scan, duplicate, staple, enroll learners, and fill in forms. It further emerged that in a school where there are two administrative clerks, there is likely to be some duties that they both execute, like those stated above. Also there are those duties that each one of them specialises in. One would perform “day-to-day administrative activities” alongside being the “principal’s” aide, also “maintaining a filing system” as well as controlling the “feeding scheme” and processing “confidential documentation” (Bayat et al., 2015:297); whereas other would perform “day-to-day administrative activities” fusing them with financial administration especially procuring “goods and services”, maintaining “the inventory” and “administering school funds” (Bayat et al., 2015:297) reimbursing staff for monies they used to purchase school equipment, giving out receipts and writing of cheques to pay SGB workers and contractors.

**b. Technological knowledge work**

In terms of technological work (i.e., sub-theme thirteen) administrative clerks mentioned that they use SA-SAMS to capture report cards, registers, marks, nutritional programme, leave management, and attendance. To communicate information, they use social media such as Facebook and WhatsApp. Using these social media oriented technologies constitutes the third space, known as the *cyber or systemising Ba* whereby the sharing of explicit knowledge spreads to a wider internal audience (Nonaka and Konno, 1998:47). This set up can also be classified as a CoP of some sort. Bulk SMS's have also proven to work well in sending messages to the masses. The intercom was also mentioned as a tool to send quick messages internally, e-mails

also proved valuable in sending and receiving knowledge. Additionally, telephones and mobile phones function in exchanging knowledge.

***c. Required formal Training***

Administrative clerks possess varying educational qualifications from a six-month certificate, one-year certificate, one-and-a-half-year certificate and three-year diplomas in the fields of data capturing, secretarial studies, financial accounting and human resources management respectively.

***d. Personality Traits***

As sought after traits for purposefully executing KM, administrative clerks cited interpersonal skills such as patience, interpersonal skills, sympathy, attention to detail, the love for the job and caring for the people, hard work and determination.

I surmise that this thematic grouping of the study's findings which are in response to the fourth sub-objective, specifies the kind of technical skills and personality traits deemed by participants as pivotal in KM application. The assortment of knowledge work that the participants perform is also highlighted.

***6.2.3.5 Determining the Kind of Leadership Style which Best Characterises Principal's Role in Affecting KM Application at selected Township Schools***

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***Relating to theme 5, namely:***  
*Principals' approach to leading KM application*

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Principals are anchors of school performance. Umar et al. (2020:79) point out that for school administration to flourish principals should be endowed with decision-making skills. The leadership approach that the principal adopts has to suit the people, programmes and administrative systems of the school. Various studies (e.g., Khumalo, 2009; Nguyen, 2009; Ferdinadus et al., 2015; Makambe, 2017; Rees, 2017; Ncube, 2019; Kalkan, Altinay Aksal, Altinay Gazi, Atosoy and Dagli, 2020; Khalid, Biibi and Akhtar, 2020; Khan, Ismail, Hussain and Alghazali, 2020; Oh and Han, 2020; Wiley, McCormac and Calic, 2020) identify leadership styles and organisational culture as primary factors in the development and maintenance of organisational effectiveness. In the same manner, below I discuss the

principals' facilitation of KM considering organisational culture and leadership as the sub-themes that emerged from the above-mentioned main theme during content analysis.

**a. Organisational culture and communication matters**

Communication plays a crucial role in nourishing collegial relationships in schools. Among other things, principals have to communicate with HODs and deputy principals on a host of matters including upholding the school culture (Obama, Eunice and Orodho, 2015:51). It emerged that principals perceived communication as effective and did not see the current organisational climate as an issue of concern. They felt that their schools had sound organisational cultures that are conducive for effective communication of decisions and other forms of knowledge that ought to be communicated with staff. They thus posited that they have an open door policy which takes into consideration the voices of all layers of staff.

**b. Leadership style**

Principal A was found to be in favour of a *laissez-faire* leadership style. He trusts excessively in his SMT such that he delegates most of his duties to them, and he seems unaware when the middle management does not agree to terms with teachers. Also he is not concerned about quelling tensions emanating from the alienation of teachers from their immediate supervisors. His school is considered functional due to the commitment of his SMT in actualising the programmes of the school. This finding supports Singh and Manser's (2002:56) assertion that *laissez faire* management styles often fail to infuse inclusion and mutual participation in schools.

Principal B practised transactional leadership. This was visible in his lack of interest in the work done by his staff and his intervention only when he feels that the situation has the potential to curtail the progress of the school. As has also been noted by Allie and Sosibo (2017:98), this leader does not discourage followers' initiatives and active involvement but makes it clear that final decisions about the prospects of the school lie solely with him; as such no follower is expected to contest these decisions. When his staff does well, he is always sure to compliment them; equally so when they have underperformed, he is quick to seek punitive recourse in line with policies. His enigma and the commitment of the SMT make KM a plausible venture in the school. Although this leadership style may sometimes appear to be somewhat "prescriptive", it has nonetheless over the last few years been subjected to the scrutiny of scholars, and has been found to be complementary to KM. The logic behind this stems from the understanding that in any event, the nature of leadership entails a process whereby a leader



transacts with the followers by “influencing [their] task objectives” (Nguyen, 2009:30) and strategic direction (Yukl and Van Fleet 1992 cited in Nguyen, 2009:31). The likes of Nguyen (2009); Liu et al. (2011); Gundersen et al. (2012); McCleskey (2014); Hickman (2017) and Allie and Sosibo (2017) assert that for transactional leadership to aid the implementation of KM, the leader ought to possess emotional intelligence and be able to eradicate issues that fracture the state of the organisational culture in the limited contact time that he/she spends monitoring the followers’ work ethic and interactions.

Principal C was found to be a democratic leader who valued the contribution of his staff in decision-making processes. He thus faces limited resistance from teaching staff. They are free to voice their opinions but even so, should staff clash over difference of opinions, he steps up and solves the stalemate resolutely. KM application under his leadership has proven yielding positive benefits. Ferdinadus et al. (2015:113) aver that the democratic leadership style provides an invitation for workers to immerse themselves in consultative engagements which eventually gives rise to knowledge sharing causes and conceptions of innovative ideas in the school. However, the point made by one of the participants representing the teaching component of the school concerning the formation of discursive forums/platforms (also known as CoPs) not yet being at a desirable level, concurs with the finding of a study by Allie and Sosibo (2017). Their study found that even in what can be termed “participative” leadership oriented school climates, one can still find some minor inadequacies in as far as collective engagements among workers are concerned.

The final note on this theme would be to point out that no matter the leadership style applied by these three leaders/principals to facilitate KM in their schools, the input of their followers/staff appears to be what enabled these schools to sufficiently as (opposed to efficiently) apply KM at the level that suffices for the delivery of educational services. Also, with the benefit of hindsight especially after having noted both the pros and cons of the applied leadership styles (Kaleem, Asad and Khan, 2013:1), I now consider as enablers of school productivity: i) people’s obligation (as enshrined in their employment policies); ii) the resilience with which people handle unfriendly work conditions and iii) people’s inclination towards the knowledge work that they are employed to perform. Thus, through this study I was able to understand that leaders’ ideal role in KM application is motivation of staff and the establishment of harmony among workers to chart a way for processes of KM to unfold in line with the strategic direction of the organisation. In Section 6.5, I offer suggestions to school principals/leaders that are in line with the findings of my study.

These findings uncover the leadership style(s) adopted by principals as well as their methods of communicating KM application strategy to staff members. These findings also bring to light principals' perceptions about how subordinate staff respond to their leadership styles.

*6.2.3.6 Ways in which Teachers, HODs, Administrative Clerks and Principals Draw on Africa's Indigenous Values Systems of Ubuntu Philosophy and Batho Pele Principles to Effect KM Application at Selected Township Schools.*

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***Relating to Theme 6, namely:***

*Ubuntu and Batho Pele Principles practised to enhance knowledge sharing*

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Participants explained that they practise the ethos of Ubuntu and Batho Pele Principles by, for example, greeting everybody they come into contact with, be it an insider or an outsider. Showing mutual respect is another method they use a lot to maintain cordial relationships among each other as staff members. Maintaining these relationships sustains both formal and informal knowledge transactions. When outsiders such as parents and family of staff and learners, departmental officials or members of the public enter the premises of the school in need of specific information, participants indicated that they serve them with respect and humility. They further mentioned that knowledge sharing transactions would start with greetings followed by asking in what they could assist the one who is in need of assistance. Upon hearing the reason that brought them to the school, participants would then assist in whatever way they could or refer the visitor(s) to the relevant person. They concluded their narratives by mentioning several occasions where they received compliments for being of assistance to either their fellow colleagues or school visitors.

Nouns like friendliness, humanness, sympathy, openness, care, love and service (and many more) were mentioned to denote participants' practices of Ubuntu and/or Batho Pele Principles. The final prognosis with regard to the application of these values is that internally these values are practised inconsistently. Hence there are not enough platforms among groups of workers to exchange ideas; also some people feel undermined/undervalued, leading to unnecessary confrontations among workers. Petersen's (2014) study also found that in the schooling sector not all the Batho Pele Principles are enforced maximally by co-workers. On the contrary, participants tended to be more attuned with the values of Ubuntu and /or Batho Pele when

interacting with external members of the school community such as parents, district officials, nurses, police and so forth.

These findings embody the values systems adopted by participants when interacting with each other internally and when they engage in knowledge sharing transactions with external members. Gestures and attitudes forwarded by participants in their daily interactions are explicated, and as such this fulfills the last sub-objective of the study.

### **6.3 THEORETICAL FRAMEWORK**

This study applied a triple lens approach. This simply means that it drew from three theoretical considerations or frameworks. I consciously chose to employ these theories side by side in order to structure my discussions on the phenomenon in accordance with scientifically tested parameters that could easily harmonise with the factors discussed in the literature review chapter. The first theory explained the operation of *Communities of Practice (CoP)* as developed originally by Lave and Wenger, (1991). CoP was used in conjunction with Rodrigues and Pai's (2005) *Eight dimensions of KM Enablers and Activators*, which then became the second theory upon which I drew. The third theoretical basis was *Ubuntu Philosophy* as a way of introducing the uniqueness of the context of the study. Considering that the study took place in an indigenous context, it therefore seemed sensible to infuse into the study a theoretical base which would highlight the rules of engagements and other dynamics in that context.

#### **6.3.1 Communities of Practice**

Wenger (1998:2) remarked that “communities of practice are everywhere”. They permeate different spheres of human interaction including all organisations and they come to light when people attempt to determine solutions to recurring sets of problems collectively (Wenger, 1998:3). I purposefully selected CoP on the basis that it sympathises with indigenous epistemologies as it regards knowledge creation as a culmination of a mutual exchange of information by a group of people gathered in specific settings as is stressed by many scholars writing about indigenous ways of knowing (such as Adyanga, 2012; Ani, 2013; Chilisa, 2012; 2020; Goduka, 2012; Ngulube and Onyanha, 2017; Setlhodi, 2019). The settings referred to in this regard could be school's administrative block, staffroom, school hall or the classroom where people from a single component of occupational practice or from a combination of occupations (e.g., teachers, HODs, administrative clerks and principals) could organise

themselves (or even self-organise) to discuss work related affairs. I thus opted for it because enabled me to harmonise it with other empirical accounts that contextualise the predominantly business focused models into the education sector, specifically Nonaka and his followers' SECI model (concerning knowledge conversion from tacit to explicit and vice versa) and the Ba Philosophy (concerning various spaces or venues where knowledge transactions could take place). Essentially, CoP was employed to elucidate how people (i.e., teachers, HODs, administrative clerks and principals) formed associations based on commonality of ideals, and based on how they acquired knowledge through mutual participation in learning processes. Within the schooling system, CoP is recommended as an alternative theoretical framework which is capable of equalising the rigidity of the top-down approach by means of incorporating bottom-up contributions (Mortier, 2020:329).

### **6.3.2 Eight Dimensions of KM Enablers and Activators**

Designed by Rodrigues and Pai (2005), this framework is one of the few exclusively created tools aimed at streamlining and gauging the efficiency of KM application in education and information technology sectors. I employed this framework to advance the agenda of exploring with selected participants what sort of attributes (on the part of knowledge workers) are a prerequisite for effective KM application. This framework moulded my perspective about organisational dynamics that are likely to impact KM application in the education and IT sectors, namely: leadership and support, technology and infrastructure, knowledge creation, acquisition and learning, dissemination and transfer, exploration and exploitation, people competency as well as the sharing culture. The comprehensiveness of the framework's scope of organisational dynamics/focal points that pertain to the field or context of the study, made it fit for purpose. These dynamics were explored "in an educational" setting to determine performance (Chu et al., 2011:142) of these institutions (or schools) in relation to how they applied KM.

### **6.3.3 Ubuntu Philosophy**

Recognising that in indigenous societies there are values that govern how things should be done, I therefore saw the need to infuse the Ubuntu Philosophy as a subsidiary theory. Although this theory did not feature prominently in the study, it nonetheless eloquently bolstered the narrative on knowledge sharing culture (Cf. Section 3.3.7) which is one of the aspects discussed in Rodrigues and Pai's eight dimensions of KM enablers and activators framework. The overriding argument was the conception that the infusion of Ubuntu in our managerial practices impacts the level of dialogical knowledge exchange, because when people feel valued they are

likely to express themselves freely. Aided by empirical evidence, I further postulated that Ubuntu cultivates the kinds of intrinsic values (i.e., attitude, behaviour, determination, consciousness and loyalty) that are of vital importance to organisational success. In the end, the results of this study also endorsed the point made by Msila (2008, 2015) that Ubuntu can be a solution to maintaining proper governance in schools and the workplace in general. The relevance of Ubuntu is also discussed by Setlhodi (2019) as a way to enhance school governance. This theory was substantiated by this study as it found that on most occasions where participants practised Ubuntu towards fellow colleagues and school visitors, they would receive compliments as an affirmation that they have been of great help.

#### **6.4 CONSTRAINING FACTORS TO KM APPLICATION FOUND IN THE STUDY**

Perez Feijoo, Garcia-Ordas and Martinez-Lopez (2015:506) opine that there is bound to be a few setbacks in as far as education sectors' application of KM is concerned. People/employees in organisations are either directly responsible for some of these constraints or their productivity is affected by these constraints. Hence it emerged during the course of interviews with participants that there were several factors constraining KM application at selected schools. Generally, the constraints to be mentioned below, are said to be caused by one or a combination of: 1) people's inability or lack of interest; 2) not adhering to processes and stipulated regulations; and 3) the scarcity of technologies or inability of employees to operate technological devices. I refer the reader to the following table which highlights a myriad of constraints that pervade KM application at selected schools.

**Table 6.1: KM constraints that emerged at the selected schools**

<b>No</b>	<b>Constraining factors</b>	<b>Highlighted by</b>	<b>Directed to</b>
1.	The alienation of teachers when decisions about programmes which need to be actualised by them are being taken, and the communication of information meant for teachers are either misconstrued as they are cascaded down the hierarchy to members of the SMTs or they lose their meaningfulness. Thus they sometimes do not reach their destination as they get lost somewhere in the hierarchy of the schools.	Teachers, specifically Teachers 1A, 2A, 3B and 4B	Principals and SMTs
2.	Below-average understanding of KM processes (i.e., storing, sharing, creating and retrieving) and different forms of knowledge (i.e., tacit and explicit), as well as its codification processes (i.e., tacit to tacit, tacit to explicit, explicit to explicit and explicit to tacit).	The researcher	Teachers, HODs, administrative clerks, and principals

3.	<p>The often unfriendly organisational climate/culture which tends to stifle worker innovation and worsen tensions between subordinate and superior staff members. A practical example of the effect of this to KM is demonstrated in</p> <p>a) Administrative clerks feeling undermined by their HODs and sometimes teachers.</p> <p>b) Teachers feeling side lined by the school leadership.</p>	<p>Teachers, specifically 2A, 3B and 4B.</p> <p>administrative clerks, specifically 1A, 2A, 3B, 4B and 5C</p>	<p>Principals, HODs and teachers</p>
4.	<p>Disruptive learners who constrain knowledge sharing processes in the classroom.</p>	<p>Teacher 6C</p>	<p>HODs</p>
5.	<p>The insufficiency of thriving group formations (also known as CoPs) among teachers to share knowledge about matters that affect their profession.</p>	<p>Teachers, specifically 2A, 4B and 5C</p>	<p>HODs</p>
6.	<p>HODs' KM application efficiency is constrained by heavy workload, teacher absenteeism and teachers' poor classroom management skills. Also the fact that some teachers do not read information that is brought to their attention such as circulars, classroom rules and so forth.</p>	<p>HODs, specifically 1A, 2A, 3B, 4B and 6C.</p>	<p>Ministry of Education, principals and teachers</p>

7.	The absence of a comprehensive KM policy integrating all KM functions performed in various areas of operations in the schools.	The researcher	Education legislators
8.	SA-SAMS glitches hinder the work of administrative clerks.	Administrative Clerks, specifically 1A, 2A and 5C	Department of Basic Education
9.	Limited budget, insufficiency of technological infrastructure, and theft of technological equipment.		
10.	Selectively applied implementation of Ubuntu/or Batho Pele Principles among internal staff members, leading to fractured relationships and communication discord and minimally shared knowledge.	The researcher	Principals, teachers, HODs, and administrative clerks
11.	Gender disparities in school leadership. From a cohort of (nine) participants serving in school management structures across selected schools, there was only one female, 5 of the six HODs interviewed happened to be male. All three principals who formed part of the study were male.	The researcher	HODs and Principals.

### 6.5 A Note on My Overall Approach, Scholarly Reflections and Self-Reflexivity

Holmes (2020:3) mandates novice researchers especially doctoral students to write a statement called “a positionality statement”, which should entail: 1) their research orientation (i.e.,



personal beliefs and philosophical and theoretical perspective in relation to the research process); 2) factors that can potentially affect the research (i.e., culture, age, gender, religion, social class etc); 3) their chosen position or predetermined position (i.e., insider-outsider perspectives) relative to the research participants; and 4) their summative evaluation on when and how their participation may have or have had the bearing on the research. Because researcher's positionality is a fallible social construct (Rowe, 2014), lay researchers' positionality is bound to draw some influence along the way of their research undertaking, especially when they are engaged in a lengthy project such as Doctoral research (Holmes, 2020:4). Holme's viewpoint is supported by Ormston et al. (2014) and Rowe (2014) albeit without putting an emphasis on doctoral researchers. Hereunder is an account concerning my positionality, self-reflexivity and scholarly journey.

My role in this study was re-defined right from the time I immersed myself in the writeup stage (i.e., Chapter 1-4) all the way through to the end of the life cycle of the study. However, real transformation ensued during the course of my engagements with participants as part of data generation, some of whom alerted me to how some of the key questions I had proposed to ask them might have been too prescriptive and tended to limit their responses to my preferred way. This made me reflect on my positionality as a researcher. From then onwards I continually checked with participants whether they were comfortable with my line of questioning. Since experiences and interpretation of language are subjectively constructed by the author of the study (von Glaserfeld, 1988) a lay researcher may begin to notice and account for how they intensified or reduced bias or prejudices in their study (Ormston, Spencer, Barnard and Snape, 2014:53). Through my supervisor's feedback on the submitted material (during data analysis), her feedback invoked self-reflexivity in how I applied sensitivity to how I reported on participants' experiences of the phenomenon being researched. Her guidance made me realise how any researcher's choice of words might destroy or enhance meaningfulness of their study. Hence I consciously reflected on how I constructed and ethically communicated participants' experiences. Also, I realised that (by virtue of being in the profession myself) in schools where I was considered an outsider I was to a lesser extent an insider too because I was privy to some issues endemic to the schooling sector. This follows Holmes (2020:6) standpoint that a researcher may assume both the insider and outsider roles concurrently in a research process. Prior to immersing myself in a doctoral studies I perceived research more like a "task", however, through improved understanding my perception evolved to a point that I now see it more like a "journey" of discovery, not only of others' experiences but of oneself too. Issues

of acting in accord with people's (participants') contexts is another factor that I have come to understand, which was not the case prior to my involvement in this study.

From my above account readers can probably detect that in offering my analysis, I exercised caution in ensuring that the inferences I created when analysing participants' responses were reflective of their expressed truths, albeit that I provided extended insights regarding the importance of their statements. I also strove to keep the investigation as close to its natural setting as possible; hence I went to the participants' places of work to interview them and to observe firsthand some of the items (i.e., files, IT equipment, computer laboratories etc) that were mentioned by participants during the interviews, and in turn apply this in my analysis above.

## 6.6 RECOMMENDED SOLUTIONS

In light of the aforementioned barriers it would be valuable for schools to consider the following recommendations:

1. In the wake of literature imputing school improvement to principal's leadership (McBeth, Oduro and Waterhouse, 2004; Hargreaves and Fink, 2006; Parag, 2014), I recommend that measures to dissolve the current communication discord between teachers and the SMTs be taken as a matter of urgency, and since leadership "starts at the top" (Debeer, Du Toit and Antonites, 2017) improving this situation means that school principals (Ziduli et al., 2020:2) should consider opening more effective communication channels (Nyembe-Kganye, 2005; Rasebotsa, 2017). Since knowledge innovation and sound decision-making owes its being to mutual learning (Chu et al., 2011:140) the onus rests upon principals backed by the SMTs to ensure that two-way communication prevails in all areas of their respective schools' operations. In a broad sense I echo Ozmen and Muratoglu's (2010:5375) suggestion, that school principals and SMT members need to acquire skills on "knowledge management strategies" that will prepare them to understand better what it means to manage the inflow and outflow of knowledge and fostering knowledge communities in their respective schools, taking into consideration the value of internal and external stakeholders.

2. Although they demonstrated that they understand their obligation towards knowledge work sufficiently, it is clear that teachers, HODs, administrative clerks and principals should be oriented on knowledge conversion models such as SECI and Ba. This will introduce them to the fundamental functioning and process of knowledge transformation. This will also rationalise their obligation towards the work they do, as opposed to them knowing about it (i.e., their job description) only from the policy point of view.
3. To divest the organisational climate of the negative elements, I recommend that the leadership should devise means of restoring it back to a state where it will mend the broken relationships among staff members. To resuscitate relationships among staff, school leadership should consider arranging “some special” events “inside and outside the school” (Ozmen and Muratoglu, 2010:5375). This could involve team building exercises or staff excursion where a way forward could be mapped up. The other option involves enlisting the services of organisational development consultants to help both the leadership and ordinary staff members rebuild a solid base in terms of respecting each other’s opinions and functioning productively within team oriented organisations such as schools. Going forward, the open door policy which was hinted at by several participants during interviews should not only be spoken about without being implemented. I hold a view that when the new measures are put in place, HODs and teachers will find a better way raising their concerns to administrative clerks in a manner that leads to mutually beneficial settlements of issues. To add to this, I also endorse and propose that school A and B should adopt the stance taken by school C by training teachers so that they can capture their marks on SA-SAMS. This will serve as a deterrent to the ‘blame game’ that plays itself out between teachers and administrative clerks in relation to the discrepancies in how learners’ marks were captured. In this vein, Mokwena (2014:74) stresses that, contrary to the popular view, SA-SAMS was developed not only with administrative clerks and principals in mind but with teachers too. Finally, I recommend that teachers should embrace the infusion of technology in their work spaces, and the best way to start is by learning how to operate them.
4. Dealing with continuously disruptive learners requires a concerted effort both from teachers and parents. The starting point would be for the teacher to exhaust his/her efforts of eliminating that behaviour in a classroom. If it does not succeed, the learners’ parents should be involved; if the behaviour persists, then the teachers can consult the SMT and provide them with the records of learners’ transgressions for them to take this

matter forward. Asking for advice from colleagues has also proven to work in improving such behaviour.

5. In line with Brouwer, Brekelmans, Nieuwenhuis and Simons (2012:360-361), I suggest that school leadership should look into inspiring a culture of CoPs in their school. This can be helpful in dealing better with issues affecting teachers and the staff as a whole, because individual members of these group formations will be afforded opportunities to exchange knowledge about an array of issues that are pertinent to their work. Scholars such as: Quinn (1998); Wenger (1998); Westheimer (1999); Salmon (2002); Kanuka and Garrison (2004); Yandell and Turvey (2005); Balcaen and Hirtz (2007); Jeon et al. (2011), and Mkhize (2015) and many others have demonstrated the effectiveness of CoPs in maximising knowledge sharing transactions in various organisations including schools. Glover, Hardaker and Xu (2004) and Doolan (2013) argue that collaborative engagement and mutual participation as enshrined in the socio-constructivist worldview (see Section 1.5.1 in Chapter 1) serve as principal reproducers of refined knowledge in CoPs. On that basis I foresee that, upon acquiring an informed perspective on the functioning of CoPs, the leadership contingents of the selected schools will change their mind set and begin to appreciate better the dimension that CoPs contribute in the maturity of knowledge transactions in their respective schools.
6. While acknowledging that HODs wear different hats and are often overworked as they juggle classroom teaching and supervising instructional activities, it is recommended that they should review their priority list and adopt a more proactive approach by infusing participatory or collegial learning as part of the in-house teacher development agenda. This practice development approach of sustaining ongoing dialogue among colleagues (known as CoPs or learning communities) is backed by empirical evidence proving that it has the propensity to improve KM practices. If time proves to be a constraint to realising this mission, HODs may have to delegate this task to committed and adequately experienced subordinates such as senior teachers. To control the negative effects of teacher absenteeism on teaching and learning I draw on a suggestion made by HODs in school C. They suggested that when a teacher is absent from work then he/she must submit a *catch up recovery plan* which must be looked at and approved by the HOD. Furthermore, the HOD must monitor its implementation and give a report to the deputy principal. They reported that this method discourages teachers from staying absent unnecessarily. The second suggestion that emerged from the interviews was proposed by HOD 5C in light of the fact that teachers sometimes do not read

information that is being circulated to them; he suggested that HODs should attach a tool which teachers should sign to indicate that they have read the document that was circulated. But if this trajectory continues, I would then suggest that HODs should look into having a 15 minute (or so) daily briefing session. In addition, I would suggest that the formation of CoPs should be prioritised as a mitigating strategy to the prevalence of classroom disruptions. Through CoPs teachers will engage each other on how to handle this situation and many others.

7. For the attention of *education legislators*: it emerged that KM is being practised by the participating schools, but it is yet to be formalised by the Department of Basic Education. In view of the growing appeal for re-conciliation of indigeneous knowledge production with mainstream ways of knowing (Cf. Chilisa and Preece, 2005; Odora-Hoppers, 2005, 2015; Chilisa, 2012, 2019; Goduka, 2012; Ngara, 2017; Romm, 2018; Kramer, Fynn and Laher, 2019; Lwoga et al., 2020), standardised legislation on knowledge sharing and KM in general should be drafted and enacted (Kalema et al., 2016:20) relative to the uniqueness of schooling contexts. The point here is that policies should not be legislated using a one size fits all approach. For example, Quantile 1 and 2 (also known as under resourced) schools should be affected by KM policies that are drafted from a position of an understanding of the kinds of challenges (i.e., infrastructure, skills shortage, finance etc) that confront them. Drafting of policies from an understanding of contextual challenges ensures that its execution is not far removed from rules of engagements/operations that apply in those contexts. This stance also sympathises with the IKS norm of consciously paying attention to how our actions might impact the studied people's communal living. In the interim participants in their varied areas of expertise have to rely on the relevant sections of extant policies to share, create and manage knowledge. This necessitates the drafting and promulgation of a comprehensive KM policy which speaks to all the operations of the school. Education legislators should bear in mind that a thriving KM climate is the one in which an organisation institutionalises "an integrated approach" to managing and disseminating all of its information properties (Barron, 2000).
8. In the light of *shortcomings in the functioning of SA-SAMS*, the district should look into employing IT technicians to service the schools whenever SA-SAMS presents glitches. This pursuit may require that participants join forces and petition their respective trade unions to engage the provincial education government on this matter.

9. Budgetary constraints are unavoidable in previously disadvantaged schools. Principals indicated that securing sponsorship from the private sector to purchase IT equipment has proven to be fruitless. Therefore, I suggest that schools should use their previously disadvantaged backgrounds to encourage sponsors from schools in developed countries. This can start by forging virtual partnerships with a prestigious school abroad with a view to asking that school to raise funds for them to purchase IT equipment. To capture their attention and emotions, pictures of the current infrastructure must be uploaded and forwarded to them. With regard to the recurrent theft of IT equipment, schools should consider 'adopting a cop' to reside on the respective school premises. Having noticed that at the present moment none of these schools housed police on their premises, I would suggest that they act promptly in actualising this issue. This has proven to eliminate theft of equipment or burglary of schools.
10. To relish an organisational climate characterised by good working relationships, compliance with legislative frameworks and collegial empowerment through ongoing mutual engagements in knowledge exchange transactions, I borrow from Pitersen's (2014:259) suggestion that the education sector should stop paying lip service to the enforcement of the Batho Pele policy and must begin to apply these principles in real terms. Organisationwide conscientisation about the importance of applying these principles should be done at regular intervals, so that people/workers in organisations are fully aware of the impact of their action on their organisations' productivity and human relations. Rewards (i.e., incentives and appreciation) must be given to employees who apply Ubuntu and/or Batho Pele. Thus training needs must be conducted to strengthen the areas of application that are not yet fully at a desirable level. In concluding this point, I argue that the same fervency with which participants apply Ubuntu and/or Batho Pele Principles when liaising with external stakeholders should also apply when they engage their colleagues internally.
11. In relation to the issue of *gender inequity at the selected schools*, I forward a recommendation tabled by Moorosi (2006, 2010); Nkomo and Ngambi (2009) and Phakathi (2016) of putting in place *Women Leadership Development Programmes*. Since there are already similar initiatives that are exclusively meant for practising female school leaders I suggest that these should also enrol potentially fine women outside school leadership structures in preparation for up coming leadership positions.
12. With regard to prospective research: researchers should see this study as the basis upon which to institute other investigations on themes that emerged in the study. I propose

that a similar study be conducted (with variations that suit the context of application) using a mixed methods approach drawing a much bigger sample frame in order to get a broader understanding of the state of affairs. Also I recommend that staff members in the selected schools with a keen interest in pursuing postgraduate studies (especially those serving in SMTs) should continue from where I left off to embark on a research journey using one or more of the themes of my study. Continuously interrogating this phenomenon will keep the KM discourse evolving to incorporate new developments that will equip the schooling system to cope with the evolving demands made by the Fourth Industrial Revolution (4IR).

## **6.7 DELIMITATION, LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH**

### **6.7.1 Delimitation of the Study**

The findings of this study relate to KM application in township schools and three of them in particular in the circuits of Emalahleni. Therefore, the boundary of my research was restricted to three Emalahleni schools. For purposes of transferability, it is envisaged that the findings would have some relevance for a population of township school teachers, HODs, administrative clerks and principals across all three participating circuits. Hence the exploration of KM as seen by these four layers of workers (or participants) constituted the boundary of my research topic.

### **6.7.2 Limitations**

I now turn my attention to describing what can be taken to be limitations of the study. The first of these pertained to the fact that I had initially proposed to interview twenty-one participants, but in the end I secured only twenty interviews. This was due to the reason that contrary to the norm in big schools such as school C (where there are usually two administrative clerks), they only had gainfully employed one administrative clerk. Resultantly, I had to make do with one administrative clerk –an occurrence which I believe may have robbed my study of a richer perspective into how administrative clerks experience KM application.

Also relating to my sample, even though literature counts deputy principals among knowledge workers (and to some extent, learners also), they were excluded. This can be argued to have starved my research of an additional rhetoric. Gender disparities arose because a large

proportion of participants at SMT level happened to be male. Across all three selected schools, there was only one female participant in the school management band. This deprived the study of an equitable share of female views on the management of KM.

Furthermore, due to time, budgetary and manpower constraints I targeted only three schools (one in each of the three circuits) to “represent” schools in their respective circuits. Clearly, this sample size is by no means enough to indicate a broader perspective of all the schools in the studied circuits, the province or the country (Nkambule, 2018:148) and thus cannot be regarded as representative in any quantitative sense. The adoption of a case study format makes this study specifically suited only for the context of application, making it unfeasible to generalise its findings to a broader population (Rapeta, 2019:259). Although this can be regarded as a limitation of the study, it is worth bearing in mind Melrose’s account of “naturalistic generalisation” (2010: 191) where she draws on Lincoln and Guba’s explanation of this notion (1985:119–122). According to this account of “generalisation”, readers are invited to enhance their understandings in relation to issues identified via case study research, by comparing the case(s) discussed with situations with which they are familiar and by considering the extent to which they “apply” in these contexts. Melrose elucidates how “naturalistic generalisation” leaves room for reader engagement. I therefore call on readers to indeed consider whether my study helps to cast light on situations of which they are aware in other schools (or any other social context of KM application). In short, naturalistic generalisation can be followed through by active readers who find ways of applying ideas from the in-depth depictions and analyses as presented in my study (as advised by Melrose, 2010; 191).

I now turn to considering what might be regarded as a limitation relating to my set of participants. Choosing a qualitative approach limited the sample to just twenty participants. A larger sample could have been achieved if a quantitative or mixed methods approaches were considered. But again, although this can be regarded as a limitation (which can be “redressed” by researchers in future following up with larger samples), it is important to note that qualitative sampling as used in my study had the purpose to gain *in-depth understanding*. Onwuegbuzie and Leech (2007) clarify that even the amount of words that participants use during in-depth interviews (which can be many), is a sampling issue in that many words are used to “represent” a perspective held by the participant. Insofar as depth is achieved, insights are developed into this kind of perspective. So I would not like to overstate the “limitation” of the sample of participants, given that I believe the interviews did reveal depth due to their



length and due to the probing which I undertook. As indicated, the encounter with participants during the in-depth interviews was followed at a later date by member checking of the transcript (and themes that I located) with each participant so that participants had an opportunity to check their words and whether I had covered their depth and also their meaning. So I believe that in terms of Onwuegbuzie and Leech's (2007:117) considerations of "power analysis" in qualitative research, I by and large complied with this requirement.

I however consider that the unavailability of one administrative clerk (as it was the case in school C) can be argued to be a limitation as resulted in there being twenty participants instead of the initially envisaged 21. Furthermore, the latter part of the interview session that I had with principal 1A was rather rushed. I suddenly realised that he was no longer responding enthusiastically as he had been doing all along, and he made a gesture for me to rush the questioning because it was closing time at the school. Although by that time he had already shared considerable information, I am convinced that had he given me more time to conclude the interview at the original pace, I would have gathered more information from him. I proposed a follow-up interview session to which he declined citing work commitment.

### **6.7.3 Suggestions for Further Research**

As pointed out in 6.7.2, it can be argued that my exclusion of deputy principals and also learners meant that important sets of knowledge workers were left out in my discussion of KM. Of course in this study (as in any study) I had to delimit the scope – hence I chose three schools and also limited my participants to four categories of staff namely, teachers, HODs, administrative clerks and principals, even though I acknowledged that others can and should be regarded as knowledge workers. However, I suggest that for further research, besides the ideas mentioned above, researchers could do well to include deputy principals and their way of assisting/complementing the work of principals and others in the ecology of KM. Furthermore, equally importantly, I suggest that learners be studied in relation to how, in indigenous communities such as township schools, they interact with elders (referring to the categories of staff in schools) in the enterprise of sharing and co-creating knowledge.

## **6.8 CONTRIBUTION OF NEW KNOWLEDGE VIA THIS RESEARCH**

KM has widely been accepted as the epitome of organisational success. But in relation to sectors like "education" where knowledge distribution is of pivotal value, the scope of KM is relatively under researched, specifically in the developing world nations (Arumina and

Pekkeerappa, 2018:109) such as South Africa. Therefore, this study can be regarded as providing a small yet a significant new contribution to the scarcely documented body of knowledge KM in the schooling sector. Although this study may not be the first of its kind, but there is a greater chance that its context of application may be the very first (if not one of the first few of its kind in South Africa). I qualify this viewpoint on the basis that I exhaustively could not locate any one focusing on the phenomenon within the realm of the South African schooling system (i.e., primary and secondary schools). Instead I located the one written by Reynolds (2005), a South African author, who studied contextually based KM application in New Zealand and Australian schools.

In this study I abandoned the tradition taken by most African scholarly works that I perused on KM, except for Okeke and Okeke (2016) of squarely inspecting the phenomenon from western ways of knowing. Fuelled by the conception that “our indigenous knowledge systems” are rich and need people to lobby for their documentation (Lwoga et al., 2020:181), I married both the western and the indigenous ways of knowing to develop a lens through which I could study KM application in indigenously rooted but western oriented contexts such as township schools. This is also consistent with the advice given by Ngara (2017).

This study takes a comprehensive approach to investigating KM application in the selected schools studying almost all relevant actors (or layers of staff). Unlike the tradition of probing one or two layers of staff, mine takes into consideration almost all (except for deputy principals and as some literature claim, learners also) knowledge workers in the school ecology. Also it comprehensively looks into KM application across all key facets of school operations (specifically, the curriculum; supervision; administration and leadership).

## **6.9 SUMMARY OF CONTRIBUTION OF THE STUDY**

Literature indicates a dearth of documented body of work on KM with the schooling system as the focus of attention. Heeding the call to contribute towards narrowing this lacuna, I embarked on this research journey where I discovered how KM was currently being applied in a number of township schools. Despite KM being not a talked-about concept, it emerged that naturally the schools are knowledge-intense organisations. In the midst of a myriad of constraining factors schools forged ahead with KM application. In these schools, KM application is a process triggered by knowledge workers’: 1) adherence to the islets of legislations; 2) compliance with the line function protocols; 3) leveraging on the available technological

infrastructure; 4) alignment of workers' experience and educational background to the areas of operation; and 5) utilisation of one's personality traits and values systems in daily interactions with internal or external stakeholders. This lays bare that KM is embedded in merging "people, processes and technology" (Chu et al., 2011; Liebowitz, 2012) accompanied by "strategies to improve school performance through practical actions" (Thambi and O'Toole, 2011:91).

The prognosis of the study is that all three participating schools apply KM at varying degrees, whilst most of the challenges they faced bore resemblance across all three research sites/schools- due to the commonality or similarity of these contexts. Through the findings of the study and my analysis of empirical evidence I have come to realise that the context of application needs to be taken into consideration when evaluating the merits or demerits of KM. This therefore implies that, in a suburban context, successful KM application relates to how the abundance of resources, workers' skills and personality traits, and legislation at the school's disposal generally aid KM application. But with regard to the township context, KM application is relative to how against all odds, the stretched budget, limited resources, the workers' skills and personality traits as well as the enacted policies, enable the school to apply KM meaningfully. Suffice to say that, we can never use the same lens to inspect KM application in these two overtly different schooling contexts.

It has become apparent in all three cases/schools that the degree in which teacher groups are being formulated is not satisfactory. This behoves the school principals and the SMTs to look into fostering mutual agreement, joint enterprise and especially the shared repertoire in future dealings. This may also require that principals should refrain from acting with oblivion to the conception that success of the school is reliant on the consolidation of every employee's ability, value and efficacy. In the discussion above I provided some recommendations on how this could be done.

## **6.10 SYNOPSIS OF THE ORGANISATION OF THE THESIS**

This study comprised of six chapters which were developed as follows: Chapter 1 offered background material regarding my focus on KM, including my research questions, objectives, and methodological and ethical approach. Chapter 2 offered a synthesis with regard to philosophical constructs of knowledge, types of knowledge and their characteristics, and the evolution of KM, with an indication of its importance for educational systems (including in South Africa). Chapter 3 offered detail on Wenger's CoP concept and Rodrigues and Pai's

eight KM enablers, as critical theoretical underpinnings which helped to guide the study, along with an account of Indigenous Knowledge Systems. Chapter 4 discussed the research design and methodology, detailing the sample, sampling procedure and data gathering techniques (combination of interviewing and document perusal). Processes for developing a trustworthy study were also explained. Chapter 5 explained how the content analysis of interviews leading to themes was undertaken, in relation also to the documentary research. While handling the analysis, I related the themes back to the literature as discussed in previous chapters, with a view to casting further light on it. Chapter 6 presents the summary of the findings of the study followed by recommendations building up to the conclusion. A summary of the delimitation of the study and a discussion of some limitations of the study also form part of this chapter, with some suggestions for further research. The chapter concludes with two sections (6.7 and 6.8) indicating how my approach to the research can be regarded as a novel one in relation to previous studies and also how I contributed to the KM “body of knowledge” in the literature by filling certain gaps therein via my study.

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## **APPENDIX A: INTERVIEW GUIDE FOR ALL FOUR OCCUPATIONAL CATEGORIES OF PARTICIPANTS THAT WERE INTERVIEWED**

*As a strategy to get a holistic view of the main objective (i.e., Examining Knowledge Management Application at Selected Township Schools) I opted to divide my line of questioning in accordance with the following sub-objectives:*

**Sub-Objective A: Determining the understanding of Teachers, HODs, Administrative Clerks and Principals at selected township schools about what constitutes tacit and explicit knowledge.**

1. What is the mission or goal of your school and how does your occupation help the school achieve it?
2. When people speak of “Knowledge Management” what does this idea mean to you?
3. According to Knowledge Management literature there are two types of knowledge namely: **tacit** and **explicit**. What do you understand each of these knowledge types to be? .....kindly elaborate and give examples of how you use each of these knowledge types in your line of duty.
4. The nicest thing about having tacit and explicit knowledge at your disposition is that they can work in isolation as well as in a blended form. Do you ever get to mix these two knowledge types to carry out your work? If your answer is yes, how do you do so?
5. Technology plays a crucial part of Knowledge Management processes. What kind of Information Technologies do you employ in your line of duty to ensure that you share, store, retrieve and create knowledge?
6. Do you believe that your organisation has the appropriate IT tools for effective information/knowledge transfer?
7. How would you rate your IT competency, and is it effective enough to effect Knowledge Management application?
8. Do you think the organisational structure (i.e., the top down approach- where communication comes from top to the bottom) is conducive for effective knowledge sharing at your school?
9. What platforms do you use to meet up with other workers to exchange knowledge and to learn from one another?
10. According to your perception, does your organisational culture or environment enable Knowledge Management application to thrive?

11. Overall, do you believe that Knowledge Management offers benefits to your organisation? And which benefits can you mention which are currently realised in your organisation due to KM initiatives?
12. Now that we have discussed a lot of things about KM, how would you again describe KM?

***Sub-Objective B: The Contribution of the HODs' supervision in enhancing Knowledge Management Application at selected township schools.***

1. The school itself is the custodian of knowledge, and the enforcers of this knowledge (are often referred to as knowledge workers) are drawn from an array of school-based occupations. Do you regard yourself as a knowledge worker? And if so, in what sense?
2. As a manager responsible for curriculum or instructional matters, how do you infuse your supervisory skills with the implementation and smooth running of the curriculum?
3. What sort of (internal and external) training and development initiatives do you put in place to ensure that, at the end of the day, teachers teach in a manner that enables learners to not only receive knowledge but also to share it among each other, whilst also creating their own knowledge?
4. How do you ensure that experienced teachers share their tacit (internal) knowledge with younger teachers?
5. Would you say that your strategy of ensuring that experienced teachers share their tacit knowledge is effective enough?
6. What competency or skill would you say is a prerequisite for teachers' Knowledge Management application?
7. How do you ensure that you are clued up with recent trends in as far as the delivery of content knowledge is concerned?

***Sub-Objective C: Gaining a deeper understanding about the measures put in place by the teachers to evaluate the success and failure rate of their tacit and explicit knowledge sharing efforts within a classroom environment.***

1. The school itself is the custodian of knowledge, and the enforcers of this knowledge are people (often referred to as knowledge workers) drawn from an

array of school-based occupations. Do you regard yourself as a knowledge worker? And if so, in what sense?

2. What strategies do you put in place to ensure that learners benefit from the knowledge you are imparting with them through teaching?
3. As a teacher, how do you ensure that learners share their knowledge with their peers?
4. How do you establish whether learners have effectively or ineffectively absorbed the content knowledge that was presented in class?
5. How do you reinforce the content knowledge in the event that some learners have not adequately absorbed it?
6. What policy document(s) guide(s) you towards sharing content knowledge in a strategic manner? Describe the format that this document takes to realise this goal.
7. How do you archive (or keep records of) the content knowledge and other information concerning the learners' academic experience?
8. What sort of classroom dynamics counter the teaching and learning experience of content knowledge in a classroom environment?

***Sub-Objective D: The role of Office Administrators' technical skills and personality traits to affect KM application at selected Township Schools.***

1. The school itself is the custodian of knowledge, and the enforcers of this knowledge are people (often referred to as knowledge workers) drawn from an array of school-based occupations. Do you regard yourself as a knowledge worker? And if so, in what sense?
2. As a front office staff how do you share, receive and store knowledge? (Kindly mention a few tools that you use to fulfil this mission including social media platforms).
3. How did you prepare yourself academically and technically to be able to handle the intricacies that come with the ever changing format of IT?
4. What support do you get from your (internal and external) superiors to ensure that you execute knowledge work effectively?
5. What sort of personality traits (or qualities) do you deem important in dealing with Knowledge Management processes in your profession?
6. What needs to be done to improve KM practices in as far as technology is concerned?

***Sub-Objective E: Leadership style that best characterises the Principals’ role in facilitating KM application at selected township schools.***

1. How do you weigh your school with regards to resources and the capacity to deal with KM application?
2. Every organisation has a desirable culture to live by. How do you lead your staff to sustain an organisational climate (or culture) that is conducive for knowledge best practices?
3. How do you handle the communication rigidity that comes with the top-down approach when exchanging knowledge that affects different layers of staff? What sort of things do you do to ensure that knowledge sharing includes every employee?
4. How would you characterise your leadership style when dealing with KM application?
5. How do you keep track of knowledge practices taking place in the classroom as well as in the office block?

***Sub-Objective F: The extent to which Teachers, HODs, Administrative Clerks and Principals draw on Indigenous Values Systems of “Ubuntu Philosophy and Batho Pele Principles” to effect KM application at selected township schools?***

1. Do you think your personality offers an invitation for people from within or outside the school environment to exchange (share and receive) knowledge with you? Please elaborate.....
2. Do you sincerely believe that you embody the foundations of Africa’s Indigenous Values Systems of Ubuntu and Batho Pele to effect meaningful knowledge sharing experiences with others? (Kindly tell me how you do this).
3. Have you ever received any reaction from others which seemed to confirm this?
4. How did you experience this interview with me? Do you think it helped you to reflect on issues connected with KM? Do you think you learned anything from this interview?

**Thank you very much for your time. I will also later like to check my interpretation of our conversation (once I have transcribed the gist of it). I hope you will be amenable to this. This is so that I can refer properly to your ideas, along with those of other participants – although no-one will recognise who you are (unless you say you want to be acknowledged by name). Thanks again!**

## APPENDIX B: ETHICS CLEARANCE CERTIFICATE



### UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2019/10/16

Dear Mr Nkambule

**Decision:** Ethics Approval from  
2019/10/16 to 2024/10/16

Ref: **2019/10/16/63552809/24/MC**

Name: Mr B Nkambule

Student No.: 63552809

**Researcher(s):** Name: Mr B Nkambule  
E-mail address: bongani5233@yahoo.com  
Telephone: +251 91 153 2416

**Supervisor(s):** Name: Prof NRA Romm  
E-mail address: rommnra@unisa.ac.za  
Telephone: +27 12 484 1118

**Title of research:**

**Knowledge management application in schools: A case study of Emalahleni Circuit  
1,2 and 3.**

**Qualification:** PhD in Educational Management

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2019/10/16 to 2024/10/16.

*The **low risk** application was reviewed by the Ethics Review Committee on 2019/10/16 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.



University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
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3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date **2024/10/16**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

*Note:*

*The reference number **2019/10/16/63552809/24/MC** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,



**Prof AT Motlhabane**  
**CHAIRPERSON: CEDU RERC**  
motlhat@unisa.ac.za



**Prof PM Sebate**  
**ACTING EXECUTIVE DEAN**  
Sebatpm@unisa.ac.za



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**APPENDIX C: REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN  
MPUMALANGA SCHOOLS**

5233 Section B  
Ekangala Township  
City of Tshwane  
1021  
27 May 2020

Office of the HOD: Research Unit  
Mpumalanga Department of Education  
Private Bag X11341  
Nelspruit  
1200

Dear XXXXXXXX

**REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN EMALAHLENI  
SCHOOLS**

I, Bongani Innocent Nkambule am doing research under the supervision of Norma Romm, a research professor in the Department of Adult Basic Education and Training towards a PhD (in Education Management) at the University of South Africa. I am cordially inviting schools under your ambit to participate in a study entitled **“Knowledge Management Application in Township Schools: A Case study of Emalahleni Circuit 1, 2 and 3.”**

One school in each of the three circuits will be targeted for the study, wherein 7 participants cutting across four strands of designations (i.e., 2 teachers, 2 HoDs, 2 Administrative Clerks and the Principal) per school are envisaged to take part. This overall sample of 21 participants across four occupational categories (as stated above) will constitute the study’s sample size.

Fundamentally, the aim of the study is to examine Knowledge Management application at selected Township Schools. The study is aimed at establishing the state of affairs with regard to how the selected schools apply KM in their daily dealings. And it is envisaged that the findings will explicate what works and what needs to be improved upon in relation to how the selected schools apply Knowledge Management.

The beneficial value of this study is such that, it will contribute a relatively new dimension (i.e., Knowledge Management with the focus of the schooling system) which has rarely been explored within the South African – township – context.

Whilst acknowledging that researching people could potentially be a risky exercise of some sort, we do not anticipate any risks associated with taking part in this study, as it will not

require participants to carry out potentially harmful physical demonstrations, or to divulge sensitive information. In addition, I would like to emphasise the point that participation in this study will be on a voluntary basis and as such, there will be no reimbursement or incentives for taking part in it. Participants will not be obliged to stay on should they express a wish to withdraw from the study.

In line with the ideal research ethics, I promise to keep the participants' identities (i.e. name and image) private when reporting on the findings. They will be assigned a code or a pseudonym that will be used on all my notes; and whatever is to be discussed with them will remain confidential information.

My feedback procedure will entail providing either a soft of the findings to your office and the studied schools, so that participants can have access to it.

I am looking forward to receiving your response with regards to this request.

Yours sincerely

---

Name: Mr. Bongani Nkambule

Role: The Researcher

Email: [bongani5233@yahoo.com](mailto:bongani5233@yahoo.com)

Cell: 079-595-7898

Student no: 635-528-09

## APPENDIX D: CONSENT TO TAKE PART IN THE STUDY

I \_\_\_\_\_ hereby declare my interest in taking part in the study entitled “**Knowledge Management Application in Township Schools: A Case Study of Emalahleni Circuit 1, 2 and 3**”. I can openly state that:

- During the briefing session, the researcher physically came to my school to meet with willing participants, including myself, the researcher explained to us and I understood the nature of the study and my role in it.
- I have had sufficient opportunity to ask questions and am prepared to participate in the study.
- I understand that my participation is voluntary and that I am free to withdraw at any time.
- I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential.
- I agree to the recording of the semi-structured interview.
- I have received a signed copy of the informed consent agreement.
- I will avail myself for member checking to ensure that the researcher reports correctly on issues to be discussed with him during interviews.

Participant’s Occupation (e.g., teacher, HOD etc.) \_\_\_\_\_

Participant’s Signature \_\_\_\_\_ Date \_\_\_\_\_

Researcher’s Name & Surname: \_\_\_\_\_

Researcher’s signature \_\_\_\_\_ Date \_\_\_\_\_

# APPENDIX E: APPROVAL TO CONDUCT RESEARCH IN EMALAHLENI SCHOOLS



Ikhama Building, Government Boulevard, Riverside Park, Mpumalanga Province  
Private Bag X11341, Mbombela 1200.  
Tel: 013 766 5552/5115. Toll Free Line: 0800 203 116

Litiko le Tamfundivo, Umnyango we Fundo

Departement van Onderwys

Ndzawulo ya Dyondzo

Mr. B I Nkambule  
PO BOX 859  
EMALAHLENI  
1035

## **RE: APPLICATION TO CONDUCT RESEARCH: MR. B I NKAMBULE**

**(bongani5233@yahoo.com) 079 595 7898**

Your application to conduct research study was received and is therefore acknowledged. The title of your study reads thus: **“Knowledge management application in township schools: A case study of Emalahleni Circuit 1, 2 & 3.”** We trust that the aims and the objectives of the study may benefit the department, in particular, the circuits and the schools within Emalahleni. Your request is approved subject to you observing the provisions of the departmental research policy which is available in the departmental website and available on request. You are also requested to adhere to your University’s research ethics as spelt out in your research ethics document.

In terms of the research policy, data or any research activity can only be conducted after school hours as per appointment with affected participants. You are also requested to share your findings with the relevant sections of the department so that we may consider implementing your findings if that will be in the best interest of the department. To this effect, your final approved research report (both soft and hard copy) should be submitted to the department as soon as you complete your research project. You may be required to prepare a presentation and present at the department’s annual research dialogue. For more information kindly liaise with the department’s research unit @ 013 766 5476 or [a.baloyi@education.mpu.gov.za](mailto:a.baloyi@education.mpu.gov.za).

The department wishes you well in this important project and pledges to give you the necessary support you may need.

**MR. J.R. NKOSI  
ACTING HEAD: EDUCATION**

**22/07/2020  
DATE**

