A SOCIAL COGNITIVE PERSPECTIVE ON STUDENT LEARNING ENGAGEMENT IN BLENDED LEARNING PROGRAMMES IN PRIVATE HIGHER EDUCATION

by

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SUPERVISOR: Dr Lydia Mbati

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DECLARATION

I, Shawn Lourens Green, hereby declare that **A SOCIAL COGNITIVE PERSPECTIVE ON STUDENT LEARNING ENGAGEMENT IN BLENDED LEARNING PROGRAMMES IN PRIVATE HIGHER EDUCATION** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

_____ 15 November 2019

Shawn Lourens Green **Date**

TITLE OF THESIS

A SOCIAL COGNITIVE PERSPECTIVE ON STUDENT LEARNING ENGAGEMENT IN BLENDED LEARNING PROGRAMMES IN PRIVATE HIGHER EDUCATION

Key terms describing the topic of the thesis:

Blended Learning; Disengagement; Learning Management System; Learning Theories; Pedagogy; Private Higher Education; Social Cognitive Student Engagement in Blended Learning Framework; Social Cognitive Theory; Student Engagement; Undergraduates

ABSTRACT

A SOCIAL COGNITIVE PERSPECTIVE ON STUDENT LEARNING ENGAGEMENT IN BLENDED LEARNING PROGRAMMES IN PRIVATE HIGHER EDUCATION

Blended learning is referenced as the "*best of both worlds*" (Snart, 2010:xvi), which integrates Face-to-Face instruction with online learning. With interest in incorporating blended learning within the higher education curricula expanding, many private higher education institutions seek to understand how they can use educational technology effectively in blended learning to enhance undergraduate students' learning engagement.

This study investigated the nature and extent of private higher education students' learning engagement in blended learning programmes within a private higher education provider. Through the lens of Bandura's (2000:121, 2009:180) Social Cognitive Theory, the study investigated private higher education students' learning engagement in blended learning during the completion of their qualification and how it impacted teaching and learning. A descriptive quantitative research design was adopted, coupled with a positivist paradigm of inquiry. Utilising a cross-sectional survey it acquired descriptive data from a sample population of 567 respondents who answered the study's research questions.

The study found that student orientation programmes are associated with students' perceived self-efficacy, subsequently affecting their engagement in blended learning programmes directly, and through the impact on outcome expectations, goals and socio-structural impediments. Additionally, socio-structural facilitators impacted outcome expectations and student engagement. The study's results established a new framework, namely Social Cognitive Student Engagement in Blended Learning.

OPSOMMING

‘N SOSIAAL-KOGNITIEWE PERSPEKTIEF VAN STUDENTE SE LEERBETROKKENHEID BY GEMENGDELEERPROGRAMME IN PRIVATE HOËR ONDERWYS

Gemengde leer word dikwels die “*beste van twee wêrelde*” genoem (Snart, 2010:xvi) aangesien onderrig nie alleen van aangesig tot aangesig nie, maar ook aanlyn geskied. Gesien die stygende belangstelling in die inskakeling van gemengde leer by hoëronderwysleerplanne, ondersoek talle private hoëronderwysinstellings maniere om opvoedkundige tegnologie in gemengde leer te gebruik om voorgraadse studente se leerbetrokkenheid te verbeter.

In hierdie studie is ondersoek ingestel na die aard en omvang van studente se leerbetrokkenheid in die gemengdeleerprogramme wat by ’n private verskaffer van hoër onderwys aangebied word. Hierdie studie het deur die lens van Bandura se sosiaal-kognitiewe teorie (2000:121, 2009:180) gekyk na studente se leerbetrokkenheid by gemengde leer in die verwerwing van ’n kwalifikasie, en die uitwerking daarvan op onderrig en leer. Die navorsingsontwerp was deskriptief-kwantitatief en die ondersoekparadigma positivisties. Aan die hand van ’n dwarssnitopname is beskrywende data by ’n steekproefbevolking van 567 respondente ingewin.

In die studie is bevind dat oriënteringsprogramme op studente se siening van hul eie selfwerksaamheid gemik is, hulle betrokkenheid by gemengdeleerprogramme verbeter, en daardeur hul uitkomsverwagtings, mikpunte en die mate waarin hulle sosiaal-strukturele struikelblokke oorkom, bepaal. Afgesien hiervan het sosiaal-strukturele fasiliteerders ’n gunstige uitwerking op studente se uitkomsverwagtings en betrokkenheid gehad. ’n Raamwerk is opgestel, naamlik die Sosiaal-Kognitiewe Betrokkenheid van Studente by Gemengde Leer.

NGAMAFUPHI

UMQONDO WOMPHAKATHI KWIMFUNDO YOKUXOXISANA NABAFUNDI KWIZINHLELO EZIHLANGANISIWE ZOKUFUNDA EMAZIKWENI APHAKEME ANGASESE/AZIMELEA (*SOCIAL COGNITIVE PERSPECTIVE ON STUDENT LEARNING ENGAGEMENT IN BLENDED LEARNING PROGRAMMES IN PRIVATE HIGHER EDUCATION)*

Uhlelo lwemfundo ehlanganisiwe lubizwa, phecelezi nge "*best of both worlds*" (Snart, 2010:xvi), ukuhlanganisa umyalelo okhishwa ngendlela yokubhekana kwabantu ubuso nobuso kanye nohlelo lokufunda nge-inthanethi. Njengoba uthando lokufaka phakathi uhlelo lokufunda oluhlanganisiwe ngaphakathi kohlelo lwemfundo emazikweni aphakeme lya ngokuya lukhula nje, amaziko emfundo ephakeme amaningi angasese afuna ukuzwisisa ukuthi ngabe angabusebenzisa kanjani ngempumelelo ubuchwepheshe bethekinoloji bezemfundoi ohlelweni lwezokufunda oluhlanganisiwe ukuze kuqiniswe uhlelo lokufunda ngokuxoxisana nabafundi abasafundela iziqu zesigaba sokuqala.

Lolu cwaningo luye lwaphenya ubunjalo kanye nezinga lokufunda kwabafundi ngokuxoxisana ezinhlelweni zokufunda okuhlanganisiwe ngaphakathi kweziko langasese lemfundo ephakeme. Ngokusebenzisa iso lomqondo wokufunda kaBandura (*Bandura's social cognitive theory (2000:121, 2009:180)*, ucwaningo luye lwaphenya uhlelo lokufunda ngokuxoxisana nabafundi ohlelweni lokufunda ngokuhlanganyela ngesikhathi bephothula iziqu zabo kanye nangendlela lolu hlelo lunomthelela ngayo kwezokufundisa nokufunda. Idizayini yocwaningo oluchazayo olwencike kumanani luye lwamukelwa, ngokuthi luhambisane nohlelo lwe-*positivist paradigm of inquiry*. Ngokusebenzisa isaveyi i-*cross-sectional survey*, idatha echazayo yaqoqwa kwisampuli yenani lonke labaphenduli abayi-567.

Ucwaningo luye lwathola ukuthi izinhlelo zokwamukela abafundi zihlobene nemiqondo yabafundi (*students' perceived self-efficacy)*, bese kulandelise

ngokuthinta ngqo ukuxoxisana kwabo kwizinhlelo zokufunda ezihlanganisiwe. Ukwengeza, abahlanganisi besakhiwo somphakathi babe nomthelela phezu kwemiphumela elindelwe kanye nokuxoxisana nomfundi. Kuye kwasungulwa isakhiwo esisha, sona yilesi esilandelayo, phecelezi, *Social Cognitive Student Engagement in Blended Learning*.

DEDICATION

The prominent Spanish philosopher, José Ortega y Gasset (1883-1955), in his first book, *Meditaciones del Quijote* written in 1914, wrote the sentence that is arguably his most famous one. Translated from Spanish to English by Evelyn Rugg and Diego Marin (Ortega y Gasset, 1961:45):

I am myself plus my circumstance; and if I do not save it, I cannot save myself.

With this quote in mind, there are several people and a pet [child] without whom this dissertation would not have been possible and to whom I am greatly indebted.

Firstly, I wish to start my dedication in thanking the Almighty in providing me a second chance in life. As a child I was faced with a life threating medical condition that I overcame with His help. Without His grace I would not have been here to complete my dissertation.

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LIST OF ACRONYMS AND ABBREVIATIONS

AI:	Artificial Intelligence
4IR:	Fourth Industrial Revolution
AIC:	Academic Innovation Centre
BBA:	Bachelor of Business Administration
BIT:	Bachelor of Information Technology in Business Systems
BL:	Blended Learning
BUSSE:	Beginning University Survey of Student Engagement
CET:	Community Education and Training
CHE:	Council of Higher Education
CM:	Computer-Mediated
DCog:	Distributed Cognition
DHET:	Department of Higher Education and Training
DINM:	Diploma in Information Technology in Network Management
DISD:	Diploma in Information Technology in Software Development
DITM:	Diploma in Information Technology Management
DPR:	Diploma in Public Relations
DSL:	Digital Subscriber Lines
EFA:	Exploratory Factor Analysis
F2F:	Face-to-Face
FITC:	Faculty of Information Technology and Communication
HCBMPP:	Higher Certificate in Business Management Principles and Practices
HE:	Higher Education
HEI:	Higher Educational Institution
HIS:	Higher Certificate in Information Technology in Support Service
ICE:	Integrated Curriculum Engagement
ICT:	Information Communication Technology
ICU:	International Telecommunication Union
IIE:	Independent Institute of Education
IT:	Information Technology
ITS:	Intelligent Tutoring Systems
LMS:	Learning Management System

MOOC:	Massive Open Online Course
NDP:	National Development Plan
NQF:	National Qualification Framework
NSFAS:	National Student Financial Aid Scheme
NSSE:	National Survey of Student Engagement
OCLT:	Online Collaborative Learning Theory
PBHEI:	Public Higher Education Institution
PHE:	Private Higher Education
PHEI:	Private Higher Education Institution
PLATO:	Programmed Logic for Automatic Teaching Operations
POE:	Portfolio of Evidence
PSET:	Post-School Educational and Training
RPL:	Recognition for Prior Learning
SAQA:	South African Qualifications Authority
SAS:	Statistical Analysis System
SASSE:	South African Survey of Student Engagement
SCL:	Student-Centred Learning
SCog:	Situated Cognition
SCSEBL:	Social Cognitive Student Engagement in Blended Learning
SCT:	Social Cognitive Theory
SDG:	Sustainable Development Goals
SE:	Student Engagement
SSCog:	Socially-Shared Cognition
TVET:	Technical and Vocational Education and Training
UNESCO:	United Nations Educational, Scientific and Cultural Organisation
Unisa:	University of South Africa

QUOTE BY MARTIN LUTHER KING, JR

The function of education is to teach one to think intensively and to think critically. Intelligence plus character – that is the goal of true education.

Martin Luther King, Jr

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CHAPTER 1

PURPOSE, AIM AND RATIONALE FOR THE STUDY

1.1 Introduction and Background

The widespread use of the Internet and the advancement in Information and Communication Technology (ICT) has led to the development of new teaching and learning approaches, both in formal and informal settings. These teaching and learning approaches include: problem-based learning, personal learning networks, student-created content, collaborative learning, competency-based education, active learning, integrated subjects, competency-based learning, social learning, gamification, Electronic Learning (e-learning), Mobile Learning (m-learning) and Blended Learning (BL) (Information Resources Management Association, 2018:xi; Kruse, 2019; Walsh, 2014). When referring to ICT in teaching and learning the word that is often used is “integration” (Eady & Lockyer, 2013). The integration of technology means that technology becomes an integral part of the teaching and learning experience and an imperative part for lecturers from the onset of preparing for the learning experiences through to teaching and learning with students. Eady and Lockyer (2013) further postulate that the role technology plays in education provides lecturers the opportunity to design meaningful learning experiences. Not only is meaningful learning experience achieved, but current literature also highlights many benefits in using technology to provide rich global resources and a collaborative environment for dissemination of learning materials; interactive online discussions (Bowyer & Chambers, 2017:17–18); flexible, convenient and active learning (Green, Whitburn, Zacharias, Byrne & Hughes, 2017:472), and research information (Ololube, 2018:166–167). Technology can also support students’ autonomy and individualised learning approaches (Cechova & Rees, 2013:76–77) ensuring that students achieve greater learning outcomes (Green *et al.*, 2017:471) through increased engagement and collaboration (Pickering & Swinnerton, 2018:1). Rajkoomar and Raju (2016:3) state that technology facilitates easier communication and interaction motivation and metacognition enhanced programme delivery with improvement in cognitive and reflective skills; improved student retention and the

identification of "at risk" students; improved and effective pedagogy; increased access and cost-effectiveness.

The technological environment is only one part of a teaching and learning environment. Läänemets and Rostovtseva, (2015:34) cite the Manninen, Burman, Koivunen, Kuittinen, Luukannel, Passi and Särkkä (2007:36–41) study in which they specify five learning environments for use in education. The five are (1) physical, (2) social, (3) technological, (4) local, and (5) didactic environments.

Information transfer is no longer the sole purview of Higher Education Institutions (HEIs). Umunadi and Ololube (2014:220) indicate that technology has created change in all aspects of society, which in turn has changed the expectations of what students must learn in order to perform in the new global economy. According to UNESCO (n.d.), the 2030 Agenda for Sustainable Development was adopted in September 2015, by stakeholders from 160 countries, in which the international community recognised that education was essential for the success of all 17 Sustainable Development Goals (SDGs). SDG4, known as Education 2030, aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (Lim & Wang, 2017:xviii; UNESCO, 2017:1). Quality education necessitates that students develop their higher-order skills (Paetzold & Melby, 2008:15; UNESCO, 2016:30; Vignare, 2007:27) and acquire relevant knowledge, skills and competencies (Okaz, 2015:601; UNESCO, 2016). Technology is the fundamental driver of that vision (UNESCO, 2016) to create "equitable, dynamic, accountable and sustainable learner-centred digital learning ecosystems that are relevant for the 21st century" (Lim & Wang, 2017). Lim and Wang (2017:xviii) in agreement with Adekola, Dale and Gardiner (2017:1) assert that the rapid advances in technology are revolutionising the way in which teaching and learning are conceptualised, designed, and implemented within Higher Education (HE).

Many HEIs are hoping to enhance student participation in BL programmes. The enhancement of student participation in BL correlates with improved learning and increased learning flexibility (Jun & Ling, 2011:251; López-Pérez, Pérez-López & Rodríguez-Ariza, 2011:819; Mirabolghasemi & Iahad, 2016:1; Vanslambrouck, Zhu, Lombaerts, Philipsen & Tondeur, 2018:33). The Future of Education Report at

Massachusetts Institute of Technology has strongly emphasised the need for leveraging online programmes to strengthen the residential education. BL formats can be used, to provide more flexibility and modularity in their offered programmes (Penprase, 2018:219). Effective use of technology used to support BL programmes can provide opportunities for students to learn more effectively and faster in ways that are appropriate to their needs (Mirabolghasemi & Iahad, 2016; Unwin, 2005:116). The mixed delivery mode of BL, typically Face-to-Face (F2F) and technology-mediated, supports the student in achieving the learning outcomes that are pedagogically supported through various activities, assignments, and assessments (Mbati & Minnaar, 2015:284; McGee & Reis, 2012:9). It may seem that active learning methods can change the traditional roles of students from being passive receivers to active learners in acquiring knowledge and skills and to apply these in a meaningful way (Eryilmaz, 2015:255; Mofrad, 2013:233; Montgomery, Hayward, Dunn, Carbonaro & Amrhein, 2015:657). This point is augmented by Vo, Zhu and Diep (2017:26) who state that BL can result in better learning outcomes for HE students. The Castaño-Muñoz, Duart and Sancho-Vinuesa (2014:149) study of a large sample of students found that students who engaged in interactive learning achieved significantly higher performance than those who learned individually explaining why students in BL programmes perform better than their F2F counterparts. Furthermore, Zirkin and Sumler (1995) and in support thereof, López-Pérez *et al.* (2011:824) found that the interactivity in BL was an important factor in student achievement (Eryilmaz, 2015:255) as well as in student satisfaction.

The traditional F2F mode of delivery is still dominant within the HE environment. Professor Phillip Long, an Associate Vice Provost for Learning Sciences at the University of Texas at Austin (Graham, Dziuban & Picciano, 2013:ii), postulates that "Blended learning is rapidly becoming the standard approach to undergraduate education" and it is therefore becoming a norm and an accepted means of teaching and learning in HEIs across the world and particularly in South Africa (Halverson, Graham, Spring, Drysdale & Henrie, 2014; Van Der Merwe, Bozalek, Ivala, Nagel, Peté & Vanker, 2015; Stacey & Gerbic, 2009; Vanslambrouck *et al.*, 2018). Bonk, Kim, Oh, Teng and Son (2008:5) went even further to state that there is an "explosion" within HE. Curtis Bonk and colleagues have documented the strong and growing interest in BL and have concluded from a survey of HE that the respondents

expected an increased rise in the use of BL approaches (Garrison & Vaughan, 2011). However, Graham, Woodfield and Harrison (2013:7) state that many institutions are either at stage 1: the awareness/exploration stage or stage 2: the adoption/early implementation stage. The third stage, mature implementation/ growth is what would be referred to as the well-established BL strategies, structure, and support that are integral to HEI operations.

Sajid, Laheji, Abothenain, Salam, AlJayar and Obeidat (2016:281) including Gribbins and Cook (2017:1) postulate that the use of blended teaching and learning promotes Student-Centred Learning (SCL) which places the learners as the focus and master of their own education. It also allows a blend of F2F interaction with online learning where information, learning material, access to resources, submission of assignments, completion of activities that support higher-order thinking, and online discussions that may either be asynchronous or synchronous (Bowyer & Chambers, 2017:18; Kim, Park, Jang & Nam, 2017:261; Zhao, 2011:263).

BL also promotes students' deeper cognitive processing, cohesive discussion, and higher-level knowledge elaboration (Kim *et al.*, 2017:281); and supports students collaborating with each other, other than in the classroom (Czerniewicz, Ravjee & Mlitwa, 2006:44; Garnham & Kaleta, 2002, para. 1; Lim & Morris, 2009:283; McGee & Reis, 2012:14). Merriam, Caffarella and Baumgartner (2007:20) posit that lecturers should focus on developing students "higher-level thinking skills so that judgements can be made about the credibility and usefulness of information" when using technology and that lecturers themselves should become more comfortable with using technology. Bowyer and Chambers (2017:17) argue that BL also contributes to the effective and strategic use of classroom time by allowing lecturers to focus more on active, meaningful activities, and for in-depth discussions in class and leaving the online activities for an introduction to topics or for reinforcing what was discussed in class. This method alters how adult learners receive information and learn during their time of the study.

As ICT evolves, so alters the way in which people communicate as well as how students' access information when attending HE learning events or accessing

information socially or in the workplace. For Generation X (born between 1965 to 1980), adult technology has gradually appeared and was gradually integrated into their lifestyles. However, Generation Y (born between 1981 and 1996) and Z (born between 1997 and present) students were born into a world where they were immediately acquainted with technology (Şahin & Kurban, 2016:10). Parker and Van Belle (2017:5) further say that students, of the iGeneration (or Generation Z), have grown up with digital technology and are seen as a distinct new generation of technologically-enhanced learners who have an information-aged mindset. However, Roodt and Peier (2013:475) argue that the "skill and comfort level with technology differs within the generation" and one must be cautious when defining and labelling groups of people into generation year ranges as this may lead to problems of "misrepresentation and generalisation" or that these generations may not necessarily be homogenous in the use of technology (Parker & Van Belle, 2017:5).

There is definitely a change within the educational sector to innovate through the use of technology. With teaching and learning moving rapidly from a traditional F2F approach towards a blended teaching and learning approach, many HEIs around the world have invested substantially in technology that accommodates the digital age learner. Mahesh (2017), a medical scientist and academic co-ordinator in the Department of Genetics at the University of Pretoria, reported in the *Mail & Guardian* (Mahesh, 2017) that over the past 20 years, the South African digital footprint in HEIs had progressed in so far as pedagogical practices have grown through the use of ICTs. There are several research studies which have demonstrated that programmes which use BL as a delivery method, hoist the necessary accord towards the improved learning outcomes, constructivist learning, development of the adult learner, the success rate in the learning programme, improved attendance at F2F classes, efficient use of classroom space, increased interactivity and active Student Engagement (SE), and in enhanced examination performance (Alhazzani, 2014; Beaudoin, 2013:233; Bowyer & Chambers, 2017:17; Boyle, Bradley, Chalk, Jones & Pickard, 2003:165; Dziuban, Hartman, Juge, Moskal & Sorg, 2006; Garnham & Kaleta, 2002; Lamport & Hill, 2012:54; Lim & Morris, 2009:285; Poon, 2013; Stockwell, Stockwell, Cennamo & Jiang, 2015:933).

Hence, it is important that HEIs in both public and private, incorporate technologies to enhance and contribute to the student's learning experience that encourages SE. Krause (2005:4) concurs by stating that researchers, practitioners, administrators and policy makers have come to recognise the importance for them to devise ways of better understanding, monitoring and promoting SE in their institutions.

The effectiveness of BL in the study by Zhang and Zhu (2018:267) was validated, through a large set of data. In the study, it was found that BL was effective in its ability to facilitate a community of inquiry and provide an accessible and interactive learning experience to large numbers of students. BL also makes it more convenient for students to access information on the LMS or access weblinks to obtain further information. For students who cannot attend F2F classroom sessions, they have the flexibility of accessing the information when their time prescribes (Hiralaal, 2012; López-Pérez *et al.*, 2011). As students interact within the LMS environment, they will experience various features such as online collaborative learning tools (i.e. discussion boards, wikis and blogs) content-related downloads and uploads (i.e. lecturer slides), links to additional resources (i.e. YouTube©) (Sun, Liu, Luo, Wu & Shi, 2017:575), which all promote active learning and have a positive impact on individual learning behaviours, academic outcomes and the overall level of group knowledge (Northey, Govind, Bucic, Chylinski, Dolan & Van Esch, 2018:321). Thus, collaborative learning has become an important approach in instructional design. Ashton, Koch and Rothberg (2014:76) studied the influence of BL on student performance, and they state that learning is an active process that requires motivation and social engagement. They further state that technology is an enabler of the learning opportunities available to students on the LMS platform. In their study conclusion, they postulate that BL can be used to improve the student throughput rate which is one of the highest priorities of HEIs.

In South Africa, the government views the use of e-learning technology as a crucial strategy in becoming globally competitive and locally responsive and therefore encourages Post-School Education and Training (PSET) institutions to expand their online capabilities (Czerniewicz *et al.*, 2006:7; Department of Higher Education and Training, 2013a:xvi; National Planning Commission, 2012:295; Ogude, Nel & Oosthuizen, 2005:1). Its importance is documented in The *White Paper for Post-*

school Education and Training (Department of Higher Education and Training, 2013a) which states that "as digital technology, and therefore e-learning has become more accessible in South Africa, it becomes necessary to incorporate this dimension into conceptualising different possible modes of provision", namely BL. Furthermore, *The White Paper 3: A programme for the Transformation of Higher Education* of 1997, as stated in Czerniewicz *et al.* (2006:iv), acknowledges the key role of the ICT revolution in globalisation and the supporting and incitement of global political, social and economic integration. Czerniewicz *et al.* (2006:34 & 45) further emphasise in their *Research Report for the Council on Higher Education*, that ICTs are impacting on the theories of curriculum design and that curriculum transformation needs to take place within HE. This shared understanding of the importance of ICTs was reiterated by the then South African minister of education Kadar Asmal in the *National Plan for Higher Education* (Czerniewicz *et al.*, 2006).

1.2 Theoretical Framework

Social Cognitive Theory (SCT) is well suited to understanding the advancement of technology (Koch, n.d.). Albert Bandura, the architect of the Social Learning Theory in the 1960s, which was later developed into the SCT in 1986, posits that learning occurs in a social context with a dynamic and reciprocal interaction between one's behaviours, personal factors, and environmental conditions (LaMonte, 2016).

SCT outlines important factors that influence behaviour. The key constructs of SCT are comprised of two cognitions, namely: perceived self-efficacy and outcome expectancies. In addition SCT identifies other constructs, such as goals and socio-structural factors as impediments and facilitators of behaviour (Bandura, 2009:180). These constructs interact throughout the behaviour change process.

The first construct is perceived self-efficacy. Self-efficacy is the belief in one's capabilities to organise and execute the sources of action required to manage prospective. Efficacy beliefs affect self-motivation and action through their impact on goals and aspirations (Bandura, 2009:180).

Bandura's research shows that high perceived self-efficacy leads students to set higher goals and increases the likelihood that they will dedicate themselves to those goals (Locke & Latham, 2002:714). According to Schunk and Pajares (2002) goal setting and self-efficacy are powerful influences on academic attainments. Learning goals that are specific and short-termed enhance students' self-efficacy better than goals that are general, long-term, or not viewed as attainable. As students complete activities and/or tasks they compare their progress against their goals. This in turn, strengthens self-efficacy and motivates them to continue to improve (Locke & Latham, 2002; Schunk & Pajares, 2002).

Outcomes expectancies are concerned with people's beliefs about the possible consequences of their actions (Luszczynska & Schwarzer, 2005:128). Both outcome expectancies and self-efficacy are seen as direct predictors of behaviour and operate as indirect pathways, affecting goal setting and the perception of socio-structural factors (Luszczynska & Schwarzer, 2005:131).

Bandura has only recently added socio-structural factors to his theory (Conner, 2010). Conner explains that the socio-structural factors refer to the impediments or opportunities associated with living conditions, health systems, political, economic or environmental systems. These factors are assumed to inform goal setting and be influenced by self-efficacy. Bandura argues that those with a strong sense of self-efficacy appraise obstacles and barriers as well as the self-management facilitators available to them differently to those with a depleted sense of self-efficacy (Beauchamp, Crawford & Jackson, 2019:112). The theoretical framework is discussed further in Chapter 2.

1.3 The Problem Statement

Understanding engagement has become particularly important in the HE sector (Bowyer & Chambers, 2017:19). As PHEIs start embracing the use of BL as part of the curricula in various programmes, lecturers and programme developers and instructional designers need to know and understand how they can use LMS effectively in BL to enhance the students' learning engagement. It is important that

when HEIs incorporate BL within their programmes that they should not just simply add technology onto an existing F2F programme, but they should rather rethink the programme design with the goal to optimise SE (Owston & York, 2018:23). Granito and Chernobilsky (2012:5) state that the integration of technology within a programme must have a purpose in order for it to be beneficial for producing positive results. Students have access to a wide range of engaging and interactive learning tools through the LMS which has been known to foster satisfaction, have a significant effect on student motivation and active SE (Hiralaal, 2012:324; Toven-Lindsey, Rhoads & Lozano, 2015:2; Zirkin & Sumler, 1995). Students also need multiple cognitive opportunities to connect theory and practice by engaging in attention, enactment, reflection, critique, adaptation, and articulation (Lock & Remond, 2015).

However, even with the implementation of BL within programmes and its interactive learning tools, there is no guarantee to ensure that students are actively engaged in learning. Some studies even indicate that the use of technology in certain areas is not beneficial to students (Granito & Chernobilsky, 2012:5). Lecturers must therefore continue to pursue the understanding and acquire insight in strategies that support SE through BL. The negative consequences of not engaging students in learning are well referenced in literature (Chipchase, Davidson, Blackstock, Bye, Colthier, Krupp, Dickson, Turner & Williams, 2017:32; Taylor & Parsons, 2011:5).

Disengagement, according to Chipchase *et al.* (2017:32), whether ongoing or intermittent, obvious or subtle, may result in: (1) students dropping out from a programme, (2) the accumulation of debt, or (3) achieving lower grades with poorer employment prospects. Disengagement may take various forms or degrees such as disengagement with a class, activities, tasks, assignments, module, or across an entire programme of study (Bryson & Hand, 2007).

The effects of a student's impairments (Ambati, 2018:132) or disabilities (Khazanchi & Khazanchi, 2018:190) may have an influence on their participation in educational activities as it involves excessive effort, fatigue, pain, and tiredness or a feeling of incompetence which may lead to disengagement or withdrawal. The type of impairment and disability affects how much students are engaged in activities. For

HEIs this may result in loss of income and, if the problem is sufficiently large, have reputational impacts, and/or the students' representative council evoking protests against the HEI.

Harris (2008:57) posits that some educationists consider engaging disengaged students to be one of the biggest challenges facing lecturers, as between 25.0% (Willms, 2003:53) and over 66.0% (Cothran & Ennis, 2000) of students are considered to be disengaged. According to Rahayu and Malang (2018:16) if lecturers expect students to be engaged and to participate in the teaching and learning process actively, the lecturers need to modify their approach to enhance the students' learning engagement in BL activities so that the students interact deeply with activities given and therefore meaningful learning can be attained. When designing a BL model or incorporating technology into educational programmes for engaging or re-engaging students, it is essential to consider how the programme aligns with the HEI's mission and meets the needs of the students (America's Promise Alliance, 2016:10). While BL shows promise as an educational strategy to engage students, research is needed to better understand its efficacy in adequately preparing students for their studies as well as graduates for employment.

Since the implementation of BL at a PHE provider in 2015, it is still not clear whether BL has improved the learning engagement of students attending BL programmes. It is important to understand the views of the students in making BL effective. Also, the levels of social engagement, fear of, and anticipated outcomes of blended programmes on the part of students are currently unestablished. Therefore, this study sought to investigate student learning engagement in BL from the SCT perspective at the PHE provider.

1.4 Purpose of the Research

The purpose of the research was to investigate the learning engagement of students from a social cognitive perspective, who were registered in a BL programme at a PHEI. The study investigated PHE students', learning engagement in BL during the

completion of their qualification and how BL had impacted teaching and learning. The study further provides data that could be used to benefit current and future programmes at the PHE provider and may be used to inform curriculum developers, instructional designers and lecturers on the development, improvement and delivery of BL programmes.

1.5 Aim of the Study

The aim of this study was to investigate the nature and extent of PHE students' social cognitive learning engagement in BL programmes at a PHE provider.

1.6 Research Question

The study was aimed at answering the primary question:

> *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?*

In order to fully investigate the primary research question, the following secondary questions need to be addressed which were derived from the four SCT constructs, self-efficacy, outcome expectations, socio-structural factors and goals:

(1) How do private higher education students perceive their self-efficacy in relation to blended learning?

(2) How do private higher education students' outcome expectations impact their engagement in blended learning programmes?

(3) How do socio-structural factors impact the private higher education students' engagement in blended learning programmes?

(4) How do private higher education students' goal orientations impact their engagement in blended learning programmes?

1.7 Objectives of the Research

The following four objectives emanated from the research question:

(1) To establish how private higher education students' perceived self-efficacy impacts on their blended learning engagement.

(2) To investigate how private higher education students' outcome expectations impact on their engagement in blended learning programmes.

(3) To determine how private higher education students' perceived socio-structural factors impact their learning engagement in blended learning programmes.

(4) To assess how private higher education students' goal orientations impact on their learning engagement in blended learning programmes.

1.8 Methodology

A descriptive quantitative research design was used for this study using a positivist paradigm of inquiry. A cross-sectional survey, using an online survey generator software SurveyMonkey®, was used to obtain descriptive data from a sample population of respondents (n = 567) of a total population of N = 1380 to answer the primary and secondary research questions. The survey was used to investigate students' perceptions of their learning engagement in their BL programme. The questions asked within the questionnaire incorporated measuring students' attributes, perceptions and opinions within the Bandura's (2000:121, 2009:180) SCT constructs to furthermore determine the extent of students' self-reported behaviour whilst still maintaining its correctness due to the research objectives. The

probability sampling strategy used in selecting the sample population was systematic sampling.

1.9 Significance of the Research

This study which sought to investigate student learning engagement in BL is important for several reasons. First, the study contributes to the broad field of research around BL in a South African PHE context. With technology continuously changing and the high cost (Simpson, 2017) of implementing BL LMS, with no government subsidy to subsidise such a system in the private higher educational sector, it is important that BL is successful. Unsuccessful implementation of BL could lead to frustrated lecturers and students and ultimately the attachment of a negative connotation to BL, leading to wastage of funds from the institution.

The continuous changing dynamics of technology, as well as the student using the technology, means that this area should be continuously studied. Professor Anthony Picciano (Picciano, 2014), a well-versed author and scholar in online and BL studies, commented at a workshop that he conducted at the North-West University in South Africa that he was heartened by the fact that many a young academics throughout the world are interested in conducting and publishing research in BL as "it is a rapidly growing and dynamic area for research especially on issues of teaching and learning". Therefore, as BL is ever-changing and becoming popular within teaching and learning it is important to research this area.

There is an array of literature that states the various challenges that HEIs face when incorporating ICT into their teaching and learning environment (Dziuban *et al.*, 2006:3; Garrison & Kanuka, 2004:95; Gutteridge, 2009:11; Ifinedo, Pyke & Anwar, 2018:93; Mirabolghasemi & Iahad, 2016; Vaughan, 2007:81). Graham, Woodfield and Harrison (2013:11) suggest future research in the challenges that students are faced with when learning through BL and what successful HEIs are doing to assist students. Vignare (2007:37) and Kiviniemi (2014:1) further suggest in their review of the literature on BL that it is important to examine how students experience the BL programme and their feedback on its effectiveness. Is BL learning effective at

the PHE provider? This can be linked with knowing the students' engagement which may in turn influence students' learning efficacy (Garrison & Kanuka, 2004; Lam, 2015b:87). Bonk, Kim and Zeng (2006:562) argue that in the future, decisions about the type and format of BL will be made by students themselves to address their individual needs. The views of students can impact on BL practices in PHEIs which would like to implement or have already implemented BL in a private HEI context. This will form the second reason why this study was conducted.

Thirdly, Garrison and Kanuka (2004:104) also state that researchers need to investigate the impact and effectiveness of BL in improving student learning by tracking the use of a BL approach in HEIs. In turn, Bliuc, Goodyear and Ellis (2007:231) concur with Garrison and Kanuka arguing that research needs to generate usable evidence with regard to the quality of the students' learning as well as learning outcomes. Although many studies have been conducted on students learning experiences in BL, it has been researched in PBHEIs (Garrison & Vaughan, 2011; Heirdsfield, Walker, Tambyah & Beutel, 2011; Lam, 2015b; Van Der Merwe *et al.*, 2015; Mirabolghasemi & Iahad, 2016; Nagel & Kotzé, 2011; Poon, 2013; Singh, 2015). There have not been many studies completed in SE in BL in the private higher educational sector.

Lastly, the variety of communication options available to students on the LMS platform may help students feel engaged in the learning process through a sense of connectedness (Aitken, 2010:78). The more comfortable students are with the use of technology the more they will engage. It is true that students are comfortable with using their mobile phones to socialise with friends and family, or using mobile Apps such as Facebook, WhatsApp, Instagram, etcetera, or by using social media platforms to support their educational experiences (Madge, Breines, Dalu, Gunter, Mittelmeier, Prinsloo & Raghuram, 2019:5), but it is found that students are more reluctant to use LMS due to the unfamiliarity of the system (Gutteridge, 2009). With this in mind, Porter, Graham, Spring and Welch (2014:194) wrote that researchers can investigate BL at HEIs with a "typical dynamic". This specific dynamic being the low to medium socio-economic background of the student and the technological environment (Uys, Nleya & Molelu, 2004:68). A key factor, according to Conrad and Donaldson (2012:13), to effective SE is for the instructor and programme activities

to encourage students to take responsibility for their learning. In addition, instructors need to assume increased responsibility for providing guidance and support.
A study by Gutteridge (2009:110) concluded that inhibiting factors in BL are the lack of confidence due to unfamiliarity with technology and unknown sites. He also states that there is a positive correlation between previous computer usage and the area of secondary schooling. The reluctance to use new technology is understandable, and the students' attitude can affect the success of using technology in learning (Aitken, 2010). Therefore, the students attending the PHE provider may be reluctant to use an LMS as they are unfamiliar with using this technology which in turn may affect teaching and learning. Therefore, it is important to understand what will motivate these students to become more engaged in using an LMS such as Blackboard. In their study, Drysdale, Graham, Spring and Halverson (2013:98) indicated the need for further research to discover what design features could lead to greater student motivation and SE (Coates, 2007:135). Knowing this would certainly assist with the effectiveness of BL.

In conclusion, I will reiterate Professor Anthony Picciano's (Picciano, 2014) words that:

> *There is so much we don't know and even that which we feel we know changes and evolves as the technology changes, so the need for on-going investigation is a foregone necessity*.

1.10 Definition of Terms

The following terms have specific meaning in this dissertation.

1.10.1 Post-School Educational and Training (PSET) Institutions

PSET institutions comprise public and private HEIs, TVET colleges, Community Education and Training (CET) colleges and private colleges.

1.10.2 Private Higher Education Institution (PHEI)

PHEI is defined as:

(1) Private Providers are "owned by private organisations or individuals" and "are mainly privately funded or sponsored and are generally not subsidised by the state" (Council on Higher Education, n.d.).

(2) HE "means all learning programmes leading to qualifications higher than grade 12 or its equivalent in terms of the National Qualifications Framework as contemplated in the South African Qualifications Authority Act, 1995 (Act 58 of 1995), and includes tertiary education as contemplated in Schedule 4 of the Constitution" (Department of Higher Education and Training, 2013a).

(3) HEI "means any institution that provides higher education on a full-time, part-time or distance basis and which is as per paragraph (c) registered or **[conditionally]** provisionally registered as a private higher education institution under this Act" (South Africa, 2002:6).

(4) PHEI is "any institution registered or conditionally registered as a private higher education institution in terms of Chapter 7 of the Higher Education Act, 1997 (Act No. 101 of 1997)" (Department of Higher Education and Training, 2017:74).

1.10.3 Private College

"Any college that provides further education and training on a full-time, part-time or distance basis and which is registered or provisionally registered as a private college under the Continuing Education and Training Act, No. 16 of 2006. Pretoria." (Department of Higher Education and Training, 2017:106).

1.10.4 Private Higher Education Provider

The PHEI where the research took place will be referred to as the "PHE provider" to maintain the anonymity of the institution as requested by the Approval Committee of the PHE provider.

1.10.5 Public Higher Education Institution (PBHEI)

"Any higher education institution that is established, deemed to be established or declared as a public higher education institution under the Higher Education Act, 1997 (Act No. 101 of 1997). South Africa (1997) Higher Education Act, No. 101 of 1997 (as amended). Pretoria." (Department of Higher Education and Training, 2017:106).

1.10.6 Student Engagement (SE)

SE is concerned with the investment of time, effort and other relevant resources by both students and their institutions intended to optimise the student experience and enhance the learning outcomes and development of students and the performance, and reputation of the institution (Trowler, 2010:3). In this study SE and student learning engagement is used interchangeably.

1.10.7 Disengagement

Disengagement is "conceptualised as not engaging, participating or interacting in the learning activities, and not engaging with the institution or their peers" (Chipchase *et al.*, 2017:34).

1.10.8 Face-to-Face (F2F) Interaction

This is any form of instructional interaction that occurs "in person" and in real time between a lecturer and student(s).

1.10.9 Blended Learning (BL)

"Courses that integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner; and where a portion (institutionally defined) of face-to-face time is replaced by online activity" (Laster, Otte, Picciano & Sorg, 2005; Picciano, 2006:97).

1.10.10 Learning Management System (LMS)

This is a software application or web-based technology which is used to plan, implement, and assess a specific learning process whereby the instructor creates and delivers content, monitors student participation, and assesses student performance (Rouse, 2005).

1.10.11 Technology

Technology refers to "methods, systems, and devices which are the result of scientific knowledge being used for practical purposes" (Collins Dictionary, 2019)

1.10.12 Educational Technology

Educational technology, also known as "EdTech" or "learning technology" refers to an area of technology devoted to the development and application of tools (including software, hardware, and processes) intended to promote education. It is commonly employed in e-learning and in BL (Lazaro, 2014).

1.10.13 Perceived Self-efficiency

People's belief about their capabilities to produce designated levels of performance that have influence over events that affect their lives (Bandura, 1994:2). These usually project how people feel, think, motivate themselves and behave.

1.10.14 Self-regulated Learning

Self-regulated learning is the degree that a student is metacognitively, motivationally, and behaviourally active in their own learning process (Zimmerman, 1989:329).

1.10.15 Social Cognitive Theory (SCT)

In SCT, behaviour is determined by constructs namely: perceived self-efficacy and outcome expectancies, and also has reference to other constructs, such as goals and social-structural impediments and facilitators (Luszczynska & Schwarzer, 2005:127).

1.10.16 Metacognitive

The decision making processes that regulate the selection and use of various forms of knowledge (Zimmerman, 1989:329).

1.10.17 Fourth Industrial Revolution (4IR)

The 4IR can be described as “the advent of ‘cyber-physical systems’ involving entirely new capabilities for people and machines”. It represents “entirely new ways in which technology becomes embedded within societies and even in our human bodies” (Davis, 2016).

1.10.18 Epistemology

The term “epistemology” is derived from the Greek word “*episteme”* meaning *“knowledge”* (Harasim, 2017:5). “Epistemology is the philosophical study of knowing and other desirable ways of believing and attempting to find the truth” (Zagzebski, 2009:1).

1.10.19 Learning Theories

Learning theories provide an andragogical or pedagogical basis for understanding how students absorb, process, construct and retain knowledge during learning.

1.10.20 Pedagogy

The term *pedagogy* is defined two-fold in this study. Firstly, the Vere and Melles (2016) definition of *pedagogy* is used to describe the commonly understood approach to teaching and learning as "strategies of teaching or principles and methods of instruction, sometimes referred to as 'the art of teaching'. It is effectively an array of teaching strategies that support the learning experience, through a well-considered approach to curriculum development that empowers the teacher, student and learning experience."

Secondly, in terms of dividing the respondents into specific age groups for correlation purposes *vis-á-vis* 'Chapter 4 Results of this study', the application of pedagogy will be made to age groups 8 to 21 years as stated by Downs (2004:39). The needs of students in this age group are that (Downs, 2004:37):

(1) Students must be ready to learn.
(2) Students need clear objectives.
(3) Students need to be taught at multiple levels of cognition.
(4) People learn best through a variety of techniques.

1.10.21 Andragogy

The theory of adult learning, associated with the work of Malcolm Knowles (Fry, Ketteridge & Marshall, 2009:500), "The art and science of teaching adults" (Knowles, 1980:38).

For purposes of this research the term “andragogy” will be used for persons aged 22 and above (Downs, 2004:39). According to Downs (2004:38) andragogical assumptions are that adults:

(1) Move from dependency to self-directedness.
(2) Draw upon their reservoir of experience for learning.
(3) Are ready to learn when they assume new roles.
(4) Want to solve problems and apply new knowledge immediately.

1.10.22 Lifelong Learning

“All learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competences and/ or qualifications for personal, social and/ or professional reasons” (Witthaus, Rodriguez, Guardia & Campillo, 2016:37).

1.10.23 Educational Programme

An educational programme of rather a “programme”, as referred to in this research, refers to a series or selection of modules that students need to pass or complete in order to fulfil the requirements as set out by the senate of the PSET institution and approved by SAQA in obtaining a qualification.

1.10.24 Educator

An educator is a person who is registered or provisionally registered with the South African Council for Educators and has obtained a teaching qualification.

1.10.25 Lecturer

A person who gives lectures at a PSET institution that is qualified in the field of study but is not necessarily required to have a teaching qualification or belong to the South African Council of Educators.

1.10.26 Qualification

"A registered national qualifications consisting of a planned combination of learning outcomes which has a defined purpose, or purposes, intended to provide qualifying learners with applied competence and a basis for further learning, has been assessed in terms of exit-level outcomes, is registered on the National Qualifications Framework (NQF) and is certified and awarded by a recognized body" (Department of Higher Education and Training, 2017:106).

1.10.27 South African Qualifications Authority (SAQA)

"The statutory authority established in terms of the SAQA Act 58 of 1995 and continuing in terms of the NQF Act 67 of 2008, which oversees the further development and implementation of the NQF, the achievement of the objectives of the NQF, and the coordination of the three sub-frameworks" (Department of Higher Education and Training, 2017:107).

1.10.28 Student

"A person registered and/ or attending at a PSET institution, whether on a part-time or a full-time basis" (Department of Higher Education and Training, 2017:108).

1.10.29 Orientation/Student Orientation/Orientation Programme

Orientation/student orientation/orientation programme is an information session, normally held at the beginning of the academic year. It includes social and academic activities designed to introduce/update students on "student life" at the PHE provider. The information provided may be about campus staff; campus facilities; campus policies, especially those concerning students (i.e. code of conduct); processes and procedures on campus (i.e. library) as well as the student portal, student email system and the LMS.

1.11 Limitations of the Research

The limitations of this study are that only one campus within the PHE provider was considered for this study to ensure the feasibility of the study is manageable. The main study population was also limited to the Faculty of Information Technology and Communication (FITC), with a smaller study population of phasing out programmes within other faculties. Due to a single group of participants forming part of a single faculty, these participants would automatically experience a wider exposure to IT or technology in comparison to other participants within a faculty outside the latitude of IT. Therefore, the results of the study can only be generalised to participants within a faculty where the area of study is IT and may not be generalised to all other faculties.

Some respondents who were invited to partake in the survey had a lack of electronic devices (i.e. computers and laptops) and data to complete the survey off campus. Many respondents needed access to computers on campus as well as access to campus Wifi to be able to complete the survey online.

1.12 Delimitations of the Research

This study faced the following delimitations. Firstly, the study focused only on PHE within the PSET sector. Secondly, the study only targeted students that were registered in a BL programme in the FITC at a single PHE provider. Finally, the survey was completed by the respondents over a time frame of 29 days from 8 July 2019 to 5 August 2019. The time frame above was elected due to its minimal disruption on teaching and learning at the PHE provider.

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1.13 Chapter Layout

This research is divided into five chapters namely: Chapters (1) Purpose, Aim and Rationale for the Study, (2) Literature Review and Theoretical Framework, (3) Research Design and Methodology, (4) Results of the Study, and (5) Discussion, Recommendations and Conclusions.

Chapter 1: Purpose, Aim and Rationale for the Study

Chapter 1 provides an overview of the research study by familiarising the reader to the purpose, aim and rationale for this dissertation. This section also outlines the theoretical framework, namely SCT for this study, and notes the research questions and objectives that provided the blueprint to this study, guided the researcher in reaching the results in Chapter 4 and led to a discussion in Chapter 5. In addition, this chapter provides the significance of conducting the research and then defines key terms used throughout the dissertation for clarification purposes. The chapter concludes by presenting the limitations found from the study.

Chapter 2: Literature Review and Theoretical Framework

Chapter 2, the literature review and theoretical framework chapter provides a review of relevant literature pertaining to each aspect of this study. This chapter introduces BL by discussing the growth and scope of BL research with a brief history of the origin and evolution of BL. In addition, BL is defined by various authors and is critiqued by the researcher in navigating the reader to a suitable definition for this study. Furthermore, the BL models are described with the characteristics of BL, the levels of blends, design of BL programmes, and the advantages and disadvantages of BL. The relationship of various learning theories, namely: behaviourism, cognitivism, constructivism, the theory of multiple intelligences, humanism, connectivism and Online Collaborative Learning Theory (OCLT) in relation to educational technology, are highlighted. BL and SE are expressed in a HE context providing a comprehensive outlook on how BL and SE are approached in HE.

Finally, to investigate the factors that affect students' learning engagement with BL, the use of a theoretical framework, SCT, is discussed.

Chapter 3: Research Design and Methodology

Chapter 3 outlines the research methodology used for this study, namely a descriptive quantitative research design that investigated students' perception of their learning engagement in a BL programme. The philosophical paradigm adopted was the positivist paradigm. The researcher used a cross-sectional survey questionnaire to collect data from the respondents at a PHE provider. In addition, this chapter describes the data collecting instrument and how its reliability and validity was achieved. The data collection process is outlined which includes the ethical consideration for this research and the pilot study that was conducted before the survey was released to the sample population. Finally, the procedures used for data analysis are also covered.

Chapter 4: Results of the Study

In this chapter the results of the study are presented through the identification and categorisation of the themes found from the data collected from respondents. It also provided the answers to the research questions based on the results. Finally, Chapter 4 includes the results in preparation for the discussion in Chapter 5.

Chapter 5: Discussion, Recommendations and Conclusions

The fifth and final chapter of this study focuses on a discussion of the results of the study and makes recommendations to the readers. The chapter ends with conclusions made from the results of the study.

1.14 Conclusion

With a rapid, ever escalating digital population on a global scale, using technology in their day-to-day lives has resulted in the evolution of the educational environment

in developing new teaching and learning approaches. The South African government views the use of e-learning technology as a crucial strategy in becoming globally competitive and locally responsive and has encouraged PSET institutions to expand their online capabilities. These have incorporated F2F and technology learning environments through BL. The growing demand for tertiary qualifications and the limited space at PBHEIs to accommodate the current growing needs, have caused an increased demand for PHE. The important role of PHEIs in educating South Africans is well documented. However, PHEIs need to find solutions in accommodating increasing numbers of students, larger classrooms and to reduce control costs in keeping education affordable. With the implementation of BL at some PHEIs, as a solution, there is no guarantee that students are actively engaged in learning. Therefore, this study investigated the nature and extent of students' social cognitive learning engagement in BL programmes in PHE.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

As society moves towards being more dependent on the use of technology in their day-to-day functioning lives, educational institutions follow suit. These changes have encouraged lecturers to think of ways in which they, as lecturers, could approach teaching and learning differently in enhancing their students' learning experiences and learning engagement. Thus, the incorporation of BL as a means of promoting teaching and learning was introduced in various PHEIs as part of their programme curricula.

As the study investigated students' learning engagement in *blended learning,* the literature review provides the reader with an understanding of the meaning of BL in the context of the study:

> *Although blended learning has become somewhat of a buzzword in corporate and higher education settings, there is still quite a bit of ambiguity about what it means* (Jones 2006 as cited in Jun & Ling, 2011:254).

This chapter is subdivided into two parts. In the first part of this chapter, the researcher provides a review of literature which will contextualises the study with regards to BL as an approach to education that combines the traditional place-based classroom method with online learning using various educational technologies in a planned pedagogically valuable manner. The chapter starts with an introduction and then follows with the following sections: (1) scholarly and cited literature on BL by prominent scholars who have specialised in BL, (2) the history of BL, (3) how BL is defined by various scholars, (4) various BL models that have been developed to date, (5) characteristics of BL as a teaching and learning approach, (6) levels of BL, (7) categories of blends, (8) design of BL programmes, (9) advantages and

challenges of BL pedagogies, (10) relationships of learning theories, (11) next generation pedagogy, and (12) BL in HE. The second part of this chapter focuses on SE and the theoretical framework, SCT which guided the research.

2.1.1 The Private Higher Education Institution Context in South Africa

In South Africa, according to The Independent Institute of Education (IIE) (2018), Private Higher Education Institutions (PHEIs) may not refer to themselves as "private universities" as a result of government regulations. PHEIs are often referred to as "academy" (i.e. design academy), "varsity" (i.e. City Varsity (Pty) Ltd), "college", "school" (i.e. business school), "institute" (i.e. institute of higher education or institute of technology), "training centre", "campus", "education and training centre" or only by their registered name (i.e. Morolan IT Consults). Only Public Higher Education Institutions (PBHEIs) may refer to themselves as a University.

PHE in South Africa is highly regulated; the barriers for entry into the education sector are set high and the external monitoring is rigorous. PHEIs need to fulfil a number of conditions for registration with the Department of Higher Education and Training (DHET) and the programmes offered by PHEIs need to be accredited by Council of Higher Education (CHE) and registered by the South African Qualifications Authority (SAQA) in the same manner as those offered at PBHEIs (Karodia, 2019). Karodia (2019) further posits that both the regulatory framework and the accreditation process are designed to confirm that the provision of PHE meets specified quality standards.

Although PHEIs and PBHEIs offer the same qualification there are differences between the two. Maidment (2016) indicates the differences between PHEIs and PBHEIs (Table 2.1).

Table 2.1: Difference between private and public higher education institutions

Private higher education institutions	**Public higher education institutions**
Owned by private organisations or people.	Established by the state through the DHET (Sam, 2018).
Do not receive government subsidies, they are profit orientated.	Receive large government subsidies.
Small to medium interactive classes.	Large classes.
Wide range of qualifications offered part-time, full-time and through distance learning.	Wide range of qualifications.
Offer niche qualifications e.g. game development (Sam, 2018)**.**	
Interactive classes.	Little one-on-one interaction.
There are 123 private HEIs (Department of Higher Education and Training, 2018:6)**.**	Only 26.
Flexible.	Very little flexibility.
Facilitate distance learning.	Do not facilitate distance learning to the same extent.
Facilitate studying part-time.	Do not facilitate studying part-time to the same extent.
Lecturers are not only academics but actively working in their industries (Sam, 2018)**.**	Lecturers are employed as academics.
Less vigorous application process to study at PHEI.	Vigorous application process to study at a PBHEI.

Source: Adapted from Maidment (2016)

According to the DHET (2013a:43) the "private sector includes for-profit and not-for-profit institutions, stand-alone institutions and those located in companies". It includes sizeable institutions with several thousand students and smaller institutions with only a hundred or less students. Some PHEIs operate in South Africa but are owned by foreign institutions (which may be public institutions in their home countries). PHEIs are funded by a variety of sources such as owner's capital, client contracts, company or Sector Education and Training Authorities training budgets, user fees and donor funds. PHEIs don't receive any government subsidies, the economy and affordability are key hurdles for their development. Institutions in the private education sector are focused more on a direct entrepreneurial approach and can therefore act faster and implement new technology, address the skills gap and accommodate the skills of the future (Coetzee, 2019).

Students that attend PHEIs need to pay for their own tuition fees or apply at the PHEI (if they offer bursaries) or need to apply for a study loan from a banking institution. Students attending PHEIs don't have access to government funding i.e. the National Student Financial Aid Scheme (NSFAS) as their public HE counterparts do. Therefore, students attending PHEIs are referred to and treated as customers (Sam, 2018) and generally receive good service otherwise the institution may have to close their doors.

PHEI campuses and classes are normally smaller than PBHEIs. Students have easier access to support services and staff, making their campus experience more personal than in public campuses (Smith, 2017; The Careersportal, 2017). According to Coughlan (Smith, 2017), the smaller educational environments generally yield better academic success rates as it is easier to access help and support timeously when needed. Students therefore complete their degrees within the allocated time period which means that students can enter the workplace sooner than other students that need to repeat one or more years.

Employability is a key factor for many PHEIs. Most qualifications offered by PHEIs are closely related to the requirements of the career in the real-world of work (Smith, 2017). The IIE Rosebank College (IIE Rosebank College, 2018a) has introduced The Graduate Empowerment Programme to address graduate unemployment in South Africa since 2012 and has placed over 10 296 IIE graduates in employment across various South African companies.

There are 125 PHEIs registered in South Africa which enrolled a total of 185 046 students and 268 private colleges with an enrolment of 187 354, totalling 372 400 enrolments (Table 2.2) (Department of Higher Education and Training, 2018:6). The private PSET sector accounts for 15.8% of total enrolments. In the 2010 statistics it was reported that there were 109 PHEIs with an enrolment of 90 767 students (Department of Higher Education and Training, 2013b:2).

Table 2.2: Overview of Post-School Education and Training institutions and student enrolment in South Africa, 2017

	HEIs			Colleges				Total PSET
	Public	Private	Total	TVET	CET	Private	Total	
Number of institutions	26	125	151	50	9	268	327	478
Number of students enrolled	1 036 984	185 046	1 222 030	688 028	258 199	187 354	1 133 581	2 355 611

Source: Department of Higher Education and Training (2019:5)

This is an increase of 94 279 students (50.9%) over a period of seven years who accessed PHEIs to obtain their tertiary qualification (Figure 2.1).

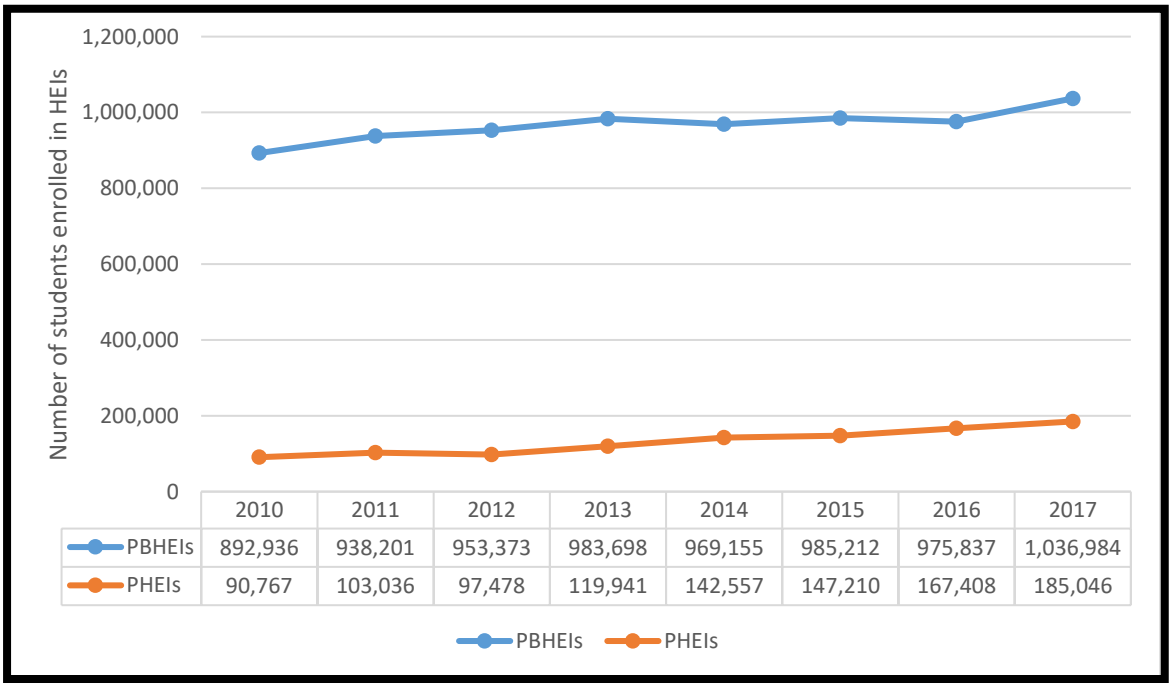


Figure 2.1: Number of students enrolled in public higher education institutions and private higher education institutions, 2010 to 2017

Source: Department of Higher Education and Training (2019:7)

The important role of PHEIs in educating South Africans was also documented in the *National Developmental Plan 2030: Our future – make it work*, stating that "private providers will continue to be important partners in the delivery of education and training at all levels" (National Planning Commission, 2012:295). These

amounts are growing annually due to the demands and growing trends for adult learners to attend PSET institutions and obtain a tertiary qualification. As there is only limited space within PSET institutions, solutions need to be found other than the current brick-and-mortar solutions. The National Planning Commission (2012:320) proposed that the advances in ICT can help overcome the infrastructure limits currently experienced in higher education and training.

Since 2007, ADvTECH Group (ADvTECH) has been one of the largest corporates on the Johannesburg Stock Exchange listed as an entity operating in the educational sector through The IIE which consists out of the following brands: IIE Rosebank College, IIE Varsity College, and IIE Vega, all who have incorporated BL into their programmes (ADvTECH, 2015:40). In their report, ADvTECH, (2015:40), state that they are committed to delivering exceptional quality education and that to maintain and grow in excellence they are required to continuously invest in research, innovation and the implementation of best practice principles. They further express that they are shifting away from the traditional lecturing approach to a more modern authentic BL experience to fit in with global best practices. Through their BL model, they assure that knowledge is constructed instead of transmitted which results in the development of lifelong skills and workplace competencies. The IIE Rosebank College have opened digital campuses in Polokwane, Pietermaritzburg and Bloemfontein where modules of qualifications are presented on RCLearn, a Blackboard LMS, while additional sessions with lecturers are presented on campus where lecturers will assist to deepen learning and ensure that students fully grasp what they need to know (IIE Rosebank College, 2018b). Dr Felicity Coughlan, the director of The IIE, (Coughlan, 2016) adds that both public and private HEIs would do well to investigate and invest in the BL method in years to come.

Another PHEI in South Africa, Monash South Africa (IIE MSA), recently acquired by ADvTECH on 1 April 2019 (Monash South Africa, 2019), has an Academic Innovation Centre (AIC) that provides a comprehensive and strategic approach in support of innovations in teaching and learning including the development of BL environments for their students. The AIC aims to create effective and efficient learning environments that enhance the student learning experience and facilitate

the exploration and implementation of ideas for creative and innovative educational programming, and sound academic technologies (Monash South Africa, 2018).

According to CHE (2018:4) Curro's tertiary education entity, Stadio Holdings, joined the Johannesburg Stock Exchange on 3 October 2017 after the acquisition in 2016 and 2017 of Embury Teacher Training College and Afda School of Motion Picture Medium and Live performance. The other four PHEIs of Stadio Holdings is Leaders in Fashion Education (LISOF), Lilpark Education, Prestige Academy, and Southern Business School under its "multiversity" strategy. At Milpark Education, lecturer and SE take place F2F and over an online learning platform myMilpark (Milpark Education, 2016) .

Pearson Institute of Higher Education (Pearson), an international PHEI that has branches in over 70 countries with 12 campuses in South Africa, offers some of their programmes utilising a BL approach with some of their tutorials offered in a computer lab (Pearson Institute of Higher Education, 2017). According to Pretorius (2018) Pearson Professional offers blended and online programmes for professionals looking to upskill themselves. Pearson has partnered with top institutions, to provide students with globally recognised, industry-relevant programmes of study. Their blended model named "Engage. Network. Progress." provides meaningful engagement through online and blended curricula to students' peers and instructors. Students have access to flexible online programmes with dedicated student adviser support and interaction to help in their programme completion and career progression.

Other PHEIs that offer BL as a teaching strategy are Boston City Campus and Business College (Boston City Campus & Business College, 2019), Damelin (Damelin, 2018), The Management College of Southern Africa (MANCOSA) (MANCOSA, 2019), and Richfield Graduate Institute of Technology (Richfield, 2017). The CHE (2018:7) states that most of the large enterprises that have entered the South African educational market offer their programmes in either distance, digital or BL modes as they are in a better position to invest in technology-driven education to reach greater number of students.

One of the solutions that PHEIs is adopting in South Africa is the implementation of BL to accommodate increasing numbers of students in larger classrooms, to reduce or control costs (Bates, 2015:30; Twigg, 1999:7, 2003) and also to promote better teaching and learning pedagogy for these numbers. The redesign of programmes using BL is an option that offers the possibilities of increased student satisfaction and engagement, improved learning and student retention, and better utilisation of classroom space, while maintaining F2F contact with peers and lecturers (Owston, York & Malhotra, 2018:29). The real challenge is that BL is not always utilised effectively in benefiting the students. Although school leavers spend many hours engaging and communicating with electronic devices, many of them especially from low socio-economic backgrounds, lack the necessary computer skills to use the LMSs used in BL programmes (Haripersad, 2010:473; Nash, 2009:88). Bonk and Graham (2006:321), state that lecturers and/or tutors carry forward their old mental schemata of teaching and learning and therefore they don't fully adopt the pedagogical effectiveness of BL. Bonk and Graham (2006) further explain that most curriculum developers and lecturers do not know enough about effective instructional activities and that they need to put forward a series of curriculum design methods and ideas concerning BL that lecturers can easily use. A study by Lubbe (2016:79) found that faculty members felt inadequately prepared to deal with the technologies available and a few were using alternative approaches and techniques. She suggests that it was the institution's responsibility to provide training for faculty members and that it was also the responsibility of faculty members to develop themselves and become lifelong learners (Collopy & Arnold, 2009; Van Der Merwe *et al.*, 2015). Mbati (2012:116), in concurrence with Mbati and Minnaar (2015:284), agrees with Lubbe that academic staff need support in the form of training as many staff members are not familiar with theories which can promote interactive and engaged learning. Mbati (2012:116) states further that the training in the use of technology should commence with both the academic staff and students as well as support staff prior to teaching and learning taking place.

Taking the high costs of implementing such systems which include licensing, infrastructure, personnel, curriculum design, and professional development and support, it is important for such HEIs to maximise the usage of such technologies to the advantage of the institution, its academic staff as well as for the students. It is

therefore imperative that students participate in identifying any challenges that may exist and help improve the design of pedagogical strategies and educational effectiveness in BL (Czerniewicz *et al.*, 2006; Information Resources Management Association, 2016:542).

2.2 The Growth and Scope of Blended Learning Research

The literature on BL is continuously growing. In 2012, Halverson, Graham, Spring and Drysdale (2012) completed an analysis of various scholarly literature and most cited literature on BL. The most impactful book on BL was *The Handbook of Blended Learning: Global Perspectives, Local Designs* when judged by total citations, having been cited more than 470 times (Halverson *et al.*, 2012). The most impactful article was by Garrison and Kanuka on *Blended learning: Uncovering its transformative potential in higher education* written in 2004 (Halverson *et al.*, 2012). The focus of the article was on HE as they argued that BL had become an unavoidable step for HEIs and that it would redefine HEIs as being "learning-centered and facilitating a higher learning experience" (Garrison & Kanuka, 2004). Professor Garrison, whose critical work on a community of inquiry has formed a theoretical backbone of BL has repeatedly argued for the transformation potential of BL (Halverson *et al.*, 2012).

The purpose of the research conducted by Halverson *et al.* (2012) was to understand where the major conversations about BL were occurring and to identify authors, journals and manuscripts that were impacting the conversations. A follow-up study, using thematic analysis, was concluded in understanding the substance of those conversations in the most impactful publications about BL (Halverson *et al.*, 2014:3 & 25). Their findings showed a significant amount of attention being given by BL researchers to the areas of instructional design (especially models, strategies, and best practices), disposition (especially student dispositions), exploration, and learner outcomes (especially performance metrics) (Halverson *et al.*, 2014:25). They further state that a fair amount of conversation in BL research is being held about topics of comparison, technology, and interaction, but less attention is being given to demographics and professional development (Table 2.3).

Table 2.3: Categories with Number of Publications (#) and Percent of Total Publications (%) Addressing Each Primary Topic

Topic	#	%	Subtopics
Instructional design	35	41.2%	Models, strategies and best practices, design process, implementation, and environment and course structure.
Disposition	27	31.8%	Perceptions, attitudes, preferences, student expectations, and learning styles.
Exploration	25	29.4%	Nature and role of BL, benefits and challenges, current trends and future predictions, position/persuasion, purposes for BL, and transformative potential.
Learner outcomes	24	28.2%	Performance outcomes, student satisfaction, engagement, motivation and effort, independence in learning, and retention rates.
Comparison	15	17.6%	Blended vs F2F vs online, blended vs F2F, and blended vs online.
Technology	15	17.6%	Comfort with, effect of, types of, uses/role of, and implementation of.
Interaction	12	14.1%	General interaction, student-to-student, student-to-instructor, collaboration, community, and social presence.
Demographics	4	4.7%	Student, institutional.
Professional development	3	3.5%	
Other	4	4.7%	International issues, role of instructors.

Source: adapted from Halverson *et al.* (2014:41)

Both researches by Halverson *et al.* (2012) and Halverson *et al.* (2014) have studied the trends in top-cited BL which were predominantly drawn from North American publications. Spring and Graham (2017:337) looked at a global use of the term BL in top-cited articles each from seven regions (Figure 2.2) of the world as well as top-cited research spanning multiple regions.

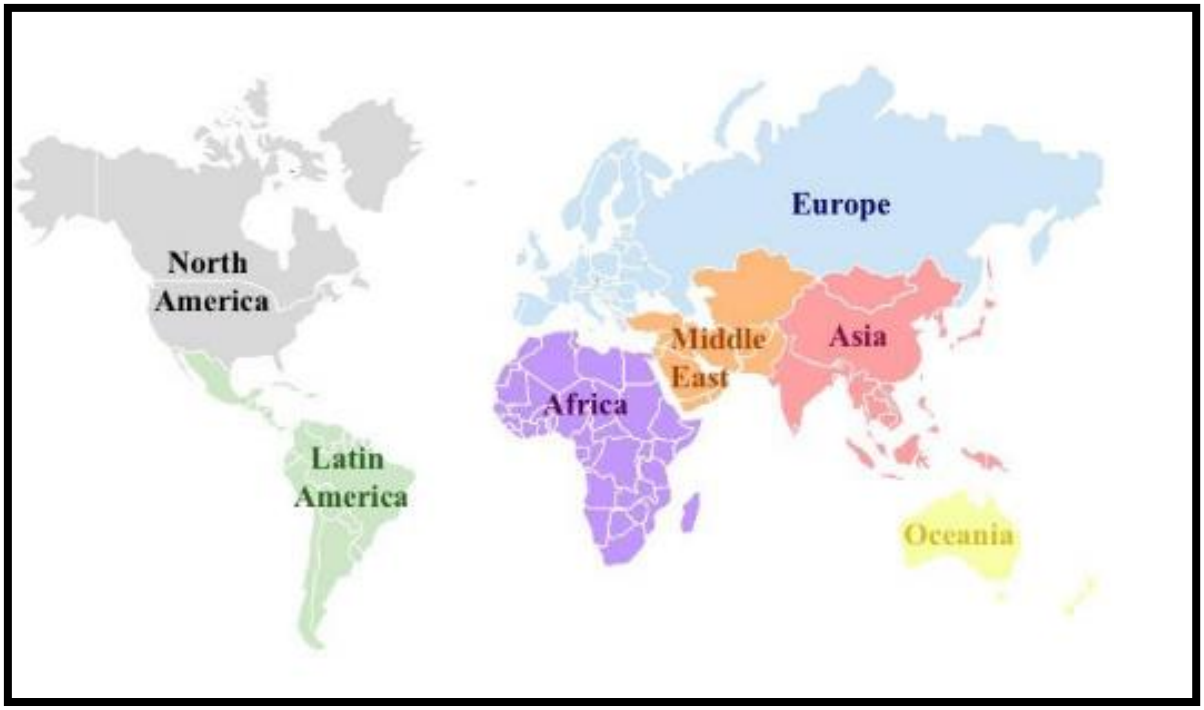


Figure 2.2: Map of the seven regions with which top articles were affiliated online

Source: Spring and Graham (2017:341)

The ten top-cited articles in Africa are listed in Table 2.4.

Table 2.4: Top 10 Articles in Africa

No	Total cites	Av. Cites/year	Authors	Title	Source	Country
1	136	19.4	Sife, Lwoga, and Sanga (2007)	New technologies for teaching and learning: Challenges for higher learning institutions in developing countries	IJE&DUICT	Tanzania
2	101	16.8	EL-Deghaidy and Nouby (2008)	Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme	C&E	Egypt
3	97	9.7	Cox, Carr, and Martin (2004)	Evaluating the use of synchronous communication in two blended courses	JCAL	South Africa
4	22	4.4	Boitshwarelo (2009)	Exploring blended learning for science teacher professional development in an African context	IRRODL	Botswana
5	21	2.3	Giannini-Gachago and Seleka (2005)	Experiences with international online discussions: Participation patterns of Botswana and American students in an adult education and development course	IJE&DUICT	Botswana & United States
6	20	4	Cronjé (2011)	Using Hofstede's cultural dimensions to interpret cross-cultural blended teaching and learning	ET&S	Sudan & South Africa
7	19	2.7	Leary and Berge (2007)	Successful distance education programs in sub-Saharan Africa	TOJDE	Several African Countries
8	18	3.6	Prinsloo and Van Rooyen (2009)	Exploring a blended learning approach to improving student success in the teaching of second year accounting	Electronic Journal of Elearning	South Africa
9	14	3.5	Bozalek and Biersteker (2010)	Exploring power and privilege using participatory learning and action techniques	Social Work Education	South Africa

No	Total cites	Av. Cites/year	Authors	Title	Source	Country
10	14	2.3	Bozalek, Rohleder, Carolissen, Leibowitz, Nicholls and Swartz (2008)	Students learning across differences in a multi-disciplinary virtual learning community	South African Journal of Higher Education	South Africa

Source: Spring (2015:39)

Figure 2.3 shows that Africa, compared to the other regions, displays the most diverse landscape, including all four levels, namely: activity, course, programme, and multiple levels of blend (Spring & Graham, 2017:345). Spring and Graham (2017:345) deduced that the reason for the most diverse landscape of blending is because of its more recent development of BL compared to more established regions such as Northern America, which might allow for greater flexibility and exploration.

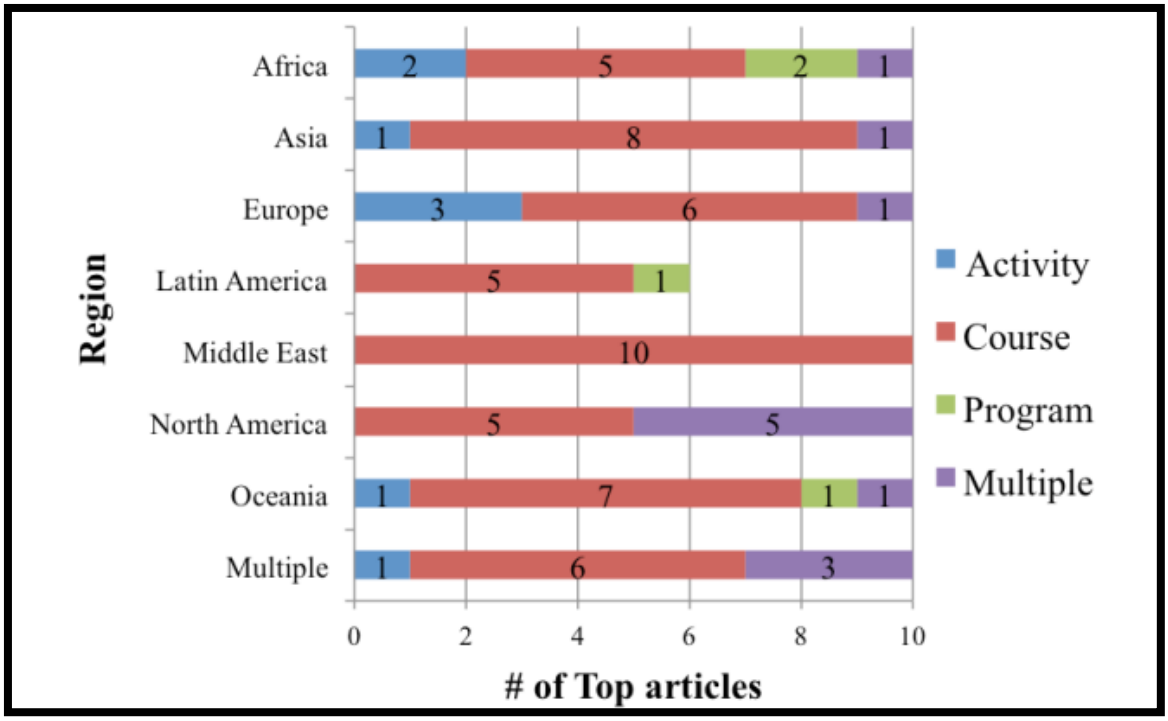


Figure 2.3: A comparison of each region (y-axis) based on the levels of blending featured in each top article

Source: Spring (2015:55)

It is also noted that the focus of the top-cited BL literature in Africa is concentrated on HE learners which is a common trend throughout the seven regions. This being followed by an interest in corporate blending in half of the regions (Spring & Graham, 2017:344).

2.3 History of Blended Learning

The historical highlights that shaped the BL core principles started when Sir Isaac Pitman launched the first distance education course, in 1840, which loosely resembled distance learning as we know it today (Pappas, 2015).

During 1960 to 1970 mainframe computer-based training took shape using Programmed Logic for Automatic Teaching Operations (PLATO) and then from 1970 to 1980 video networks to train employees where the instructor was not on-site, but interactive and engaging training could take place (Bersin, 2004:3). Learners were able to collaborate with their peers, watch the instructor on television and ask any questions via email. The most successful case study regarding satellite-based training was the Stanford University Interactive TV network (Bersin, 2004:6).

Bersin (2004:6) wrote that during the 1980s to 1990s technology evolved and so did BL training strategies and applications. CD-ROMs were used to deliver more interactive learning experiences. Computer-based courses were able to offer a rich and comprehensive learning experience. During this time the first LMS was introduced (Pappas, 2015).

Beginning in 1998, computers were no longer only for the wealthy but also for the masses. Computers started offering greater interactivity, graphics, sound video, and connection speed. This now gave everyone the opportunity to access learning resources. Instead of distributing CD-ROMs to learners, organisations could now simply upload material, e-learning assessments and assignments (Pappas, 2015). The use of BL in HE since the late 1990s and early 2000s, had become more synonymous with the western countries such as the United States of America (USA), the United Kingdom (UK) and Australia.

From 2000, many more people could afford high-speed cable modems and digital subscriber lines (DSL) which enhanced connectivity (Picciano, 2014). Public and private HEIs scaled up on their online and BL activities by acquiring LMSs such as Blackboard, Desire2Learn, and Moodle. This enhanced connectivity and opened

possibilities of incorporating various types of multimedia. From interactive scenarios in classroom instruction to the use of webinars and online tutorials (Porter *et al.*, 2014), large amounts of tech tools and applications are used to make learning fun, exciting, and creative and thereby enriching the whole educational experience.

2.4 Blended Learning Defined

According to Hofmann (2011:1) *BL* is one of those ubiquitous phrases that are used today within the educational environment. Although BL is a ubiquitous phrase, there is no one single definition that is accepted by all scholars. Dziuban, Hartman and Moskal (2004:2) state that "the mere existence of so many names for what is essentially a single concept suggests that no dominant model has yet been accepted as a definition of standard practice". Defending Dziuban *et al.* statement, Graham *et al.* (2013:3) and Mahesh (2017) affirm that there is significant confusion and there are multiple accepted definitions of BL. The terms *BL, flexible*, *mixed mode*, *flipped classroom, mediated learning, technology-enhanced instruction, web-enhanced instruction, web-assisted instruction* or *hybrid delivery* (Allen, Seaman & Garrett, 2007:5; Bates, 2015:365; Bleed, 2001:18; Bowyer & Chambers, 2017:17; Brenton, 2009:86; Delialioğlu, 2012:311; Graham, 2009:375; Holden & Westfall, 2010:5; Nuruzzaman, 2016:126; O'Byrne & Pytash, 2015:137; Snart, 2017:59; Spring, 2015:55 & 79; Staker, 2011:5) are often used interchangeably (Dziuban *et al.*, 2004:2; Lock & Remond, 2015:22) with little or no difference in the meaning of the terms among most lecturers (Watson, 2008:4). According to Spring and Graham (2017:346) *BL* is the most prevalent term used today.

Because there are varying definitions of BL offered in literature it is important to clarify ***BL*** (Rajkoomar & Raju, 2016:2) from the various perspective of scholars.

According to Garrison (2016:101), early exploration of BL saw discussions amongst scholars regarding the threshold of what constitutes a BL experience. Cabero-Almenara, Llorente-Cejudo and Puentes-Puente (2010:155) including Garrison and Kanuka (2004) state that BL is both simple and complex. Figure 2.4 shows the most obvious and simplest definition of BL and has been referred to as "best of both

worlds" (Snart, 2010:xvi) which is the integration of F2F and online activities (Bliuc *et al.*, 2007:232; Garrison, 2016:100; Garrison & Kanuka, 2004:96; Graham, 2009:375). Due to the definitions of simplicity, this is perhaps the most common meaning of BL used in a HE context. This definition is quite broad and unclear and does not disclose what key ideas and values are coupled to BL. Knowing this is important because if one would use this definition then one could add any type of online activity to F2F classroom instruction and that would then constitute BL.

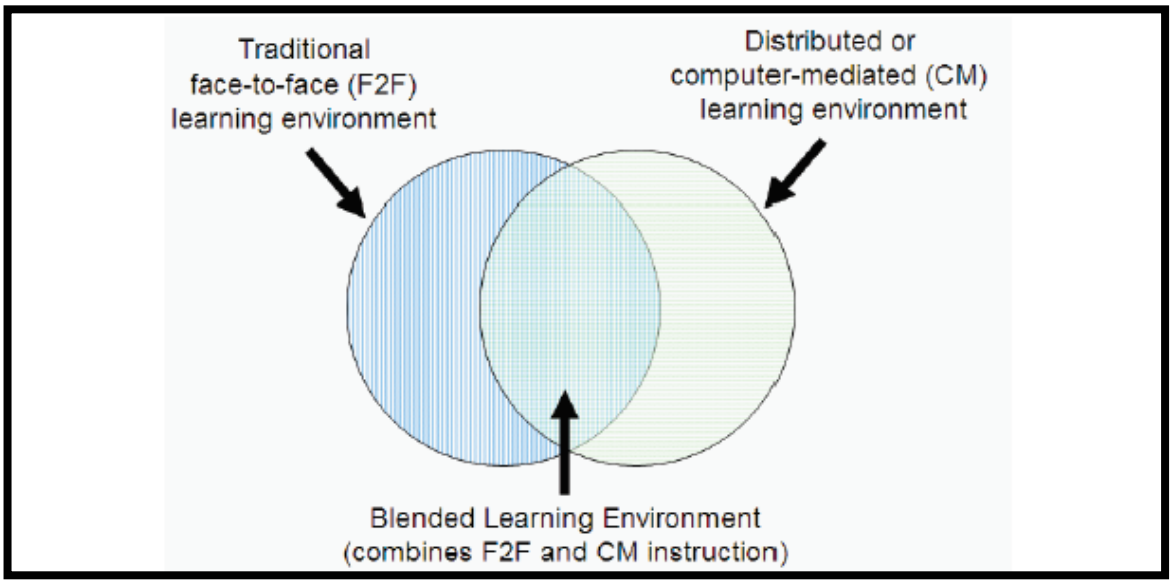


Figure 2.4: Blended learning combines traditional face-to-face and Computer-Mediated (CM) instruction

Source: Graham (2009)

In their research, Boelens, van Laer, De Wever and Elen (2015:5) looked at various definitions of BL. In their endeavour to find a definition of BL, they defined the term as:

> *learning that happens in an instructional context which is characterized by a deliberate combination of online and classroom-based interventions to instigate and support learning. Learning happening in purely online or purely classroom-based instructional settings is excluded.*

For Boelens and colleagues, the effective integration of online and classroom-based instruction in BL depends on contextual factors such as learning goals, target group and its size, and/or content being taught. In the Kudrik, Lahn and Morch (2009:596) study they categorise the types of BL practices under two categories: (1) *Concept-based BL* that refers to the online section of BL that is concept training and meant for individual use, and the F2F part is for collaborative learning; (2) *Collaboration-orientated BL* where the online section is computer-supported collaborative learning, and the F2F part is individually orientated. Whereas Rossett and Frazee (2006:2) define BL as follows:

> *Blended learning (BL) integrates seemingly opposite approaches, such as formal and informal learning, face-to-face and online experiences, directed paths and reliance on self-direction, and digital references and collegial connections, in order to achieve individual and organizational goals.*

However, some authors describe the blend on the basis of percentages. Bleed (2001:18) proposes in his article, *A Hybrid Campus for the New Millennium*, that HEIs adopt a "hybrid model", but states that the model should not simply "bolt" technology onto a traditional course by using technology to teach a difficult concept or by adding supplemental information. He suggests a drastic change of 50 per cent redesigned physical campus and 50 per cent virtual instruction which he describes as half "clicks" and half "bricks". Whereas Allen *et al.* (2007:5) refer to a blended/hybrid programme that blends F2F and online delivery where a 30.0% to 79.0% portion of content is delivered online (Table 2.5). David Brown adopted "the 90-10 Rule" whereby the optimum mix for BL programmes will be between 90-10 and 10-90 distributions of F2F and online sessions (Brown, 2001).

Table 2.5: Allen, Seaman and Garrett's prototypical course classification

Proportion of Content Delivered Online	Type of Course	Typical Description
0%	Traditional	Course with no online technology used — content is delivered in writing or orally.
1 to 29%	Web Facilitated	The course which uses web-based technology to facilitate what is essentially a F2F course. Uses a course management system or web pages to post the syllabus and assignments, for example.
30 to 79%	Blended/Hybrid	A course that blends online and F2F delivery. A substantial proportion of the content is delivered online, typically uses online discussions, and typically has some F2F meetings.
80+%	Online	A course where most or all of the content is delivered online. Typically has no F2F meetings.

Source: Adapted from Allen *et al.* (2007:5)

The statement by Richard Voos, in turn, shows the difference of opinions by scholars in stating that "it is likely not the 'blendedness' that makes the difference, but rather the fundamental reconsideration of the content in light of new instructional and media choices" (Holden & Westfall, 2010). Dziuban *et al.* (2004:3) concur with Voos viewing BL as a pedagogical approach that combines the effectiveness and socialisation opportunities of the classroom with the technologically advanced active learning possibilities of the online environment, rather than looking at the ratio of delivery modalities.

In the Holden and Westfall (2010:30-31) model a third component is added to BL. In their model the three major components (Figure 2.5) are:

(1) Learning environment component. The learning environment can either be synchronous or asynchronous which has its own distinct set of advantages and disadvantages. It is important to leverage the specific attributes of the different learning environments to ensure optimum use of resources to attain the instructional goals and learning objectives.

(2) Instructional component. The instructional component is used to select the most appropriate instructional strategies that support the learning objectives and facilitate the transfer of learning. Maintaining instructional quality is extremely important in BL.

(3) Media component. The media component comprises the vehicles that are used to deliver the content to the student supporting in either a synchronous or asynchronous learning environment.

Although the model consists of three components, which are evaluated separately, they are viewed holistically and have a specific contribution to the sum total of all parts that results in a comprehensive BL solution.

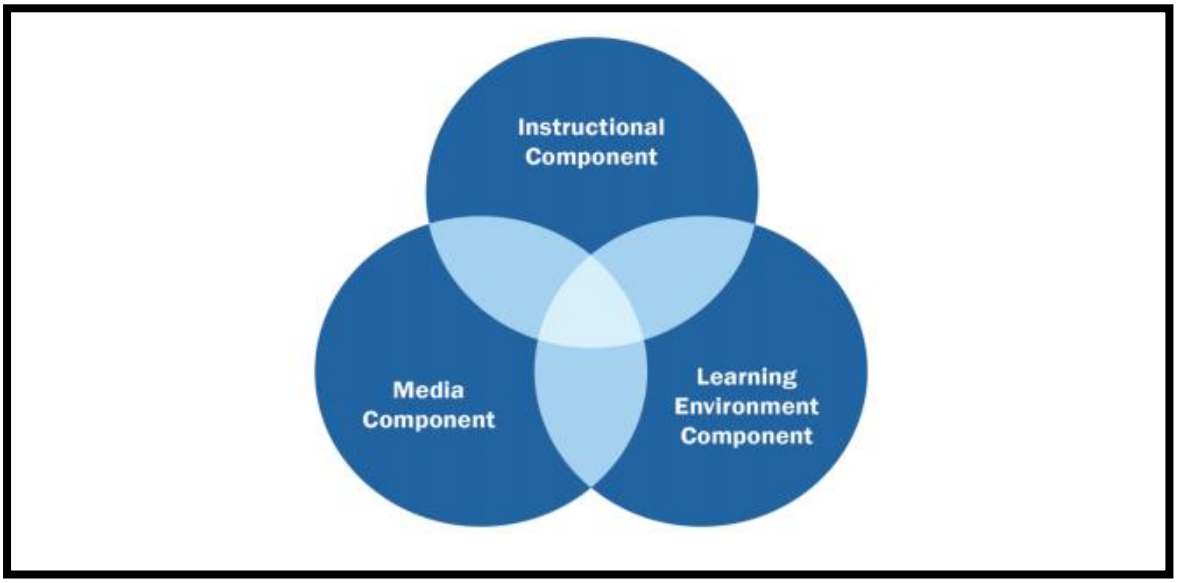


Figure 2.5: Blended learning model components

Source: Holden and Westfall (2010:30)

Hofmann (2018) stated in her book *Blended Learning, what works in talent development*, that many practitioners thought BL to be three-dimensional, consisting of instructional treatment (what), educational technologies (how), and that it occurs in different places (where). She adds that with modern BL, it is more than "what", "how", and "where" students are learning. The key to BL design is making sure that the "right content" is in the "right place" at the "right time" and delivered to the "right audience" of learners.

During their study *The nagging question when designing blended courses: Does the proportion of time devoted to online activities matter*? Owston and York (2018:31) conclude that there is no simple answer to their question as many factors such as student characteristics and access to technology, instructor attitudes and openness to new pedagogical approaches, institutional support, and then the nature of the subject matter should be considered. Some researchers maintain that there is no standard for deciding what content and what portion of a programme should be online (Dziuban, Moskal & Hartman, 2005:4; Garrison & Kanuka, 2004:96). In addition to Owston and York, Dziuban *et al.* (2005:4) state that the mix is influenced by the instructional goals, lecturer's experience and teaching style, discipline, developmental level, and online resources. The McGee and Reis (2012:9) definition of BL considered pedagogical factors that would achieve learning outcomes by incorporating assignments, activities, and assessments appropriate for a given mode and which bridge course environments in such a way that it is meaningful to the learner. Furthermore a study, in identifying the criteria to be considered when deciding on the proportion of online to F2F components, concludes that lecturers should consider four categories: (1) course-related criteria; (2) student related criteria; (3) teacher related criteria; and (4) institutional related criteria (Alammary, Carbone & Sheard, 2015:79). As one can deduct from the above, one can't just speculate the proportion of F2F and online teaching and learning, but one needs to take many factors into consideration, and it is up to the HEI and the lecturer to determine the proportion.

Scholars who place emphasis on the lecturer as the important key role in BL are Hubackova and Semradova (2016:551) who define BL as the combination of contact teaching and of a self-contained preparation using online education. They assert that one must not forget that the teacher's role is very significant in BL. Okaz (2015:601) affirms Hubackova and Semradova's definition by adding that BL is a versatile delivery method in which it is up to the instructor to select, from a variety of choices and dependent on the learning context of the programme, what skills the student should master by the end of the learning outcomes. Michael Horn (Pierce, 2017) says that the most effective BL environments are ones in which the lecturer uses technology to understand the students' strengths, weaknesses and areas of improvement.

From the Garrison and Vaughan (2008:148) perspective, then later used as the focus in their book *Teaching in Blended Learning Environments: Creating and Sustaining Communities of Inquiry* (Vaughan, Cleveland-Innes & Garrison, 2013:1 & 8) BL is defined as:

> *the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies.*

By using the term "organic" the authors implied "grounded in practice" and with the use of the term "thoughtfully" they wanted to indicate a substantive review in which one approaches the learning experience, excluding traditional practices that did not enhance SE. Unlike Bleed, they did not want to restrict innovative BL designs by providing strict parameters on the percentage of time spent on F2F instruction or online. Garrison and Kanuka (2004:96) add that it is not clear as to how much, or how little, online learning is inherent to BL. They further postulate that BL is distinguished from that of the enhanced classroom or from fully online learning experience (Figure 2.6).

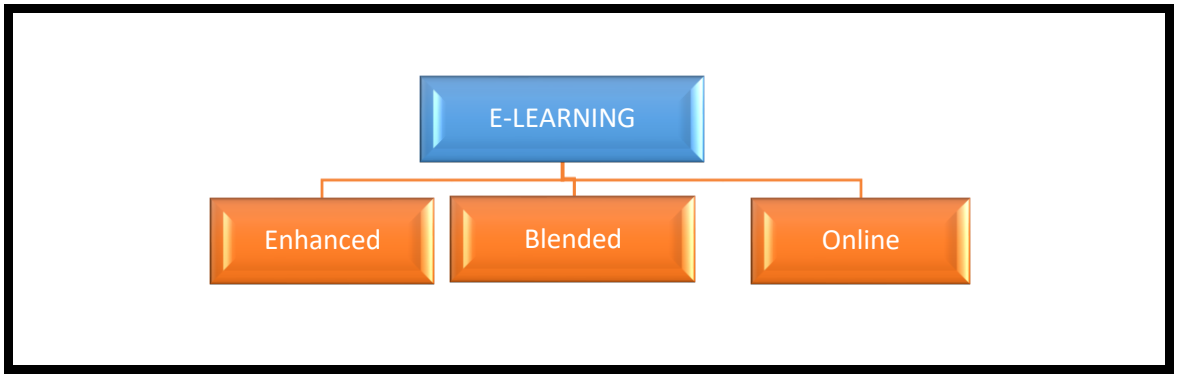


Figure 2.6: A continuum of e-learning

Source: Garrison and Kanuka (2004:97)

According to Cabero-Almenara, Llorente-Cejudo and Puentes-Puente (2010:150) BL is a "formative action in which online and attending training are combined". During their study, based on Internet usage during a blended training experience carried out on first-year students of Philosophy and Physics at the Pontifical University of Dominican Republic, Cabero-Almenara and fellow scholars made use of the Mason and Rennie systematised representation of defining BL (Cabero-

Almenara *et al.*, 2010:149). Figure 2.7 shows the different learning approaches, from online learning to offline learning, as a systematic formative modality that shows the technological-instrumental contributions that each one generates. The BL theoretical model is depicted across a linear spectrum.

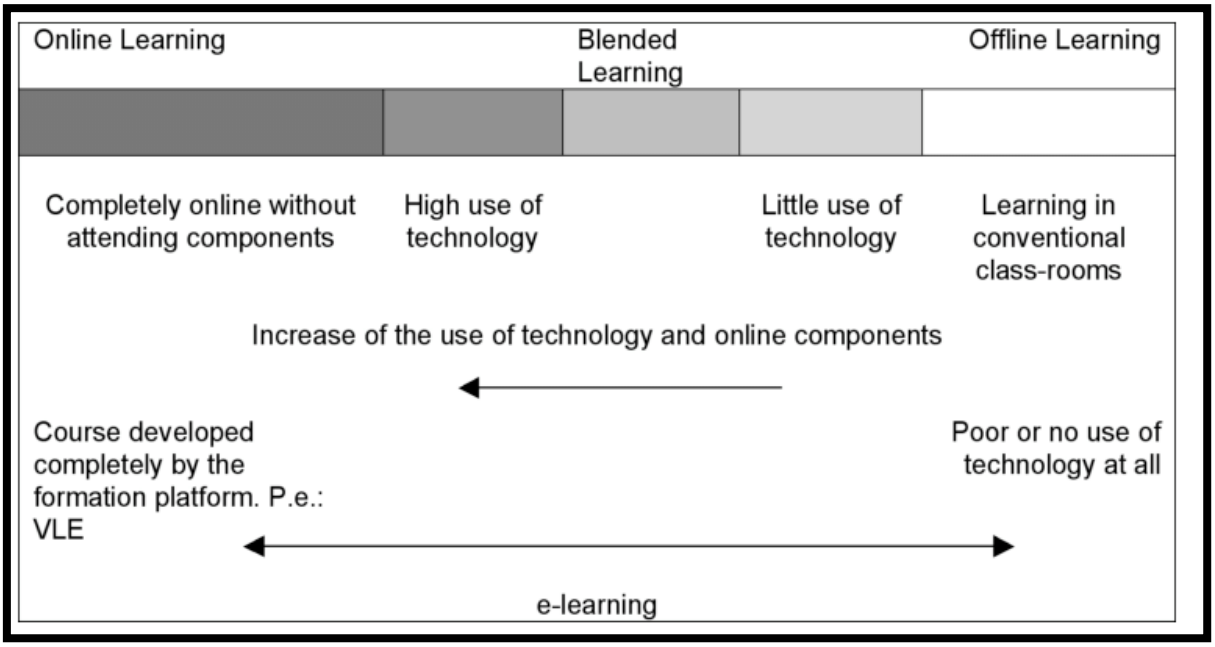


Figure 2.7: Schematic description of blended learning

Source: Mason and Rennie (2006:14) as cited in Cabero-Almenara *et al.* (2010:150)

Norah Jones (Jones, 2006) suggests that scholars need to be aware of the danger of thinking that everyone understands the definition of BL. She further states that as a result, research findings could be misleading due to the misunderstanding of the ambiguous terminology. To assist with defining BL, the Continuum of BL was used in her study. The Continuum of BL model, another linear model, adapted by Jones, Chew, Jones and Lau (2009) is a guideline for educational institutions to incorporate teaching and learning supported by technology (Figure 2.8). The model begins with no ICT use in teaching and learning and then progresses on a linear scale to basic ICT usage to support F2F teaching and learning, such as a PowerPoint presentation (Wong, Tatnall & Burgess, 2014). At the E-enhanced stage, teaching and learning are supplemented with access to a few online resources provided through an LMS such as Blackboard (Jones, 2006). Jones (2006) continues with the E-focused stage where there is a more intense use of the

LMS in teaching and learning whereby the instructor might use discussion boards, online assessment tests, wikis, and interactive learning materials with F2F delivery. The last stage is the E-intensive stage. This stage is where modules or complete awards are delivered and moderated online, where there might still be a F2F element, but this is minute compared to online delivery. This continuum provides the instructor with more flexibility to decide at which point the best option is to be used, in order to suit the individual's epistemology and disciplines (Jones *et al.*, 2009:16). The ability to self-evaluate and the direction ahead are well defined within the model.

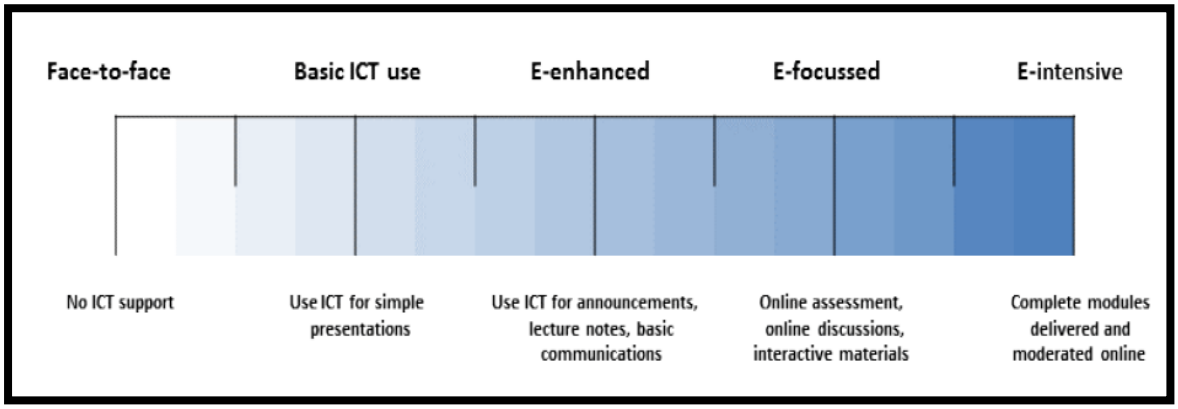


Figure 2.8: Enhanced continuum of blended learning

Source: Wong *et al.* (2014)

Driscoll (2002:1) views BL in a pragmatic perspective (Holden, 2008) and places BL into four categories; firstly it is the combination or mixture of modes of web-based technology to accomplish an educational goal; secondly it is the combination of different pedagogical approaches to produce optimal learning outcomes with or without instructional technology; thirdly it is the combination of any type of instructional technology with F2F instructor-led training; and lastly it is the mixture or combination of instructional technology with actual job tasks in order to create a harmonious effect of learning and working. So, BL, according to Driscoll, is a flexible learning system that combines different learning resources which includes synchronised or asynchronised Internet (Garrison, 2016:102) and web-based e-Resources and non e-Resources such as traditional F2F classroom resources, not only the traditional classroom setting, but also laboratory resources, on-job training resources, real tasks, or field experiences (Alraghaib, Elgazzar & Nouby, 2015:33).

Picciano (2006:96–97, 2009:10) in his articles defining BL, wrote that the Alfred P. Slogan Foundation funded a workshop on BL in 2004 whereby the main aim was to develop a definition of the term *BL*. They had difficulty in formulating a simple definition of BL and the discussion alternated between a "broad" versus a "narrow" definition. The outcome of the workshop resulted in a definition containing five variations of BL environment. Figure 2.9 indicates the broad definition or conceptualisation as a wide array of technology/media integrated with conventional F2F classroom activities.

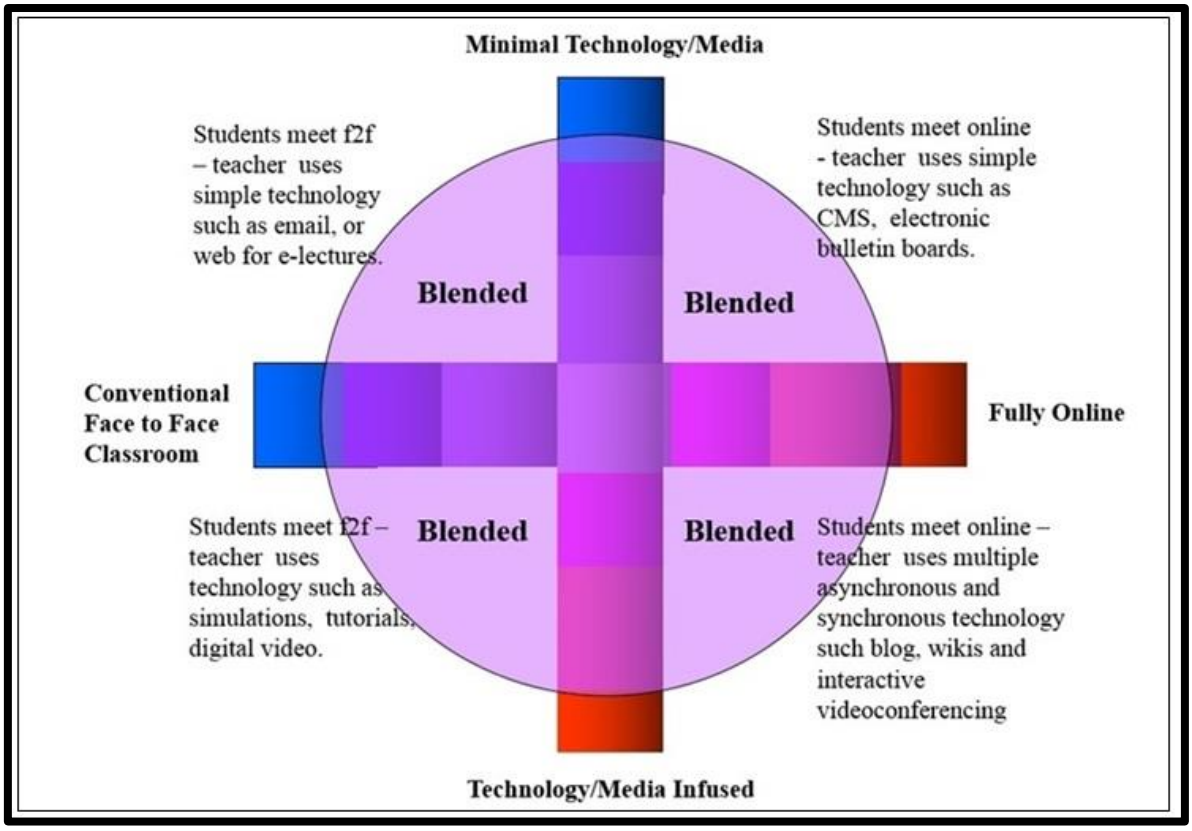


Figure 2.9: Broad conceptualisation of blended learning

Source: Picciano (2009:11)

Nevertheless, many of the workshop participants wanted to focus on the narrower definition that centred on an online component that replaces seat time in the conventional classroom (Figure 2.10).

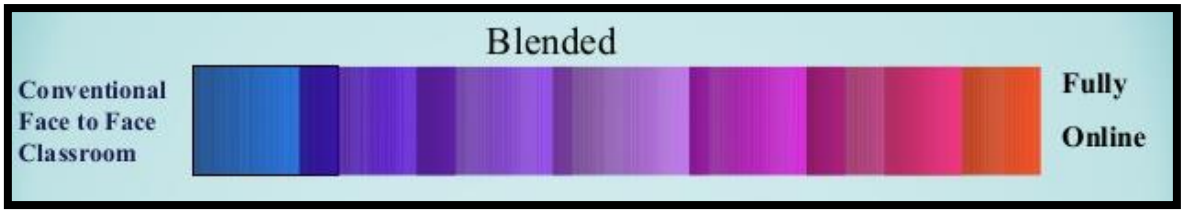


Figure 2.10: Narrow conceptualisation of blended learning

Source: Picciano (2009:11)

The issue of a broad versus a narrow definition was discussed. From the discussion, two core elements were deemed critical which echoed the academic sentiment and essence of other colleagues, namely "*online and F2F instruction*". In 2005, the participants attended another workshop and adopted one of the more acceptable and commonly used definitions today (Laster *et al.*, 2005; Picciano, 2006:97):

> *Courses that integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner; and where a portion (institutionally defined) of face-to-face time is replaced by online activity.*

The definition is primarily focused on integrating two separate paradigms – the traditional classroom (synchronous) and online (asynchronous) which provides an educational perspective (Holden, 2008).

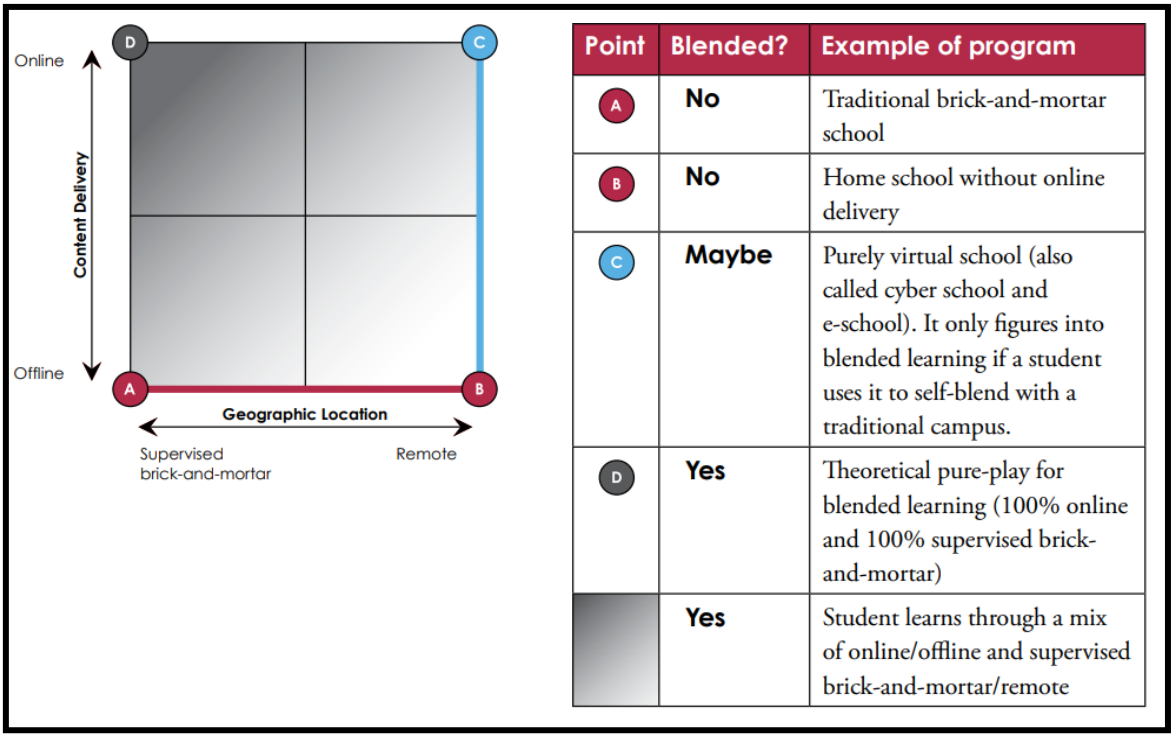
According to Staker (2011:5-6) in her book written for K-12 BL:

> *Blended learning is any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/ or pace.*

This definition, as stated by Staker, includes two essential clauses to separate her definition from other scholar definitions of BL. The first part is that the student must attend and learn in a "brick-and-mortar location away from home" for a period of time. The amount of time is not allocated by her as she uses the phrase "some".

The “brick-and-mortar” is described as a traditional school building where the students can attend and be supervised by an adult during their learning. This part agrees with most scholars whereby they refer to this as being the F2F part of BL. The second part to her definition *“through online delivery with some element of student control over time, place, path, and/ or pace”* explains that students must experience online delivery to be BL. This online delivery must be controlled by the student for it to be classified as BL otherwise online learning could be confused with other forms of technology-rich learning.

Figure 2.11 illustrates BL in a two-dimensional matrix compared to other BL models which depict the BL model across a linear spectrum. On the “X-axis” is the geographical location which ranges from 100 per cent supervised brick-and-mortar to 100 per cent remote. On the “Y-axis” is the percentage of time that a student learns online, from 100 percent online to a 100 per cent offline. The grey area within the matrix represents BL. The red perimeter and points “A” and “B” on Figure 2.11 relate to programmes that are not BL. The blue point and perimeter also relate to programmes that are not BL except where students enrol in those programmes and “self-blend” by simultaneously enrolling in a traditional brick-and-mortar school.



Point	Blended?	Example of program
A	**No**	Traditional brick-and-mortar school
B	**No**	Home school without online delivery
C	**Maybe**	Purely virtual school (also called cyber school and e-school). It only figures into blended learning if a student uses it to self-blend with a traditional campus.
D	**Yes**	Theoretical pure-play for blended learning (100% online and 100% supervised brick-and-mortar)
	Yes	Student learns through a mix of online/offline and supervised brick-and-mortar/remote

Figure 2.11: Blended learning matrix with points on the matrix

Source: Staker (2011:6)

Diaz and Brown (2010:2), in their report on the ELI Focus Session, describe BL as an evolution to curriculum design, especially the ability to design a programme that uniquely blends F2F and online instruction. For them the BL model allows educational institutions to address learners' specific needs and customise the learning environment rather than rely on a one-size-fits-all approach.

This explanation by Diaz and Brown ties well within this research as each learning environment and educational institution is dissimilar to each other. Therefore, adopting a BL pedagogy will assist the curriculum designer to customise each programme to suit the learner.

Regardless of the incongruence in the definition of BL, one can see a common thread. Each scholar acknowledges that BL consists of F2F instruction combined with online instruction. The difference in opinions emanates that scholars can't agree to which extent instruction should be online. According to the scholars, the amount of online instruction could be attributed to instructional goals, a lecturer's

experience and teaching style, the individual's epistemology and discipline, learners' specific needs, developmental level, and disciplines and online resources (Diaz & Brown, 2010; Dziuban *et al.*, 2005:4; Jones *et al.*, 2009:16; Staker, 2011). Chew, Jones and Turner (2008:11) suggest that two challenges face lecturers and students when technology-focus is in place: Firstly, one should have a distinct idea of the purpose(s) one wishes to serve; and secondly one must maintain the flexibility and imagination to adapt the tool to new uses as they arise. They also state that it is almost impossible to design a perfect model as BL resides in the field of education or social science and not of computer science.

In conclusion, the words of Kyrie Kennemore, a 9th-grade student are:

> *Learning should look like it is built for each student, it should be unique to them, not just the same thing for every single student. If it looks designed for the student you can draw their attention and keep it* (Tucker, Wycoff & Green, 2016:5).

2.5 Blended Learning Models

BL can be implemented by HEIs in many unique ways depending on their requirements for effective teaching and learning to take place. A model by Staker and Horn (2012:8) illustrates four BL models: Rotation model, Flex model, Self-blend model and Enriched-virtual model (Figure 2.12). With the advancement of BL, other models such as: Project-based model, Self-directed model, Inside-out and Outside-in model, Supplemental model and Mastery-based model have been developed. A "model" is defined as a "visual representation of reality or concept" (Picciano, 2017:166).

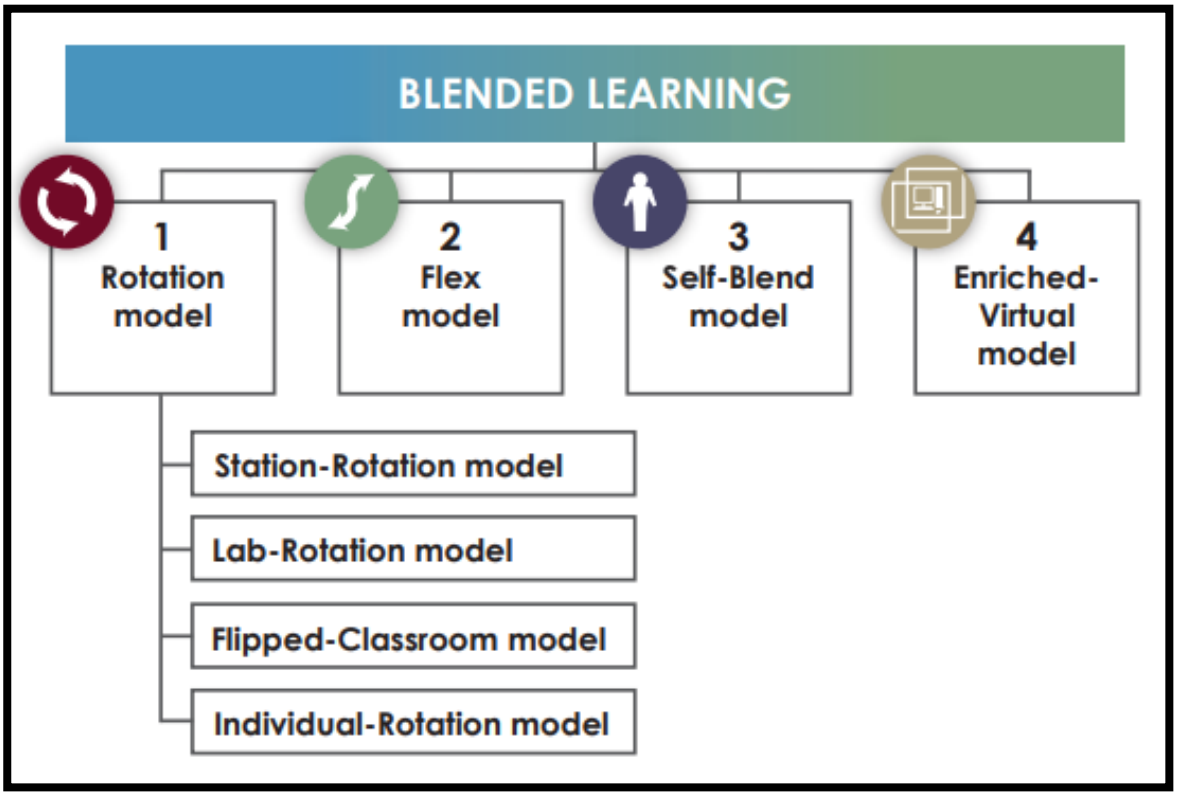


Figure 2.12: Blended learning models

Source: Staker and Horn (2012:8)

2.5.1 Rotation Model

Tucker (2012:14) explains that the model rotates on a fixed schedule or at the lecturer's discretion (Staker & Horn, 2012:8) between learning online and learning in a classroom. The blend consists of self-paced online instruction with F2F instruction. The F2F lecturer usually oversees the online work completed by the student. The Rotation model includes four sub-models. They are (Staff, n.d.; Staker & Horn, 2012:8–9):

(1) Station Rotation model. The Station Rotation model allows students to rotate through stations on a fixed schedule or at the lecturer's discretion, where at least one of the stations is an online learning station.

(2) Lab Rotation model. This model is similar to the Station Rotation model, but an existing computer lab is indicated to students allowing for flexible scheduling arrangements with the lecturer.

(3) Flipped Classroom model. With the Flipped Classroom model students rotate on a fixed schedule between F2F lecturer-guided practice on campus during the standard school day and online delivery of content and instruction of the same programme from a remote location e.g. the student's home. The primary delivery of instruction and content is online therefore students have control over time, place, path, and/or pace at which they learn.

(4) Individual Rotation model. The students rotate on an individually customised, fixed schedule among modalities, which is set by the lecturer or a software algorithm. Students don't need to necessarily rotate to every station; they may rotate only to the activities scheduled on their playlists.

2.5.2 Flex Model

The Flex model is where students work through a pre-determined set of material. A course or module has online learning as the backbone of student learning, even though students are directed to offline activities (Christensen Institute, 2018). Lecturers act as facilitators rather than primary deliverers of instruction. The Christensen Institute further explains that the lecturer is on-site and the students learn mostly on campus except for homework. F2F support is provided to students on a flexible and adaptive "as-needed" basis through activities such as small group work, group projects and individual tutoring.

2.5.3 Self-bled Model

This model is also known as the A La Carte model (Christensen Institute, 2018). According to Staker and Horn (2012:14), the Self-blend model is where the students choose to take one or more courses entirely online to supplement their traditional courses and the lecturer is the online lecturer.

2.5.4 Enriched-virtual Model

The Enriched-virtual model is also referred to as Remote BL (Staff, n.d.). A programme or module in which students have requested F2F learning sessions with their lecturer and then are free to complete their remaining course work remotely from the F2F lecturer (Christensen Institute, 2018). The majority of the course is completed online at home or out of the classroom (Blended Learning Universe, 2018).

2.5.5 Project-based Model

The Project-based model is where students use both online learning, either in the form of programmes or self-directed access, and F2F instruction and collaboration to design, iterate and publish project-based learning assignments, products and related artefacts (TeachTought Staff, 2018).

2.5.6 Self-directed Model

With the Self-directed model, students use a combination of online and F2F learning to guide their own personalised inquiry, achieve formal learning goals, and connect with mentors in person or digitally. As the learning process is self-directed, the roles of online learning and physical lecturers change as there is no formal online programme to complete (TeachTought Staff, 2018).

2.5.7 Inside-out and Outside-in Models

In Inside-out BL, experiences are planned to “finish” or “end up” beyond the physical classroom, but still require and benefit from the unique advantages of both physical and digital spaces. With Outside-in BL experiences are planned to “start” in the non-academic physical and digital environments students use daily but to finish inside a physical classroom. In both models, the nature of online learning is less critical than the focus on platforms, spaces, people, and opportunity beyond the HEIs walls (TeachTought Staff, 2018).

2.5.8 Supplemental Model

Students will complete either entirely online work to supplement their day-to-day F2F learning, or entirely F2F learning experiences to supplement the learning achieved in online programmes and activities. The whole idea of this model is "supplementation". Critical learning objectives are met entirely in one space while the opposite space provides a student with specific supplementing experiences that the other space could not provide (TeachTought Staff, 2018).

2.5.9 Mastery-based Model

In the Mastery-based model, students rotate between online and F2F learning based on the completion mastery-based learning objectives. The assessment design is pivotal in any mastery-based learning experience; the ability to use F2F and digital assessment tools are either powerful or complicated contingents upon the mindset of the learning designer (TeachTought Staff, 2018).

2.6 Characteristics of Blended Learning

Huang, Ma and Zhang (2008:67) write that BL has three characteristics. First is the flexibility of providing learning resources. The second is the support of learning diversity (Penprase, 2018:219) in terms of various learning styles, learning proficiency and learning ability, and catering for individualised and self-regulated learning (Umunadi & Ololube, 2014:225). Zimmerman (1989:329 & 337) adds that students can be described as self-regulated to the degree that they are metacognitively engaged in their learning process. Learning takes place in BL through various pedagogical approaches such as constructivism (Carman, 2002:2; Mbati & Minnaar, 2015:284), behaviourism and cognitivism (Driscoll, 2002). The third is enrichment of e-learning experiences as BL can enable faculties to improve their existing teaching practices.

Al Fisky (2011:23–24) as cited in Keshta and Harb (2013:221) postulates that BL redesigns the educational model with the following characteristics:

(1) The moving from lecturer-centred to a student-centred teaching and learning (Umunadi & Ololube, 2014) in which students become active and interactive learners (Dziuban *et al.*, 2004:3).

(2) Maximised lecturer-student, student-student, student-content, student-outside resources interaction (Dziuban *et al.*, 2004:3).

(3) Integrated evaluation techniques (formative and summative) for lecturers and students (Dziuban *et al.*, 2004:3).

(4) Broadened spaces and opportunities available to teaching and learning.

(5) Supportive programme management activities such as communication, marking and feedback.

(6) Supportive provision of information and resources to students.

2.7 Levels of Blended Learning

According to Graham (2006, 2009:376), BL occurs at four different levels. These levels are (1) activity level, (2) course level, (3) programme level, and (4) institutional level. All four levels of BL are either determined by the student or the designer/instructor/lecturer. The institutional and programme levels typically have administrator stakeholders who are driven by issues of cost-effectiveness and expanding access to the learning or to untapped audiences. In contrast, the designer/instructor/lecturer is more likely to take control in prescribing the blend at the course and activity levels as they are primarily interested in issues of learning effectiveness and productivity (Figure 2.13).

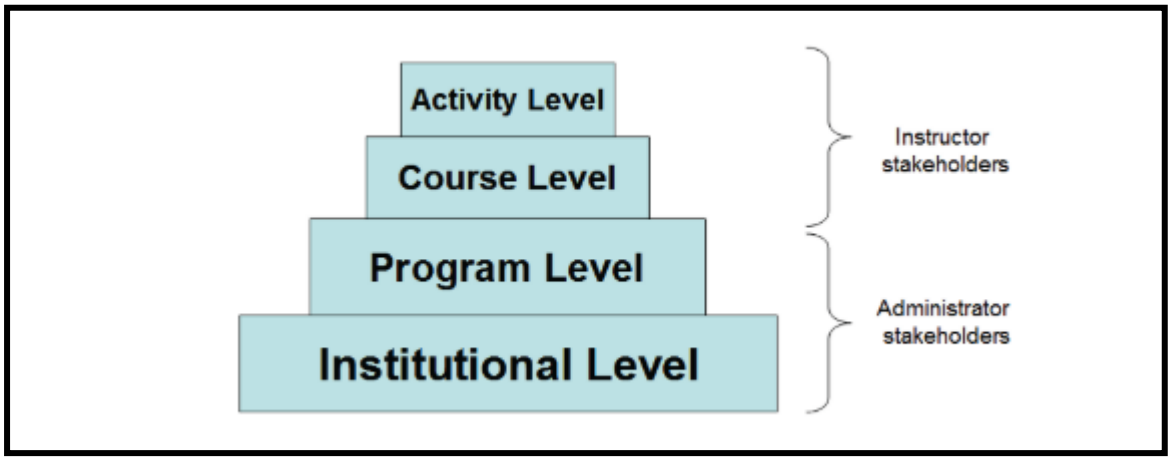


Figure 2.13: Different levels where blended learning can occur

Source: Graham (2009:376)

2.7.1 Activity Level Blending

BL at the activity level takes place when learning activity encompasses both F2F and online or CM elements. Examples provided to explain the activity level are from Wisher (2006) who outlines military training events that incorporate F2F and virtual elements; and in HE, the use of technological tools, such as discussion forums, wikis, emails, and video-conferencing to create more authentic learning activities (Graham, 2006). Jung and Suzuki (2016) state in their study, that technology can be used to bring experts from a distance into the classroom through creating a simultaneous F2F and online activity/CM experience (Graham, 2006).

2.7.2 Course Level Blending

Course level blending is the most frequently used of all the levels of BL. This entails a combination of distinct F2F and online/CM activities used as part of a course offering (Graham, 2006). Some BL approaches engage students in different situations, while still supporting F2F and online/CM activities which are overlapping in time. Other BL approaches separate the time blocks so that they are sequenced chronologically but are not overlapped (Graham, 2006).

2.7.3 Programme Level Blending

The programme level blending often entails one or two models. The first, a model in which the students choose a mix between both F2F and online courses within the same programme and where students can choose a mix of the courses that are offered through different modalities, or the second, in which the combination between the two is prescribed by the programme and the students need to participate at different times and place settings (Caner, 2012:27; Graham, 2006). Ross and Gage (2006) posit that the programme level often occurs at a degree programme level within HE (Graham, 2006).

2.7.4 Institutional Level Blending

The fourth level of blending, institutional level blending, is where some institutions have made an organisational commitment in F2F and online/CM blending. Graham (2006) provides examples by scholars to explain institutional level blending: (1) Lindquist (2006) asserts that the University of Phoenix has adopted BL models where students have to attend F2F classroom activities at the beginning and end of the course with online/CM activities in between, (2) whereas Dziuban *et al.* (2006) express that the University of Florida has created the “M course” designation for BL courses where the students have some reduction in F2F seat time.

2.8 Categories of Blends

As there are many possibilities of blends in different contexts, Graham (2009:376) categorised this into three major categories, namely:

(1) Enabling blends. They focus on addressing issues of access and convenience. Enabling blends often use ICTs as a way to provide “equivalent” learning experiences to the predominant F2F modalities.

(2) Enhancing blends. These allow for incremental changes to the pedagogy. Enhancing blends are often categorised by the inclusion of supplemental

online resources and/or the implementation of online activities that are small in scope in comparison to the overall course.

(3) Transforming blends. Transforming blends allow for a considerable change in pedagogy that helps facilitate active learner construction of knowledge.

2.9 Design of Blended Learning Programmes

There are arguably differing views and opinions on the approach to BL design. Lam and Ng (2015:344) indicate that for BL to be successful it requires the careful planning of the blended approach from institutional, technological, strategies, pedagogical, interface design, management, evaluation, resource support, and ethical perspectives for quality teaching and learning to take place in HEIs. With the various models of BL, it is important that the programme designers or programme developers use the correct mix of the two environments, F2F and online, in facilitating the programme content as well as the effective use of ICT and appropriate learning activities. Garrison and Vaughan (2008:105) state that BL is not conducive to a prescriptive instructional design template. The authors state that one must consider the particular goals, the audience, the context of the programme and that the design must also be flexible in coping with changing needs. They provide further guidelines on redesigning a programme which has been previously developed for classroom use only. These guidelines are: (1) reconceptualise and redesign the entire programme; (2) manage the volume of content as too much content can become a barrier to deep and meaningful learning; (3) create a community of inquiry that capitalises on higher-order learning experience and the properties of ICT to support interaction and discourse (Garrison & Vaughan, 2011).

According to McGee and Reis (2012:10 & 17), in a descriptive study, they collected and analysed 67 “best” and “effective” practices in BL programme design to determine commonalities among practices and found that a loosely articulated design process allows for variability and flexibility in the design of blended programmes. They further found that instructional design considered the student, learning outcomes, the content of the programme, instructional strategies, and

results of instructional interventions. However, the designing of a BL programme is still reliant on the interpretation and beliefs of the designer and it, therefore, becomes an act of compromise and balance with respect to the various components.

Owston *et al.* (2019:30) posit that BL programme designers are often faced with three unique dilemmas: (1) what learning activities are suitable for online and F2F components; (2) what the relationship is between the online and F2F components; and (3) how programme time is distributed between the online and F2F components of the programme. They express that student perceptions and performance appear to be higher when at least one-third to one-half of normal F2F time is replaced with online activities (Owston & York, 2018:31). The planning of the portion for online components needs to be done in such a way that opportunities for rich, meaningful interactions are central. These activities must be designed so that they promote student-to-student and instructor-to-student interactions. McGee and Reis (2012:13 & 17) attest in their study that it is pivotal that both varied interactivity and prompt feedback are key to SE in blended programmes, and that the instructor is continuously involved online with students throughout the duration of the programme. They also state that continuous human interaction is probably not always what most students or instructors expect or want.

Wong's (2017:108–111) research approach focused on blended teaching rather than BL, exploring the potential of blended pedagogy in guiding HE lecturers to design and teach blended programmes. His study addressed three considerations, namely:

(1) Contextual consideration deals with topic and subject suitability for blending, learner challenges and available scaffolds, and models of blending that may or may not work across different instructional settings.

(2) Instructional strategy and teaching consideration. The incorporation of the right mix of learner-centred and collaborative activities that are supported by BL and educating lecturers about their new roles in teaching BL programmes.

(3) Technology consideration which is related to appropriate blending modes and resources that best support a chosen instructional strategy, and making sure lecturers make such matches on the basis of pedagogy, and not technology.

With the purpose of context in mind, Carman (2002:2–6, 2005:2–6) recommends five key ingredients for BL design based on learning theories of cognitivism, constructivism and performance support by theorists Bloom, Gagné, Clark, Merrill, Keller, Gery Piaget and Vygotsky (Figure 2.14).

(1) Live events. Synchronous, instructor-led learning events in which all learners participate at the same time. An example of such a live event could be where a learner participates with an instructor in a live "virtual classroom". The live events should be engaging for them to be effective.

(2) Self-paced learning/online content. Self-paced learning, or asynchronous learning, is when the learner completes the learning experience on their own, at their own pace and in their own time. This can add significant value to the BL experience, but it must be based on the effective implementation of instructional design principles.

(3) Collaboration. The environments where learner participants communicate with each other e.g. where collaboration could take place, are discussion forums, online chat, or wikis.

(4) Assessments. Assessments are used to measure learners' knowledge. Pre-assessments can be used before live or self-paced events to determine the learners' prior knowledge. Post-assessments can occur after live or self-paced learning events, to measure the knowledge acquired by learners.

(5) Performance support materials are on-the-job reference materials that enhance learning retention and transfer. According to Carman, this is probably the most important ingredient of BL as it promotes learning

retention and transfer. Examples include printable references, personal digital assistant downloads, summaries, and job aids.

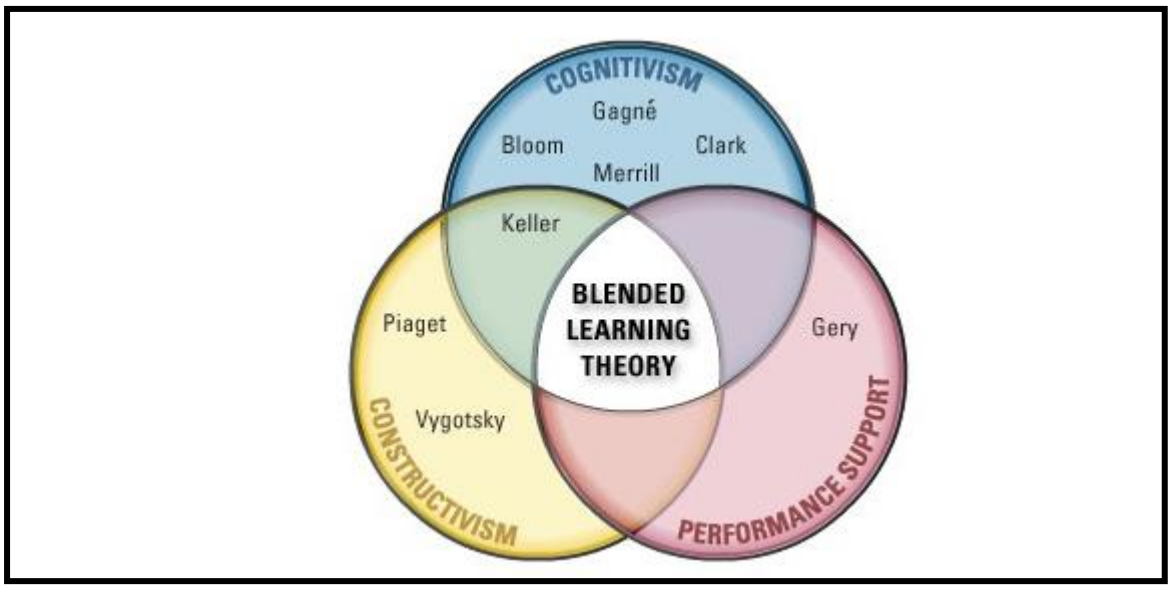


Figure 2.14: A blend of learning theories

Source: Carman (2002:2)

The five key ingredients that are important elements of the BL process and which are needed for a successful BL experience are (Figure 2.15):

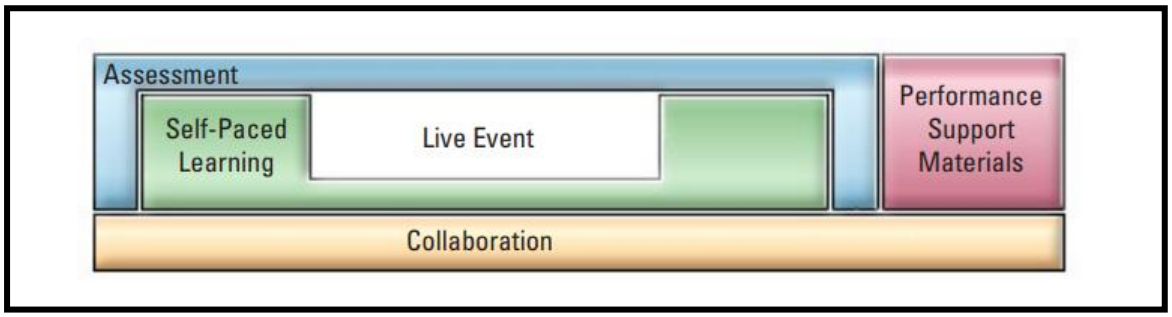


Figure 2.15: Five ingredients for blended learning

Source: Carman (2002:3)

When the key ingredients are fulfilled to provide students with a more rapid and wider perspective of a BL programme content through its two modes of learning, effectiveness is expected in terms of its “flexibility, interaction, learning process, learning climate and engagement”, which are considered the key benefits and

challenges in implementing a BL programme (Vanichvasin, 2018:59). During a study by Vanichvasin (2018:59) the research findings show that a well-blended learning programme that has implemented the five key elements influencing BL can be integrated with widely and extensively used technology as part of the teaching and learning process to positively improve student learning. Kiviniemi (2014:6) concurs with Vanichvasin in his findings stating that a well implemented BL approach may have strong potential for improving student learning outcomes.

Matukhin and Zhitkova (2015:187–188) provide three conditions for quality education when designing a BL programme. The conditions that need to be met are:

(1) Organise the effective interaction of an instructor and a student at all stages of the teaching and learning process, as planning, creation of conditions, training, assessment and correction require the collaboration of the instructor and the student.

(2) Pay special attention to the development and maintenance of students' sustainable motivation and mastering reflection skills. Reflexive activity allows the student to analyse the course of academic activity and its results, and the presence of an incentive is a prerequisite for effective education.

(3) Provide independent educational and cognitive activity for students, since in the frame of the modern educational technology self-study plays a large part in the learning process.

Nevertheless, with the design of BL environments, four key challenges may occur as stated by Boelens, De Wever and Voet (2017:1–4). These challenges are:

(1) Incorporating flexibility. The challenge of incorporating flexibility looks at how flexibility should be incorporated in a BL environment and the amount of flexibility that would be desirable during the design of a BL environment.

(2) Stimulating interaction. With stimulating interaction the challenge revolves around how instructors should facilitate interaction in a BL environment. Boelens *et al.* (2017:4) state that when the transactional distance is high, then instructors can't immediately notice when students encounter any problems or instructors will not have an efficient grasp of what students have actually learned (Kaur, 2013:616). Students have also reported that they do not want to lose the social interaction and human touch they are acquainted within a F2F environment.

(3) Facilitating students' learning processes. In BL environments self-regulation is a critical factor for success, in particular organisation, discipline, time management, skills using LMS technology to support learning, and self-efficacy (Shea & Bidjerano, 2010:1727) to exercise control over students' own learning. This challenge, therefore, focuses on how to facilitate students' learning processes in BL environments.

(4) Fostering an affective learning climate. The fourth challenge, when designing a BL environment, relates to fostering an affective learning climate which makes students feel safe, accepted and valued and also promotes a positive attitude towards the programme and the instructor.

Another author, Hofmann (2011b:12–13) addresses additional challenges that designers need to deal with which she has categorised into three areas; namely: (1) technical, (2) organisational and (3) instructional design. Hofmann (2014:6–15) further offers solutions in her 2014 article, *Solutions to the Top 10 Challenges of Blended learning* to the ten challenges mentioned in her 2011 article.

(1) Technical challenges are not about getting the technology to work on networks but rather, they consist of ensuring the success of the programme by utilising and supporting appropriate technologies. Technical challenges include:

(1.1) Ensuring participants can successfully use the technology. To minimise the impact of technology on students that are novice

computer users, it can be introduced systematically to students using the simplest technology possible in making one's point.

(1.2) Resisting the urge to use technology simply because it is available. HEIs often want to implement technologies because they want to rush their returns on investment, but they need to resist the temptation to redesign all of their current programme content to the latest LMS. Designers need to start with smaller initiatives, and once technology works, they then need to build on that success.

(2) Organisational challenges. Management often agrees that BL is the correct direction for training initiatives, but it fails to understand that this is a complex process that needs to be thought through beyond an individual programme. Organisational challenges include:

(2.1) Overcoming the idea that BL is not as effective as traditional classroom training. Student orientation is the key to overcoming obstacles by the students and facilitators/instructors/lecturers on how to implement and use the LMS technology. Introductory F2F meetings are often implemented to provide students with organisational information, to clarify expectations, and to explain the technologies which were used (Boelens *et al.*, 2017:11; Rovai, 2003:11). According to Cassidy (2018:56) good practice in orientation programmes encompasses strategies that help students establish "peer support networks, facilitate access to academic staff, create a sense of inclusion, and nurture engagement".

(2.2) Redefining the role of the facilitator/instructor/lecturer. The facilitators/ instructors/lecturers need to immerse themselves in a BL programme so that they fully understand the student's experience. A team-teaching approach can help to maintain energy and interest and ensure all details are addressed.

(2.3) Providing informal learning spaces for students on campus. Riddle and Souter (2012:5) argue that the challenge of designing spaces that are a good fit for the culture of an institution, learner-centred, and informed by sound pedagogy is one that all HEIs face. They further state that current practice too often ignores students' perspectives and reproduces a physical environment that is familiar but less conducive for active learning, peer learning, and learning supported by technologies that students prefer to use, or are used within the BL environment.

(3) Managing and monitoring participant progress. It is imperative for the institution to assess all components of a blend to ensure that they are completed, especially the optional activities. This can be done through assessments as the results can be monitored and tracked to ascertain that all requirements have been met.

(4) Instructional design challenges. When learning technologies are introduced, attention is often paid to the technology implementation, while the design of the actual appropriate content is left with too little time and budget to create a successful programme. Instructional design challenges include:

(4.1) Looking at how to teach, not just what to teach. It is important to determine which aspects of the programme should be F2F or which should be collaborative.

(4.2) Matching the best delivery medium to the performance objectives. Instructional designers should go through a thorough evaluation to validate learning objectives and determine the appropriate assessment methodologies before determining how to deliver programme content for each learning objective.

(4.3) Keeping online offerings interactive rather than just "talking at" participants. For self-paced learning, designers need to consider a 12 to 20 minute maximum time period per topic or module. For virtual classroom interaction, the designer needs to find a way for students to complete an activity every 3-5 minutes.

(4.4) Ensuring participant commitment and follow-through with "non-live" elements. When designers create a blend they need to realistically look at the content in the context of the audience. If self-paced content is added to the blend the designer needs to add assessments that must be successfully completed before progressing to the next activity.

(4.5) Ensuring all the elements of the blend are coordinated. A visual programme map with a suggested schedule, for self-paced work, can assist students to organise themselves and plan ahead while completing a programme. This could include contact information for the facilitator/instructor/lecturer, technical support and frequently asked questions.

2.10 Advantages and Challenges of Blended Learning Pedagogy

Dr Agha Nuruzzaman, in his review of *The Pedagogy of Blended Learning: A Brief Review* (Nuruzzaman, 2016:129–131), listed from various scholars the advantages and challenges of using BL as a pedagogy in curriculum design (Table 2.6).

Table 2.6: Advantages and challenges of blended learning pedagogy

Advantages	**Challenges**
Blended instruction may enable educational institutions to maximise classroom space and/or reduce the number of overcrowded classrooms.	BL has a strong dependence on the technical resources — these tools need to be reliable, easy to use, and up to date in order to be used.
Blended instruction allows multiple classes to utilise one physical space, like computer labs.	IT literacy can serve as a significant barrier for students attempting to get access to the course materials, making the availability of high-quality technical support paramount.
Improvements in classroom utilisation have the potential to reduce direct instructional costs by 25.0 to 50.0%.	Adult learners returning to educational institutions may have questionable technical skills. In fact, about 50.0% of adults experience computer-related phobia.
The peak hours of classes can be controlled by blended courses and maximising the scant resources by increasing flexibility in scheduling.	Unpleasant side effects associated with technology may include strong, negative emotional states before or during the interaction.
Schools can also reap institutional savings. The cost of paper and photocopying is easily reduced. As all course documents, syllabi, lecture notes, assignment sheets and other hard copy handouts, are accessible to the students on the course website.	Frustration, confusion, anger, anxiety and similar emotional states associated with the interaction can adversely affect productivity, learning, social relationships and overall well-being.
Technology can be a tool to —free instructors from using class time to — “cover” content in the classroom.	Faculty members need to be aware that not all students have the same degree of technological expertise and must ensure that supports are in place to assist those who are novice e-learners. Students’ anxiety should be taken care of.
The physical classroom should be utilised in meaningful activities that benefit from F2F interaction between classmates and the instructor.	Support may be acquired for many facets of e-learning tasks such as posting discussion threads, uploading course materials, taking quizzes, accessing wikis, blogging and working together in virtual groups.

Advantages	Challenges
If a detailed ethical case study is made available online for students to read and research, class sessions can be utilised to present theoretical arguments by students for both sides of the issue. It could be in the form of group discussion, large or small, or even a debate.	Participating in a blended or hybrid course requires students to be self-motivated learners with effective time management skills. Students are responsible for the successful interactional classroom environment.
The expansion of blended course delivery has significantly helped parking problems on campuses.	A change from a lecture-orientated class to student-centred active learning can constitute a radical change for some students, especially older students unaccustomed to taking responsibility for their own learning.
Proponents of BL argue that incorporating the "asynchronous ICT" into HE courses serves to "facilitate a simultaneous independent and collaborative learning experience".	Faculty members resistant to online course delivery can often see the benefits of blended course delivery; however, moving a traditional course to a blended format requires careful consideration of educational objectives and methodologies.
Use of new communication technologies improve not only access to learning but it also energises students' attitudes towards learning.	In order to teach a successful blended programme, the instructor must invest a significant amount of time and effort into the redesign of the class.
Communication between lecturers and part-time students is also found to have improved. Students were able to evaluate their understanding of course material via the use of "computer-based qualitative and quantitative assessment modules" in a better way.	It has been observed that the use of lecture recording technologies can result in students falling behind on the material—in a study performed across four different universities, it was found that only half of the students watched the lecture videos on a regular basis, and nearly 40.0% of students watched several weeks' worth of videos in one sitting.
Students with special talent or interest can use educational technology to advance their skills or exceed grade restrictions. Some online institutions connect students with instructors via web conference technology to form a digital classroom involving the latest technology.	

Source: Adapted from Nuruzzaman (2016:129–131)

2.11 Relationship Between Learning Theories and Educational Technology

Learning theories are meant to explain and assist educators understand how people learn and they involve multiple disciplines, including "psychology, sociology, neuroscience, and of course, education" (Picciano, 2017:166). Theory, according to Picciano (2017:166) is defined as "a set of statements, principles, or ideas that relate to a particular subject" and "usually describes, explains, and/or predicts phenomena". With technology being an integral part of the BL method, lecturers need to know and understand the different learning theories as this will affect how they will approach teaching within one of the theoretical approaches. With the knowledge of alternative theoretical approaches, lecturers will be better equipped to fit the perceived needs of students with the appropriate theoretical approach and educational technology. Harasim (2017:4) states that lecturers need to understand the context of a learning theory to understand it as a product of the discourse of that time. Penprase (2018:221) adds that with the evolution of online learning new guidelines are needed to provide a theoretical basis for digital pedagogy.

Harasim (2017:4) notes that in Brent Wilson's article, *Thoughts on Theory in Educational Technology* he wrote:

> *Theory helps us formulate ideas; it informs the creative process. When we see the world differently, we act to make things different via the relationship between theory and design or between science and technology. Such relationships allow for new technology or conversely, '... a new technology spawns new theory*' (Wilson, 1997:23).

Theories for learning with emerging technology as postulated by Bates (2015:53–67) are: behaviourism, cognitivism, constructivism, and connectivism. A brief explanation will be provided for each of the listed learning theories including the OCLT. The purpose of briefly defining each theory is not to formulate argument or debate in advocating support or opposition in the application of the learning theory,

nor to reiterate the broad spectrum of information by varied scholars. The illustration leans more towards expressing how the individual can relay the learning theory to educational technology. These learning theories are:

2.11.1 Behaviourism

Behaviourism refers to a psychological approach which emphasises scientific and objective methods of investigation. The approach is only concerned with observable stimulus-response behaviours, and states all behaviours are learned through the interaction with the environment (McLeod, 2017; Picciano, 2017:167). Picciano (2017:167) argues that the emphasis in behaviourism is on that which can be observed and not on the mind or cognitive processes. In behaviourism, technology is used to remedy identified weaknesses, promote fluency, and support practice through tutorials, drill and practice software, online worksheets, and other forms of computer-based learning (Moller, Jones & Shelton, 2004:53).

2.11.2 Cognitivism

This is the psychology of learning which emphasises human cognition or intelligence as a special endowment enabling one to form hypothesis and develop intellectually. Cognitivism involves how we think and gain knowledge. It involves examining learning processes, memory, problem-solving skills, and intelligence (Kapoun, 2015:279-280), motivation and imagination (Picciano, 2017:167) as critical elements of learning that bridge environmental stimuli and student responses (Picciano, 2017:168). According to Harasim (2017:11) and Picciano (2017:168) cognitivism is concerned with technology that could model the mind and represent knowledge, and cognitive scientists sought to develop educational technologies such as intelligent tutoring systems (ITS) and Artificial Intelligence (AI), in an attempt to mimic or replicate the human mind through computer programmes.

2.11.2.1 Cognitivist Learning Theory

Cognitivist learning theory is the most widely used theory of cognitivism in education which is based on Bloom's taxonomies of learning objectives which are related to the development of different types of learning skills or ways of learning (Bates, 2015:56). Bloom claims that there are three important domains of learning, namely: cognitive (thinking), affective (feeling), and psycho-motor (doing). Anderson and Krathwohl (2001) adapted Bloom's original taxonomy as seen in Figure 2.16.

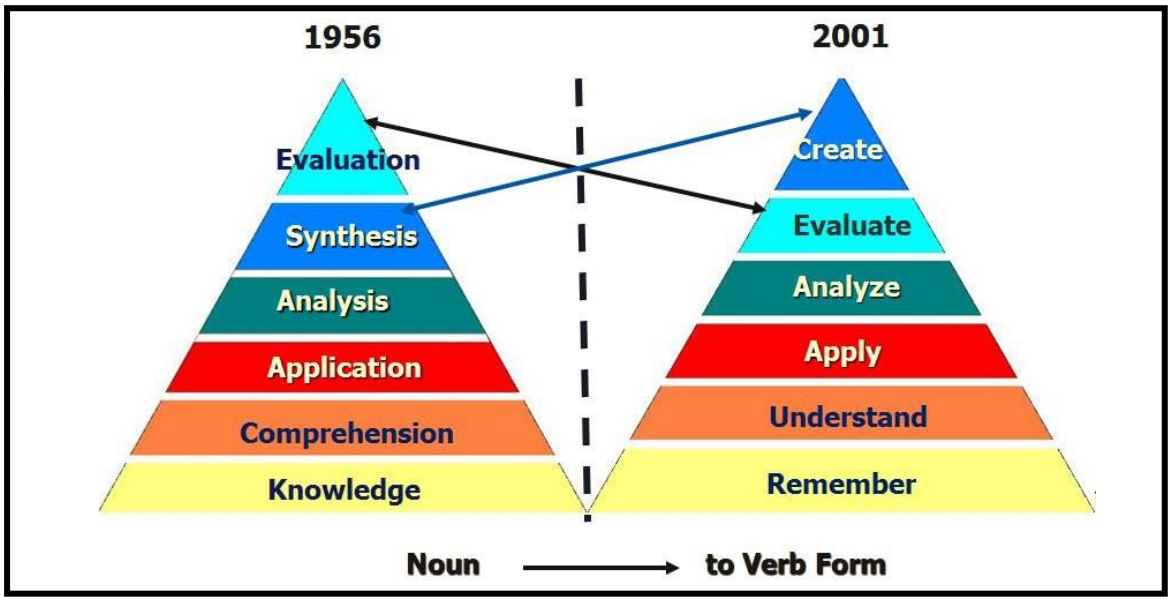


Figure 2.16: Bloom's Taxonomy revised by Anderson and Krathwohl (2001)

Source: Wilson (2016)

2.11.2.2 Social Cognitive Theory (SCT).

The SCT used in psychology, education and communication is derived from constructing meaning and knowledge from social influences (Koch, n.d.). The theory provides a framework for understanding how people actively shape and are shaped by their surroundings (Vinney, 2019). According to Koch (2009), and Pajares, Prestin, Chen and Nabi (2009:284) SCT thrives on the advancement of technology. SCT draws on both "cognitive" and "behaviour" influences and benefits from the use of technology (Koch, n.d.). Social and technological changes alter the kinds of life events that become customary in the society. Many of the major changes in social and economic life are ushered in by innovations of technology (Bandura, 1989:5). Technology provides new and innovative methods to create social learning

environments for students to use (Koch, n.d.). Koch (2009) further states that learning occurs continually through social interactions and influences from the media, community and the Internet.

2.11.2.3 Social Approaches to Learning

Four social approaches to learning will be discussed, namely: Situated Cognition developed in the late 1980s by Browns, Collins and Duguid (Barkhurst, Brush, Szeto & Wong, 2011a); Distributed Cognition developed by Hutchins (Barkhurst, Brush, Szeto & Wong, 2011b); Activity Theory developed by Vygotsky and Leont'ev in the 1920s and then adapted by Engeström (Wheeler, 2014, 2018); and Social-Shared Cognition (Doak, 2009).

(1) Situated Cognition (SCog) relies on realistic problem-solving scenarios where students participate in contextually relevant learning environments where they discover and apply new information, solve problems, gain access to expert perspectives, participate, and practice (Moller *et al.*, 2004:54). Demetria (2004:54) suggests that the elements of SCog are authentic content, activities, and assessment; observations of multiple roles and perspectives; collaborative knowledge construction; reflection, articulation, and scaffolding. Doak (2009) states that technology creates the learning environment that helps to bring about cognition. Myers and Wilson (2000:71) posit that the tools and constructed environments using technology constitute the "mediums, forms, or worlds through which cognition takes place. Problem-solving involves reasoning about purposes in relationship to the resources and tools which a situation affords".

(2) Distributed Cognition (DCog) is a SCL approach where the learner partakes in a systematic designed learning environment that supports interaction and reciprocal process amongst its participants. This theory promotes learning in a community or a system where interaction between learners occurs (Doak, 2009). Doak (2009) further indicates that the role of technology with DCog is an invaluable part of the system in which learners are interacting. The interaction can either help distribute learners' knowledge, off-load

certain amounts of cognitive work making cognitive lead less and/or help to scaffold new capabilities.

(3) Activity Theory**.** According to Barkhurst *et al.* (2011c) the Activity Theory is a research framework based on the premise that all human activity is guided by motive and is inseparable from context. "Individuals are inherently linked to cultural contexts by social interactions and, consequently, any individual knowledge formed through social interactions is interconnected in part with the culture of the individual" (Barkhurst *et al.,* 2011c). Activity Theory is about "transformation, innovation, and new forms of activity that break with historical, social, and cultural traditions" (Murphy & Rodríguez-Manzanares, 2014:45). Engeström introduced another dimension to Vygotsky's Activity Theory of a community which brings into focus two new relationships, namely, rules mediating between the subject and the community and division of labour; and mediating between the object and the community (Figure 2.17) (Appiah & Cronjé, 2013:16)**.** Within the theory, tools can be referred synonymously with ICT, as an example shown in Figure 2.18 in a study by Appiah and Cronjé (2013:15-22) *Exploring Information and Communication Theory in Graphic Design Education with Activity Theory* where the use of the Activity Theory was utilised in analysing the current challenges in the pedagogy of ideation in graphic design.

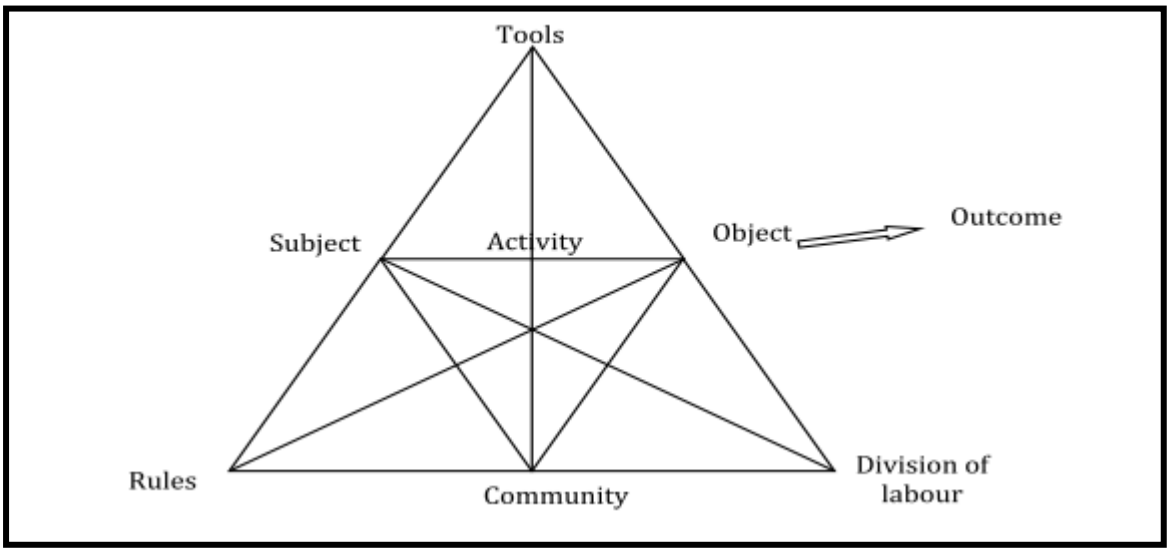


Figure 2.17: Activity Theory by Engeström

Source: Appiah and Cronjé (2013:16)

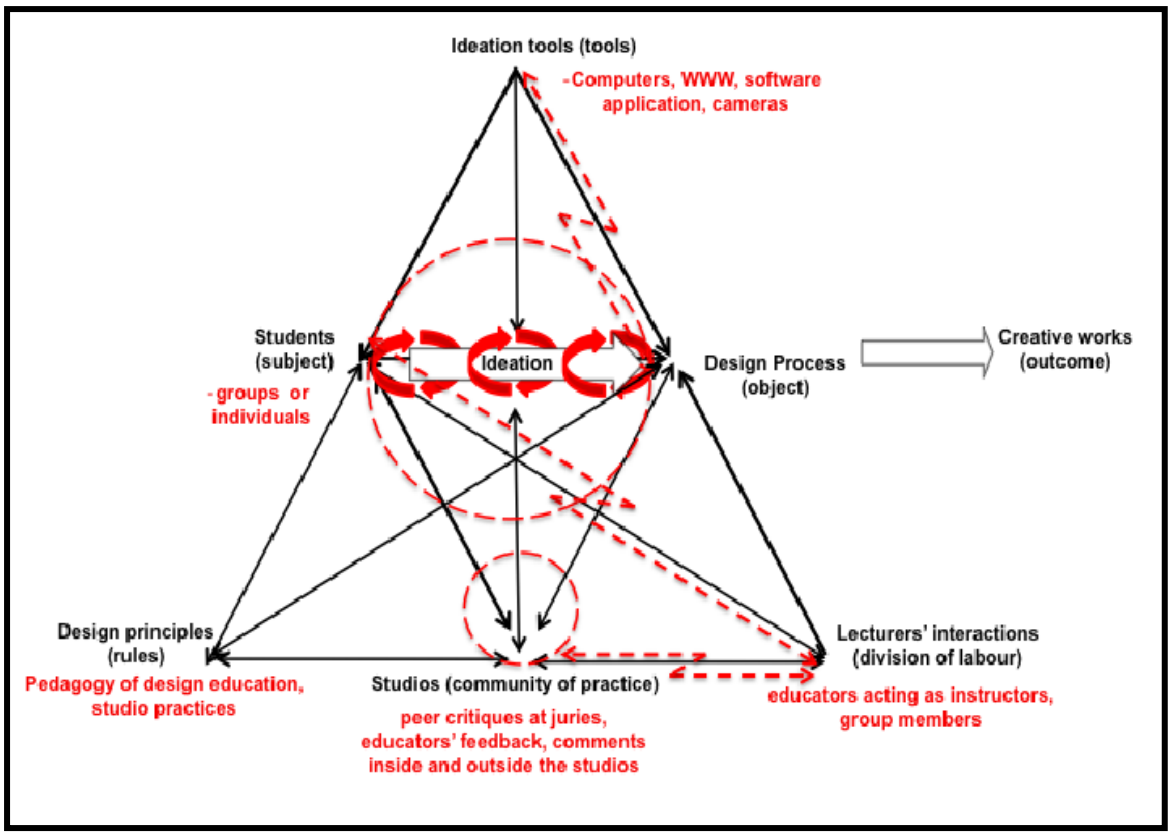


Figure 2.18: Model of pedagogy of information and communication technology with design in Activity Theory without contradictions

Source: Appiah and Cronjé (2013:20)

(4) Socially-Shared Cognition (SSCog). In SSCog learners are participants in a community where the cognition is shared between the participants, the artifacts and tools they are using and the social institutions in which the learning occurs (Brown & Cole, 2000). The learners are required to be active participants in order for cognition to occur. Technology helps to share the cognition in the community of learning, e.g. games (Doak, 2009).

SCog, DCog and SSCog theories all support the skills needed by the 21st century as learners who are placed into a learning environment, using technology, would also be using their "knowledge and skills - by thinking critically, applying knowledge to new situations, analysing information, comprehending new ideas, communicating, collaborating, solving problems, making decisions" (Culp, Honey & Mandinach, 2005:280).

2.11.3 Constructivism

Constructivism posits that learning is an active, constructive process whereby the learner is an information constructor constructing or creating their own subjective representation of objective reality. The new information constructed is linked to prior knowledge, thus mental representations are subjective (Learning Theories, 2019). According to Demetria (2004:53) technology (simulations, applications software, multimedia, constructive and informative software tools) is used to facilitate metacognitive skills, emphasise transfer, create group projects and presentations, highlight the contributions and talents of diverse learners, and explore the relationships between data. Demetria (2004:52) posits that three learning theories of constructivism, namely cognitive, social and radical constructivism are emerging.

(1) Cognitive Constructivism. This is based on information processing and the ability to reconstruct external reality. Knowledge construction is highly technical and relies on the learner's ability to create appropriate and accurate mental structures. Aspects pertaining to Cognitive Construction have contributed beneficially to understanding learning and instruction and to creating useful instructional aids: concept maps, problem-solving strategies, advanced organisers, and reading strategies.

(2) Social Constructivism. Hung (2001:283) and Child, Estatiev, Hetherington, Jugo, Richardson and Walton (2015:148) state that the Social Constructivist paradigm views knowledge where meanings are socially or collaboratively constructed and based on cultural perceptions. Demetria (2004:52) further states that the acquisition of knowledge is not an exclusively individual process, but an interactive exchange of peer-to-peer interaction which results in shared meaning. Sharaim and Khailf, in an article written by Tawil (2018:53), posit that new technology platforms provide for an array of socialisation spaces where learners can exchange ideas and can collaborate in completing tasks. Scaffolds are used to allow learners to bridge the gap between current and future knowledge.

(3) Radical Constructivism. With Radical Constructivism, knowledge is internal to the learner and varies from learner to learner and is not based on a universal truth or accurate replication of external phenomenon (Demetria, 2004:52).

2.11.4 The Theory of Multiple Intelligences

Howard Gardener's Theory of multi-intelligences is an extension of constructivist thought and comprises of eight different types of intelligence, namely: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, intrapersonal, interpersonal, and naturalist. Student learning relies on activities and authentic assessments that capitalise on these innate abilities (Demetria, 2004:52).

2.11.5 Humanism

Humanism is based on the belief that the individual is self-determined and plays an active role in deciding what they should be allowed to lean and therefore is free to make their own choices (Bates, 2019:59). According to Ivanišin (2008:527, 2009:278) the technology used must be understood by the learner and be easy to use, and should be reflective in nature. The learner will understand how they learn and will be able to improve their learning only if they can reflect on the technology used.

With cognitive, social, and radical constructivism, multiple intelligences, and situated cognition learning theories, learners use technology (hypertext and hypermedia, bulletin boards, chats, computer-supported intentional learning environments, and CM environments) to gather information, conduct research, communicate, decompose problems, share documents, and participate in open-ended learning. Table 2.7 illustrates the summary of the behaviourism, cognitivism, constructivism, and social constructivism theories of learning.

Table 2.7: Summary of theories of learning

Learning theory	General orientations
Behaviourism	– Stimulus and response. – Students remember and respond. (Change in overt behaviour due to conditioning). – Educators present and provide for practice and feedback.
Cognitivism	– Information transmission and processing. – Students remember strategies, rules, and patterns. – Educators plan for cognitive learning strategies.
Constructivism	– Personal discovery of knowledge. – Students discover relationships between concepts. – Educators provide instructional context and guide students to discover.
Social Constructivism	– Learning is a social construction, mediated by different perspectives. – Through authentic projects, students discuss, negotiate and discover meanings. – Educators provide for facilitation and scaffolds among the students.

Source: Chen and Hung (2003:94)

Table 2.8 illustrates the different kinds of CM tools with the learning theory.

Table 2.8: Computer-mediated tools and learning theories

Learning Theories	Technology used	Examples
Behaviourism	Variety of drill and practice computer-based learning software.	**Individual instructive tools** Computer-based learning that drills students on multiplication and addition).
Cognitivism	Tutorials and information databases.	**Informative tools** Encyclopaedia and Internet resources.
Constructivism	Individual generic purpose tools.	**Individual constructive tools** Excel, Word and PowerPoint, simulations, hypertext and hypermedia, organisational tools.
Social constructivism	Collaborative generic environments.	**Social communicative/constructive tools** Emails, bulletin boards, knowledge co-construction/exchange forums, CM collaborative problem-solving environments.

Source. Chen and Hung (2003:96) and Hung (2001:285)

2.11.6 Connectivism

Siemens (2005) states that connectivism is a theory of learning in a digital age that emphasises the role of social and cultural context in how and where learning occurs within nebulous environments of shifting core elements and is not under the control of the individual. Connectivism is driven by knowing that decisions are based on rapidly altering foundations and that new information is continually being acquired. It provides insight into learning skills and tasks needed for learners to succeed in a digital era. Internet technologies include web browsers, email, wikis, online discussion forums, social networks, YouTube©, massive open online course (MOOC), and any other tool which enables learners to learn and share information with other learners.

2.11.7 Online Collaborative Learning Theory (OCLT).

Harasim (2017:12) affirms that the OCLT arose with the invention of computer networking and the Internet, and the concomitant socio-economic shift from the industrial society to the “Knowledge Age”. She suggests that like earlier learning theories, the OCLT builds upon preceding learning theories while expanding into

new directions in response to new societal and educational needs. The OCLT's process involves cooperative learning and construction of knowledge through convergent and divergent thinking. According to Bowman (2014:103) and Lyhour (2016) the nature of teaching and learning in the OCLT is attributed with the assistance of online technologies which is the key to understanding and engaging in the learning environment. There are two essential roles of online learning technology, namely technology as learning tool(s) and technology as learning environment:

(1) Technology as learning tools. This refers to web tools that can facilitate or enable tasks in a learning activity. These may be generic online learning tools such as search engines, emails, blogs, wikis, and podcast authorising tools to the web or education-specific tools such as sites that offer lesson plans; assessment information, tools or inventories; learner support or tutoring; online gradebooks; online quizzes; podcasts (Harasim, 2012).

(2) Technology as learning environment. This refers to web-based software that is designed to host or house the learning activities. Online learning environments are not just a channel for transmitting information, they are environments where users can construct knowledge and negotiate meaning through conversations and collaboration, not just by receiving communication (Harasim, 2012).

2.12 Next Generation Pedagogy for Online and Blended Higher Education

A five-part framework was developed by the Future of University Teaching: Update and a Roadmap for Advancement (FUTURA) project in collaboration with an eLearn Centre (Witthaus *et al.*, 2016:4) with the goal of providing a "roadmap" to inform strategic planning for the future of online and blended HE. The five-part framework acronym IDEAS indicates pedagogy as: Intelligent, Distributed, Engaging, Agile and Situated.

(1) Intelligent pedagogy refers to teaching in which technology is used to enhance the student's learning experience, informing educational decisions using learning analytics, teaching digital competencies to both lecturers and students, taking teaching and learning beyond LMS platforms, and creatively using technologies such as virtual and augmented reality for teaching and learning.

(2) Distributed pedagogy is an approach that refers to shared or distributed ownership of different elements of the learning journey by various stakeholders in the process. This includes, at the one end of the spectrum, collaborative partnerships between educational institutions, and at the other end, a deliberate separation of services to allow students to select different aspects of their learning experience from a marketplace of potentially competing providers. It is possible for a single educational institution to have offerings at both ends of this spectrum.

(3) Engaging pedagogy refers to curriculum design and delivery in which learners are encouraged to actively participate in the learning process. Related practices include supporting students to develop portfolios that have relevance for them in the workplace, involving the students in producing content both for peers and the wider public, and creating conditions in which students can construct knowledge. There is of increased importance for teaching enhancement programmes for lecturers in supporting them in making the learning experience engaging for students.

(4) Agile pedagogy. This refers to flexibility and customisation of the curriculum and the student learning experience. It includes personalised learning pathways and individualised support for students, RPL in order to widen participation and fast track students through programmes, responsiveness of educational institutions and systems to students' needs, and support for virtual mobility of students and internationalisation of the curriculum. All these developments also support the widening of participation in HE, thus facilitating access for students who might have been previously excluded.

(5) Situated pedagogy encompasses the idea of contextualisation of learning and emphasises the need for curricula with real-world relevance. It expands work-related learning opportunities for students and supports students in identifying and addressing "big issues" in industry, government, and society through project- and problem-based learning. In Situated Pedagogy, learning and assessments are contextualised according to students' personal and professional goals.

2.13 Blended Learning in Higher Education

For distinct reasons, it is only natural that we strive for progress and advancement in the search for innovative ways to simplify our lives (Mahesh, 2017). This too, within the HE sector, where we continuously seek to improve the manner in which teaching and learning occur. Hence, the adoption, incorporation and increased usage of BL as a teaching and learning approach within HE which is now becoming the "new normal" in programme delivery (Bonk & Graham, 2006; Bozalek, Ng'ambi & Gachago, 2013:421; Dziuban, Graham, Moskal, Norberg & Sicilia, 2018; Gruba, Cárdenas-Claros, Suvorov & Rick, 2016:ix; Mahesh, 2017; McGee & Reis, 2012; Norberg, Dziuban & Moskal, 2011:207; Singh, 2015). Studies by López-Pérez *et al.* (2011:824) and Boyle *et al.* (2003:169) found that the introduction of BL in HE programmes improved retention, reduced dropout rates, and correlated with improvements in students' attainment. Graham (2009:378) went as far as to predict that there may come a time when the traditional learning environment will become predominantly a BL environment.

With the current conditions that HE in South Africa is facing, a larger influx of students wants to attend HEIs to obtain a qualification. The S*tatistics on Post-School Education and Training in South Africa 2015* (Department of Higher Education and Training, 2017:2) states that by 2030 South African public and private HEIs could be expected to enrol approximately 1.6 million students as part of their National Development Plan (NDP). These large numbers of students need to be accommodated in HEIs (Balfour, Van Der Walt, Spamer & Tshivhase, 2015:2). To accommodate this large intake of students the DHET has encouraged HEIs to

expand online and BL as a way of offering their programmes (Department of Higher Education and Training, 2013a).

The chaos and disruptions experienced from 2015 to 2017 saw a substantial rise in ICTs as HEIs faced the #FeesMustFall campaign (Coughlan, 2016; Mahesh, 2017; Walji, 2017). Balfour, Van Der Walt, Spamer and Tshivhase (2015:2) state that these challenges have necessitated the large scale introduction of innovative teaching and learning strategies. Mahesh (2017) further wrote that the sudden closure of many of the HEIs meant that direct contact HEIs had to change their teaching and learning platforms to a much more digital framework. Those HEIs that had incorporated BL into their curricula could still maintain contact with their students ensuring that students did not fall behind and could, therefore, complete their academic year (Coughlan, 2016).

Various educational specialists were asked for predictions on educational trends for 2018 (Haselau, 2017). Their answers were as follows: Anthony Hodge, an instructional designer, predicted for 2018 that more HEIs would begin to offer online learning programmes to mitigate the impact of protests on studies and possibly to provide a lower-cost alternative to in-house programmes. Marilette van der Colff, lead content specialist at EDGE Learning Media for Humanities, Media and Management Studies, said that EDGE was definitely geared towards a BL experience in catering for students who had access to state-of-the-art equipment as well as those who don't. Amy Duncan, head of instructional design for Team Lead, emphasises the role that neuroscience has to play in education and BL environments. Lastly, Widad Sirkhotte states that HEIs are planning to shift their traditional classroom-based programmes to online platforms due to political and financial factors.

An article on the 4IR written in the *Mail & Guardian* by Professor Alwyn Louw (Louw, 2018) highlights the importance for HEIs to "deliver on their evolving responsibilities to produce graduates who are fully equipped to function optimally in an environment where the keys of success are an ability to learn continuously, adapt quickly and apply rapid technology changes focused on creativity, problem-solving, innovation and appropriate human-centred skills". He further states that HEIs need to adapt

themselves to ensure their relevance, value and sustainability with a focus on "quality, personalised education, characterised by extensive curricula that integrate theory and practical application, and are delivered at scale through world-class technology". He deftly cites that "new generation universities" will be required to address the reduction of "socioeconomic imbalances, and the production of socially-minded future business leaders, entrepreneurs, politicians and civic champions". This all while being faced with challenges of costs that are rising exponentially and the increased demand for education.

DHET Minister Naledi Pandor (Gerber, 2018), during her budget speech, outlines the importance for DHET to devote attention to the challenges faced by itself and universities, colleges and CET in adapting themselves for the 4IR. She remarked that she intended on setting up a multi-sectoral task team to investigate what is done in research, teaching and outreach and how emerging technologies are being utilised to enhance the capabilities of the HE sector. She added that it was high on her agenda to provide the infrastructure to bring colleges up to speed so that they can respond to the demands of new technology (Naidu, 2018). In her speech, she further remarked that "We're in the age of the pervasive influence of emerging technologies and artificial intelligence and need responsive skills and development research focus and investment to benefit in full", not only for the scientific domain but also in society (Gerber, 2018). Karodia (2019) agrees that AI will undoubtably change the world of work where certain jobs will become obsolete, new roles and jobs will be created, hence HEIs need to delve more into technology to provide students with the right set of tools.

Though the business of HE remains unchanged in many instances, where students still assemble at a scheduled time and venue to listen to the wisdom of lecturers (Xing & Marwala, 2017), given the 4IR, a new generation of HE is emerging through the use of technology that does research, teaching and service in a different manner.

2.14 Student Engagement in Higher Education

Research into student learning in general and student achievement of intended learning outcomes has identified a number of prerequisites for achievement. One of the identified prerequisites for student achievement is SE (Martin & Bolliger, 2018; Wang, 2017:79). Wong and Ng (2018:802) state that for effective and efficient learning to take place, it is essential for SE. Montgomery *et al.* (2015:658) concur with Wong and Ng indicating that SE is perhaps the single most important factor in determining successful learning for HE students no matter which programme or instructional format is being used.

The American psychologist Ralph Tyler was one of the first to focus on SE with his work in 1930 reporting the positive effects of time on the task of learning. In the 1970s C. Robert Pace developed "The College Student Experiences Questionnaire" which focused on what he termed "quality of effort" (Groccia, 2018:11). SE has received considerable attention in literature since the mid-1990s, with Astin's 1984 paper *Student involvement: A developmental theory for higher education* in which he defined student involvement as the quantity and quality of physical and psychological energy a student invests in their HE experience (Astin, 1984:297). Harris (2008:58) states that many academics view engagement as a multidimensional construct.

2.14.1 Student Engagement as a Multidimensional Construct

Dunne and Owen (2013:xv) postulate that ***SE*** is a broad concept that is often associated with or linked to *student participation* (Cheng & Chau, 2016:274; Silverman, Sarvenaz & Stiles, 2009), *commitment* (Doğan, 2015; GuildHE, 2014:6), *involvement* (Astin, 1984; Fletcher, 2005; GuildHE, 2014:16), *time on task/engaged time* (Bowyer & Chambers, 2017:17; Brewster & Fager, 2000:4; Prater, 1992), *effort* (Brewster & Fager, 2000:7), or *motivation* (Bryson, 2014; Cheng & Chau, 2016; Doğan, 2015; Schunk & Mullen, 2012). They further state that it is also often linked to *instructional strategies and interventions, student satisfactio*n (Bowyer & Chambers, 2017:23; Bryson, 2014:19; Pickering & Swinnerton, 2018:8; Strydom,

2017:2), to *pre-induction, induction and transition programmes* (GuildHE, 2014:24), *continuation, progress* (Strydom, 2017:12), and *completion* (Doğan, 2015:554).

In their study, Schreiber and Yu (2016:157–158) link SE to *academic success* (Bryson, 2014:19; Harrington, Sinfield & Burns, 2016; Kuh, Ikenberry, Jankowski, Cain, Ewell, Hutchings & Kinzie, 2015:ix; Strydom, 2017:1; Tinto, 2014:9), *persistence* (Tinto & Pusser, 2006:1) and *retention* (Bryson, 2014:19; Harper & Quaye, 2009:3–4; Harrington *et al.*, 2016; Schreiber & Yu, 2016:158; Strydom, 2017:12; Thomas & Jamieson-ball, 2011; Tinto, 2014:9). SE has further links to *curriculum design* (Bovill, 2010; Fletcher, 2005:12) and claims made by Laird and Kuh (2005) state that SE can be promoted by the *inclusion of technology* used in BL (Department of Higher Education and Training, 2013a:50; Eryilmaz, 2015:251; Pickering & Swinnerton, 2018:1; Vaughan, 2014:247); as well as by the nature of *assessment feedback* communicated to students. Wawrzynski, Heck & Remley (2012:106) links *student experience* (Council on Higher Education, 2019) in their study of SE with *interest in time devoted to co-curricular activities*. Fletcher (2005:4 & 12) associates SE with *empowering students* in becoming more involved in the curriculum design, *classroom management* as well as *activities* that build on their *experiences*, *education*, *ideas* and *opinions*. Trowler and Trowler (2010:9) indicate that there is a correlation between engagement and improvements in specific outcomes with general abilities and critical thinking, cognitive development, self-esteem, and moral and ethical development of students. Lastly, Wawrzynski *et al.* (2012:106) assert in their study with numerous citations that the relationship between SE and student outcome achievement (Bowyer & Chambers, 2017:17; Harper & Quaye, 2009:3) is well documented in HE literature.

The multifaceted nature of engagement, by Fredricks, Blumenfeld and Paris (2004:60), categorised the 44 engagement studies (Harris, 2008:58) into *behavioural*, *emotional* and *cognitive*. Behavioural engagement refers to the participation of students in academic, social and extracurricular activities. This is crucial for achieving positive academic outcomes and preventing dropping out from the programme. Emotional engagement indicates the positive and negative feelings or reactions towards the lecturer, fellow students, HEI, and academics. It is presumed to create links to the institution and influence willingness to complete the

work. Lastly, cognitive engagement ties in with the investment that students make in their learning in a focused, strategic, and self-regulated manner (Table 2.9) (Fredricks *et al.*, 2004; Harris, 2008; Trowler, 2010).

Table 2.9: Dimensions of student engagement-key concepts

Behavioural	Engagement is understood in terms of participation. It is evident in actions that may to lead to certain visible outcomes, e.g. completing tasks, acquiring skills.
Affective	Engagement is understood in terms of commitment, where schooling engages individuals' emotions, values and beliefs (such as enthusiasm, optimism and confidence) that inform their actions.
Cognitive	Engagement is understood in terms of investment, where tasks engage individuals' thought processes and intellect (such as analysis, synthesis and persistence) in ways that may have meaning and hold interest.

Source: Murray, Mitchell, Gale, Edwards and Zyngier (2004:4)

Trowler (2010a:9, b:5) proposes that each category poses both "positive" and "negative" poles which represent a form of engagement, separated by a gulf of non-engagement (withdrawal, or apathy); "positive" relating to being engaged and "negative" being disengaged (Chipchase *et al.*, 2017). She further states that the terms "positive" and "negative" do not denote judgement, but rather reflect the attitude implied in much of the literature that complies with expectations and norms indicating internalisation and approval, and is thus seen to be "productive, whereas behaviour that challenges, confronts or rejects can be disruptive, delaying or obstructive, thus seen to be counter-productive" (Trowler, 2010).

Table 2.10 illustrates how students can engage either "positively" or "negatively" along the three categories of behavioural, emotional, or cognitive dimensions. A student could engage "positively" along one or more dimensions while engaging "negatively" along another, or engaging "positively" or "negatively" along one or more while not engaging along any other(s) (Trowler, 2010:9).

Table 2.10: Examples of positive and negative engagement

	"Positive" engagement	**Non-engagement**	**"Negative" engagement**
Behavioural	Attends lectures, participates with enthusiasm.	Skips lectures without excuse.	Boycotts, protest or disrupts lectures.
Emotional	Interest	Boredom	Rejection
Cognitive	Meets or exceeds assignment requirements.	Assignments late, rushed or absent.	Redefines parameters of assignments.

Source: Trowler (2010)

2.14.2 Student Engagement Defined

There is an array of definitions on SE. Harrington, Sinfield and Burns (2016) state that SE is a broad and variously defined concept and collection of practices within HE with the definition depending on the position one occupies in the HE system as well as the researcher's motivating interests. Taylor and Parsons (2011:4) argue this point by stating that during their study in reviewing literature "engagement" was viewed from various aspects such as "academic, cognitive, institutional, emotional, behavioural, social, and psychological". They questioned whether a student needs to function in all the aforementioned arenas of engagement for successful learning to take place. Therefore, in order to isolate and provide focus to the interested spectrum of research, one would restrictively widen the latitude of the student's viewpoint solely to his/her narrative or perspective. Kuh's (2009:683) definition places SE into two parts:

> *the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities.*

Strydom, Basson and Mentz (2010:3) elaborate further on Kuh's (2009:683) definition as:

> *the amount of time and effort students spend on academic activities and other activities that lead to the experiences and outcomes that constitute student success* and *the ways in which institutions allocate resources and organise learning opportunities and services to induce students to participate in and benefit from such activities.*

Hu and Kuh (2001:3) define SE as:

> *the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes.*

Astin (1985) and Pace (1984) concur with Hu and Kuh (2001:3) that the individual's "quality of effort" plays a vital role in determining the extent and nature of the student's development and learning while attending an HEI. These viewpoints of SE relate to the constructivist approach to learning, in that students construct their own knowledge by relying on faculty members and the institution to create a suitable innovative learning environment (Pickering & Swinnerton, 2018:2).

According to Trowler (2010:7), engagement is more than just involvement or participation. Engagement requires "feelings and sense-making as well as activity". The important factor is that for students to learn and develop will be dependent on the extent of engagement with academic activities. Therefore low engagement with academic activities is considered as the main reason for students' dissatisfaction, negative experience, and dropping out from their studies (Delialioğlu, 2012:310). Krause and Coates (2008:493) emphasise that SE evolves from the relationship between the student and the HEI's activities and conditions.

Newmann, Wehlage and Lamborn (1992:12-13) provide a comprehensive definition of SE as the:

> *student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote.*

Their definition asserts that students should not only commit to completing tasks and activities to acquire grades or for social approval which would involve meaningless rituals, mechanistic reproduction of knowledge, and trivial forms of learning that offer little or no opportunity for higher-order learning and critical thinking, but they should rather have the willingness to actually invest in mastering, comprehending, or learning knowledge and skills.

Coates (2007:122) describes engagement, through the interpretation of the National Survey of Student Engagement (NSSE) (National Survey of Student Engagement, 2003:11), as encompassing five key clusters of activities, namely: (1) active and collaborative learning, (2) participation in challenging academic activities, (3) formative communication with academic staff, (4) involvement in enriching educational experiences, and (5) feeling legitimated and supported by HEI learning communities. The explicit implication from the list indicates that engagement is a wider constituent which is earmarked to include dominant academic and partially non-academic facets of the student's experience. Axelson and Flick (2010:38) define SE as:

> *how involved or interested students appear to be in their learning and how connected they are to their classes, their institution, and each other.*

The definition by Axelson and Flick lacks the necessary economy and concrete stability to sustain firm reliability and certainty through their usage of the word "appear" which implies that students are not entirely present in their functional capabilities to achieve the objective sought within their environment.

Barkley (2010:8) in her book, *Student Engagement Techniques: A Handbook for College Faculty* proposes the definition for SE as:

> *a process and product that is experienced on a continuum and results from the synergistic interaction between motivation and active learning.*

Her proposed understanding of SE is in a form of a double-helix in which "motivation" and "active learning" are intertwined and work together synergistically. Additionally, three conditions that are needed to promote the synergy are: designing appropriate challenging tasks, building community, and teaching for holistic learning (Barkley, 2018:55). She even makes use of strong descriptive words in her book, such as "passion" and "excitement" to describe SE (Barkley, 2010:5). Although her definition is to help college teachers engage with students in today's HE environment, her definition provides only a one-dimensional perspective of SE.

Trowler (2010:3), in her review of the literature on SE from countries such as Australia, New Zealand, United States of America, Canada, China, UK and South Africa, developed her own definition of SE:

> *Student engagement is concerned with the investment of time, effort and other relevant resources by both students and their institutions intended to optimise the student experience and enhance the learning outcomes and development of students and the performance, and reputation of the institution.*

Looking at the various perspectives on SE, according to Zepke and Leach (2010), allow a multifaceted lens to be placed on SE. This study will make use of Trowler's (Trowler, 2010) definition of SE.

SE has always been a topic of discussion and research in HE amongst scholars and lecturers aiming to enhance teaching and learning. SE data has the potential to provide HEIs with an overview of what is happening in the HE sector with regard to students' educational behaviours, enabling HE to adapt and to ensure the quality

of HE so that students can succeed in acquiring their HE qualification. This includes: "to ensure quality education; to benchmark between institutions; and to generate targeted, systematic interventions based on the diagnostic results of the student engagement data" (Strydom & Foxcroft, 2017:27).

Krause (2005:3), outlined during a symposium on "Sharing Scholarship in Learning and Teaching: Engaging Students" that with mass HE, HEIs are being characterised by a variety of diversity, which includes a diversity of ability, age groups and educational backgrounds. It is further outlined that HEIs are eager to understand how they can engage students from diverse backgrounds and with diverse needs. Associated to this, HEIs have placed a concerted effort on enhancing access to and monitoring the experience of under-represented and disadvantaged students in HE. Kuh (2009:685) argues that engagement has a compensatory effect on student's grades and persistence for students who need a boost their performance because they are not sufficiently prepared academically for HE. Kuh (2008:22) further points out that engaging in educationally purposeful activities helps level the playing field for students from low-income family backgrounds and others who have been historically disadvantaged. This constant challenge still remains focused on how HEIs can engage with students for whom the HEI and its culture is often foreign in nature. Krause (2005:3) provides a solution in that the assistance of ICTs, can play a significant role in shaping our approach about using ICTs as an option for SE. Green, Whitburn, Zacharias, Byrne and Hughes (2017:472) affirm that the use of ICTs in BL creates a rich and engaging experience for students by incorporating the best of both F2F and online learning. Consequently, measuring and improving SE can also be an advantage for HEIs for attracting and retaining students, satisfying and developing them and finally graduating them to become successful and productive citizens (Trowler, 2010:2).

Many scholars have looked at particular tools and technologies to assist and improve SE. Technologies such as LMS used in BL are at the forefront of the technology movement in improving and promoting SE. "Educational literature postulates that the use of technology can support students in achieving greater learning outcomes by increasing engagement" (Pickering & Swinnerton, 2018:1). SE not only stimulates learning in online learning contexts (Banna, Grace Lin,

Stewart & Fialkowski, 2015:350) but serves to counter isolation and attrition as well. Mkonto (2018:68) states that for students to be engaged in their studies, they need to be provided support. Kuh (2009), in agreement with Mkonto, advises that for SE to be successful it should include the appropriate support structures that assist the needs of students. It is important to note that engagement does not always have a positive side as students can be negatively engaged if they report dislike or anxiety towards their learning (Bowyer & Chambers, 2017:20). Therefore, as stated earlier, the importance of support structures needed to counter any negative approaches or anxieties that students may have must be emphasised.

Martin and Bolliger (2018:206), Banna *et al.* (2015:250) and Anderson (2016:36) state that there are three basic levels of SE: student-content, student-instructor, student-student (Figure 2.19).

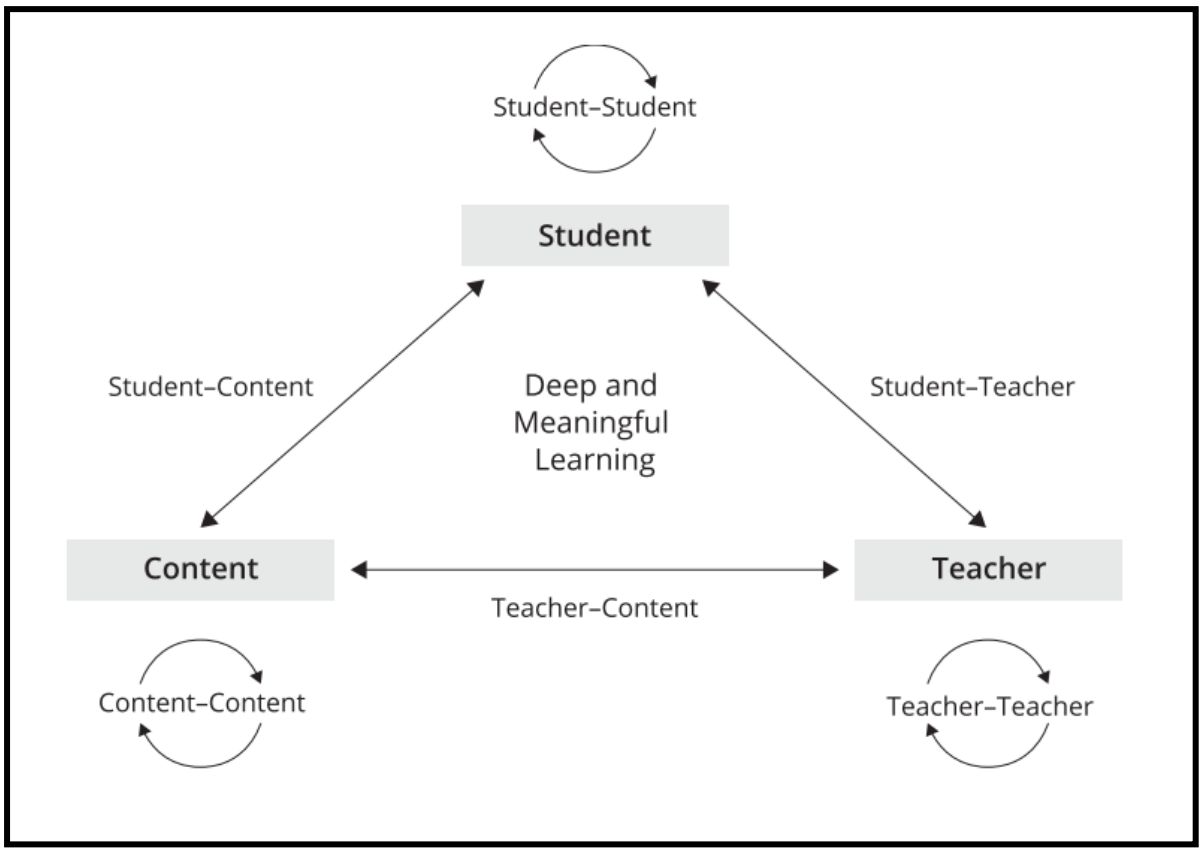


Figure 2.19: Types of interactions, based on the Anderson and Garrison (1998) framework

Source: Anderson (2016:36)

Student-content refers to students' interaction with learning material, either printed, digital or online; student-instructor refers to the interaction of student with the lecturer either in the classroom or online (synchronous e.g. video-conferencing or chatting or asynchronous activities e.g. discussion boards); and lastly student-student interaction either is in the classroom or online completing activities (synchronous or asynchronous) or through the use of social media. Lear, Ansorge and Steckelberg (2010) state in their study that interactions with the content, peers and instructor are crucial as students become active and engaged learners. This research intends to investigate the extent of engagement through a social cognitive lens.

2.14.3 Student Engagement and Self-efficacy

Research on student motivation has provided vast evidence for the development of important constructs and generalisations that have direct application to learning. Although, according to Linnenbrink and Pintrich (2003:119), there are many motivational constructs, self-efficacy remains one of the pivotal factors in promoting SE and learning. Various research studies reveal that self-efficacy has a substantial role in predicting SE, performance, and motivation (Beri & Stanikzai, 2018; Chang & Chien, 2015; Linnenbrink & Pintrich, 2003; Papa, 2015; Schunk & Mullen, 2012; Spedding, Hawkes & Burgess, 2017) as well as its impact on learning. This belief in one's own ability, influencing one's choice of activities and the effort one exerts in completing such activities has a direct link to SE (Chang & Chien, 2015:42). Schunk and Mullen (2012:225) and Zimmerman (1989, 2000b:82, a:34) assert that SE in learning reflects cognitive, behavioural, and affective variables that incorporate aspects of motivation and self-regulation. Among cognitive variables, students engaged in learning have a sense of self-efficacy for what they are learning and have a positive outlook towards their learning outcomes and value their learning. Additionally, self-efficacy takes place at all levels in engaged learning.

Chyung (2007:220-221) reported in his study on *Age and gender differences in online behavior, self-efficacy, and academic performance* that older students were more engaged online and commented more during online discussions than younger students, but younger students improved their self-efficacy significantly more during

the course of the programme. He also found that young male students were less engaging online and produced the lowest average exam scores therefore implying that it is important that online instructors or lecturers need to consider tailoring online instruction for a specific target group of students to encourage engagement. Furthermore, Beri and Stanikzai (2018:220) cited that self-efficacy beliefs may be more adequate in female students than in male students concerning social settings.

If a student believes he/she can complete the task or activity, he/she will have stronger engagement with the task or activity. They will set achievable goals to complete and will track and access their progress through continuous self-reflection. Relevant research states that one of the strongest predictors of academic success is SE (Doğan, 2015:558). Students with high levels of self-efficacy and who believe in their self-efficacy demonstrate positive social behaviours, both directly and indirectly. Also, students with high levels of engagement have higher grades and are less likely to drop out of from HEIs (Doğan, 2015:554). Doğan also posits that students with low levels of self-efficacy and low levels of SE can have long-term issues, such as spoiling behaviours in class, absenteeism, and also dropping out from their studies.

2.14.4 Levels of Student Engagement

Schlechty's (2002, 2011:15-16) SE Continuum claims that engagement is an active process that requires students to commit to the activity. This can be achieved by the importance or value of the activity. Schlechty identifies five levels of SE, namely (Schlechty Center, n.d.:5–6):

(1) Engagement. This is the highest level of SE, High Attention-High Commitment. The student associates the activity with a result or product that has meaning and value. The student will persist with the activity, even if faced with difficulty and will learn at high and profound levels. Students are intrinsically motivated.

(2) Strategic Compliance. Students have High Attention-Low Commitment. They see the value of the task and find the activity worth doing because of

the outcomes or results of doing the task, e.g. marks obtained for the task. Students will not complete the task if extrinsic goals are not realised and will not retain what they have learned.

(3) Ritual Compliance. This is Low Attention-Low Commitment. The student only completes the work to avoid negative consequences from not meeting the minimum requirement e.g. obtaining a failure mark for the task. The task has no meaning to the student and is not connected to what does have meaning.

(4) Retreatism. This is No Attention-No Commitment. Students are disengaged in the task and activity and are emotionally withdrawn from the action. The students reject both the official goals and the official means of achieving the goals. They feel unable to do the task or don't understand what is required of them, thus see little relevance of the academic work relating to life.

(5) Rebellion. This is Diverted Attention-No Commitment. The student rebels towards learning and totally refuses to complete the work and disrupts others. Students develop a negative attitude and they will try and encourage others to rebel.

Table 2.11. summarises Schlechty's five level student engagement continuum with a description of their characteristics.

Table 2.11: Schlechty's five level student engagement continuum

Attention	Commitment	Level of Student Engagement	Characterised By
High	High	**Engagement**	Persistence, sustained inquiry, self-direction, playfulness with content, and unprompted transfer of understanding.
High	Low	**Strategic Compliance**	Clear effort; some creativity; focus on directions and task completion in order to meet extrinsic standards for motivation.
Low	Low	**Ritual Compliance**	Minimal effort made only to mitigate 'consequences' or other negative 'punishers'; no creativity, genius, curiosity, or transfer.
No	No	**Retreatism**	Little to no effort, productivity, or progress; no demonstrated inquiry, affection, or interest in the content, collaborations, or task.
Diverted	No	**Rebellion**	Zero demonstration of learning; outright disruption and defiance.

Source: Adapted from Heick (2018)

2.14.5 Typology of Student Engagement Styles

Coates (2007:135) in his study in "*A model of online and general campus-based student engagement*" presents a typological model to evaluate and improve understanding of university SE with focus on university campus context (i.e. general engagement) and the online environment context (i.e. with the use of an LMS). His typology model is relevant to this study as its ideology complements that of a BL environment.

Figure 2.20 shows the proposed typological model of SE styles is located along two axes, academic (x-axis) and social (y-axis). He identifies four styles of SE namely; collaborative, intense, passive, and independent which refers to transient states, rather than student traits or types (Coates, 2007:132-134).

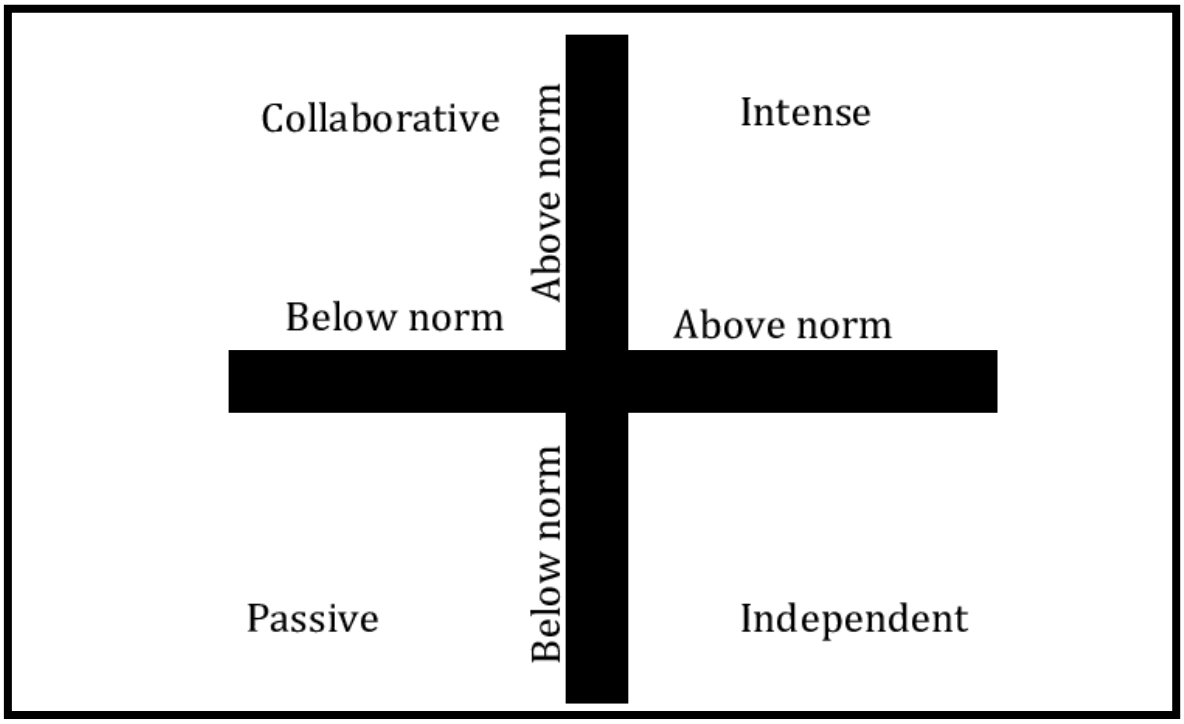


Figure 2.20: Typological model of student engagement styles by Hamish Coates

Source: Coates (2007:133)

(1) Intense engagement style. Students with an intense form of engagement are highly involved in their higher educational study. Students with intense online engagement use LMSs more than other students to enhance and contextualise their study, for communicating and collaborating with their peers, to manage and conduct their learning, and to contact academic staff. They therefore value and see the importance of using a LMS in the learning process. Students also see themselves as "active, motivated and imaginative learners" who collaborate with peers F2F in and outside of the classroom and participate in campus activities. They also see academic staff as approachable and see their learning environment as "responsive, supportive and challenging".

(2) Independent engagement style. The independent engagement style denotes more of an academic approach to study, than a socially orientated approach. They see the LMS as an integral part of their campus-based education facilitating with knowledge construction activities and providing various forms of support throughout their studies. However, they are less

likely to collaborate or interact with their peers or academic staff using the LMS. Students seek out challenging learning experiences and use feedback formatively to assist with the learning experience, and to initiate pedagogical conversations with academic staff. They see academic staff as approachable, responsive to student learning needs, promoting student reflection and providing student feedback. The independent style student is less likely to work collaboratively with peers F2F in and outside of the classroom or be involved in enriching events and activities on campus.

(3) Collaborative engagement style. Collaborative style of engagement, whether using a LMS or in general, favours the social aspect of HE student life and work as opposed to a purely cognitive or individualistic form of interaction. Students use the LMS to work and collaborate with others at the HEI. High levels of general collaborative engagement reflect students feeling validated within their HEI communities, especially with participating in broad beyond-class talent development activities and interacting with peers and academic staff.

(4) Passive engagement style. Lastly, passive engagement style students rarely participate in a LMS or general HEI activities and conditions linked with enriching educational and learning experiences.

The collaborative and passive engagement styles are the converse of intense and independent styles.

2.14.6 Disengagement of Students in Higher Education

South Africa's Higher Education and Training Minister, Dr Naledi Pandor expressed her concerns on Twitter about the number of drop-outs from universities by stating: "I'm concerned about the number of drop-outs" (eNCA, 2018). She was responding to a report calling for an urgent need to address the problem within HE (eNCA, 2018).

Tawil (2018:49) cites Willging and Johnson (2009) who argue that the lack of interaction among students leads to them withdrawing and disconnecting from the educator and class. The problems with withdrawal, lack of concentration, and student disconnectedness, according to Tawil (2018:49) are detrimental to effective learning, as alienated students do not engage with the educator and do not necessarily grasp what is being taught.

Chipchase *et al.* (2017:31) posit that much literature exists on SE, but less attention is given to the concept of disengagement. Krause (2005:4) states that to understand engagement one needs to analyse more astutely the alternatives – inertia, apathy, disillusionment or disengagement. She also states that she favours the term "inertia" over the term "disengagement". The latter, according to Krause (2005:7), suggests "an active detachment or separation", whereas the former is "more suggestive of doing nothing, which aptly depicts the state of being for the group of students who do not actively pursue opportunities to engage in their learning community". She notes that some students could be at risk of inertia due to failure to participate in learning community activities, especially class attendance, or failure to self-regulate or even to motivate themselves leading to dropping out from their studies. She also noted another group (Krause, 2005:9): "for some students engagement with the university experience is like engaging in a battle, a conflict […] the culture of the institution is foreign […] alienating and uninviting". Such students are likely to be from disadvantaged backgrounds or be international. Other authors using "inertia" are Nazarenko (2015:81), Bates (2015:347), and Dron and Anderson (2014:137).

To justify the use of the term "disengagement" within this study the researcher defines disengagement as:

> *not engaging, participating or interacting in the learning activities, and not engaging with the institution or their peers* (Chipchase *et al.*, 2017:34).

Disengagement from the HEI can span from the absence of the students' involvement in their academic studies to disengagement from social activities on or off campus. However, Chipchase and colleagues argue that academic and social

activities do not necessarily co-occur e.g. students may be academically engaged but may at the same time be socially disengaged from the HEI's activities. Harper and Quaye, as cited in Chipchase *et al.* (2017:34) affirm that "engagement is more than involvement or participation, it requires feelings and sense-making as well as activity". They further state that non-participation of academic activities therefore should not be seen as disengagement, unless the students have also disengaged "emotionally and behaviourally".

Chipchase *et al.* (2017:38) lists indicators of student academic disengagement in Table 2.12 that are categorised into 11 target areas. These indicators are relevant to all academic level cohorts and will identify students who may become disengaged at the beginning of their studies or later in their programme of study.

Table 2.12: Indicators of student disengagement

Target	Indicator
Attendance	Fails to attend first class. Not attending required classes by Week 3, or other key classes later in the semester. Less than 80.0% lecture attendance. Consistent poor attendance at classes.
Preparation for classes	Does not access subject outline. Comes to class without completing readings or assignments. Does not prepare for class e.g. does complete note reading.
Participation	Enrolled without unit activity. Does not contribute to class discussion. Does not participate in discussions online or F2F.
Time spent studying	Does not keep up to date with studies. Spends less than 9 hours per week on individual study. Spends less than 18 hours on total study time per week.
Effort spent studying	Does not work hard to master difficult content. Does not prepare two or more drafts of an assignment before handing it in. Does not use student support learning support services. Does not work harder than they think they can to meet a teacher's/tutor's standards or expectations. Does not review notes after class.
Access online (LMS)	Does not access subject information and LMS. Low or very high levels of online activity.
Assessment	Does not submit first major assignment or late submission or fails major assignment. Failure to submit or failure in progressive assessment items.
Academic performance	Fails or is repeating a subject. Grade point average of less than four out of seven in first two semesters. Meets criteria for 'on probation'. Receives a notice that they are at risk of exclusion.
Interaction with teachers	Does not seek advice from academic staff.
Collaborative study	Does not work/collaborate with other students.
Enjoyment/satisfaction with academic study	Is not satisfied with study.

Source: Adapted from Chipchase *et al.* (2017:38)

In a study *Understanding Students: Putting Students at the Centre of Instructional Design* compiled by Universities South Africa (2018:10) students were asked to comment on the question: "I have considered dropping out of university because of the following reason" (Figure 2.21). The top two reasons provided by students for dropping out were financial (40.0% tuition fees and 30.0% living costs) and 20.0% of students replied they thought of dropping out because they felt that they didn't belong.

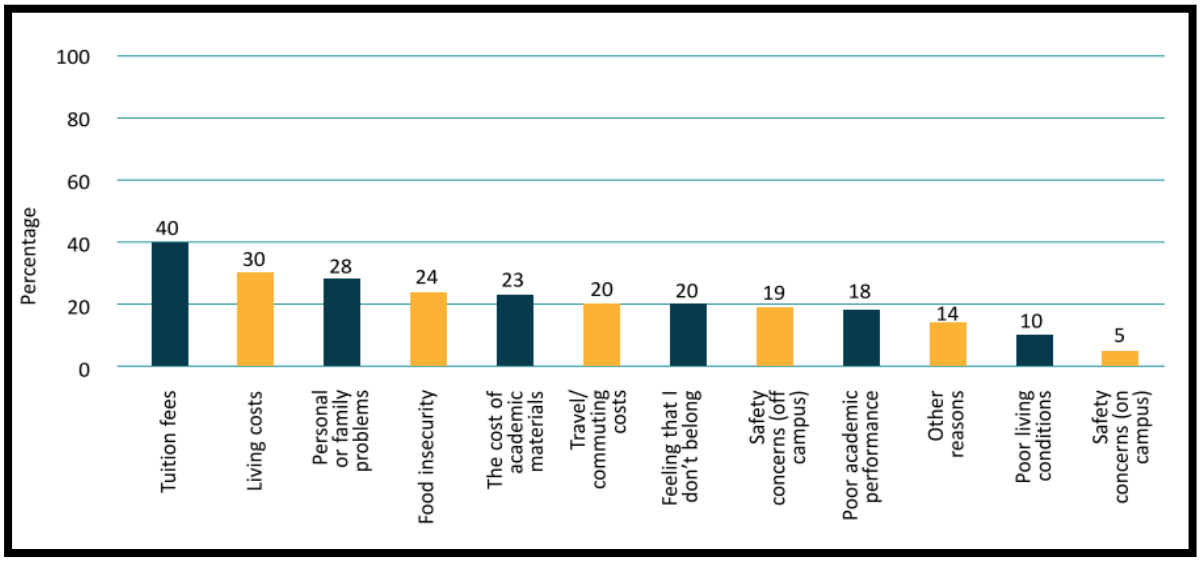


Figure 2.21: Response to the question: "I have considered dropping out of university because of the following reason"

Source: Universities South Africa (2018:10)

According to Chipchase *et al.* (2017:35-37) there are various factors that influence the disengagement of students. These factors are: (1) psychological factors, (2) low motivation, (3) preparation for study and academic capacity, (4) unmet or unrealistic expectations, (5) competing demands and financial stress, (6) institutional structures and process, (7) academic staff factors, and (8) online teaching and learning. A ninth (9) factor for disengagement, as stated by Khazanchi and Khazanchi (2018:190), is caused through student's disability or impairment (Ambati, 2018:132).

2.14.6.1 Psychological Factors

Psychological factors refer to emotional health and psychological distress caused by stress associated with managing workload, balancing study time and financial worries, which are a few reasons why some students withdraw from their studies. The disengagement may act as a self-preservation strategy for coping with the psychological distress. Adelman and Taylor (n.d.:47) posit that psychological disengagement may be expected to result in internalised behaviour (i.e. boredom, emotional distress) and/or externalised behaviour (i.e. misbehaviour or dropping out). A report by Universities South Africa (2018:9) showed that almost two-thirds of students indicated that they have chosen not to participate in campus activities due to the cost involved. The finding has implications for HEIs to create a transformed and inclusive environment where students are able to freely interact with each other, both academically and socially.

2.14.6.2 Low Motivation

"Students' motivation is strongly linked with students' engagement and their academic success" (Khazanchi & Khazanchi, 2018:190). Low motivation may often be linked to many factors such as pressure from parents and/or peers to attend a HEI, not being the student's programme of choice, uncertainty about future goals, academic work not challenging enough, a lack of alternative to HEI, and high youth unemployment. Tawil (2018:49) states that disengagement in the classroom can deprive students of the morale to learn which develops into feelings of isolation. This in turn diminishes the propensity of students to learn from each other and also to uplift each other's motivation towards learning as a team.

2.14.6.3 Preparation for Study and Academic Capacity

Many students seeking a HE qualification may not be adequately prepared for higher or tertiary education which then leads to disengagement. Students registered to attend HEIs, straight from secondary school, find it difficult to adapt to HE as it is less structured, less monitored and has less individually supported teaching and learning that requires greater self-motivation from them. Figure 2.22 shows a

significant gap in students' perceptions of their academic preparation (48.0%) and sense of perseverance (45.0%) when compared to the academic difficulties (27.0%) they expect to encounter in their first-year of study at a HEI (Universities South Africa, 2018:13).

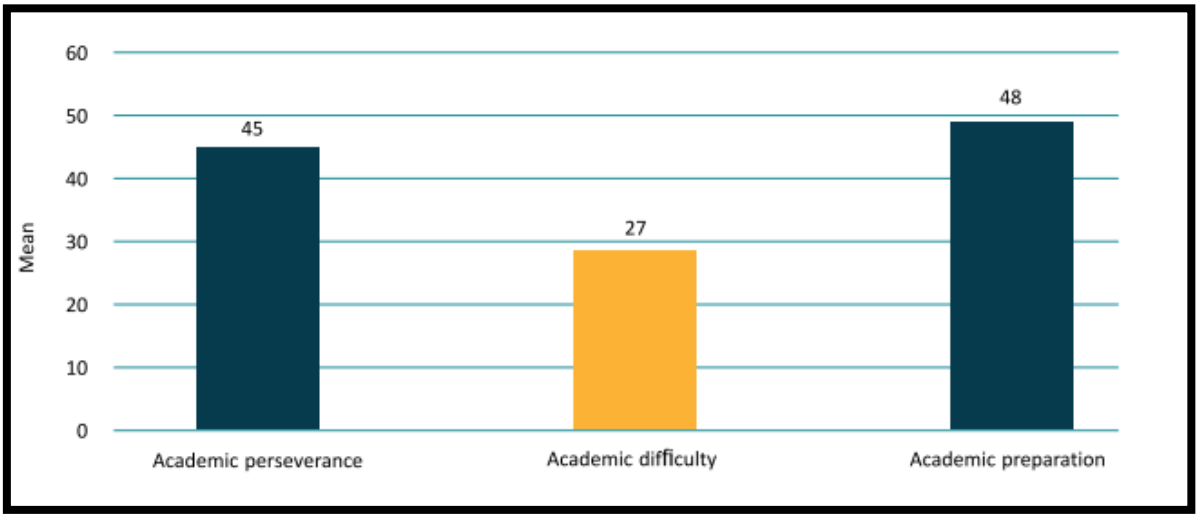


Figure 2.22: Perceived preparedness versus expected difficulty

Source: Universities South Africa (2018:13)

2.14.6.4 Unmet or Unrealistic Expectations

Students often have unmet or unrealistic expectations i.e. the standard and amount of work required at HEIs and anticipated grades, when starting in HE are not as they anticipated. These unmet and unrealistic expectations, if not modified, may lead to students becoming disengaged. In the 2018 report, Universities South Africa (2018:13) the expectation that first-year students have when entering HE is shown as unmet or unrealistic concerning the marks they expect to achieve. As seen in Figure 2.23 the majority of students expect to achieve between 70.0 to 79.0%, however only a quarter of students achieve these marks.

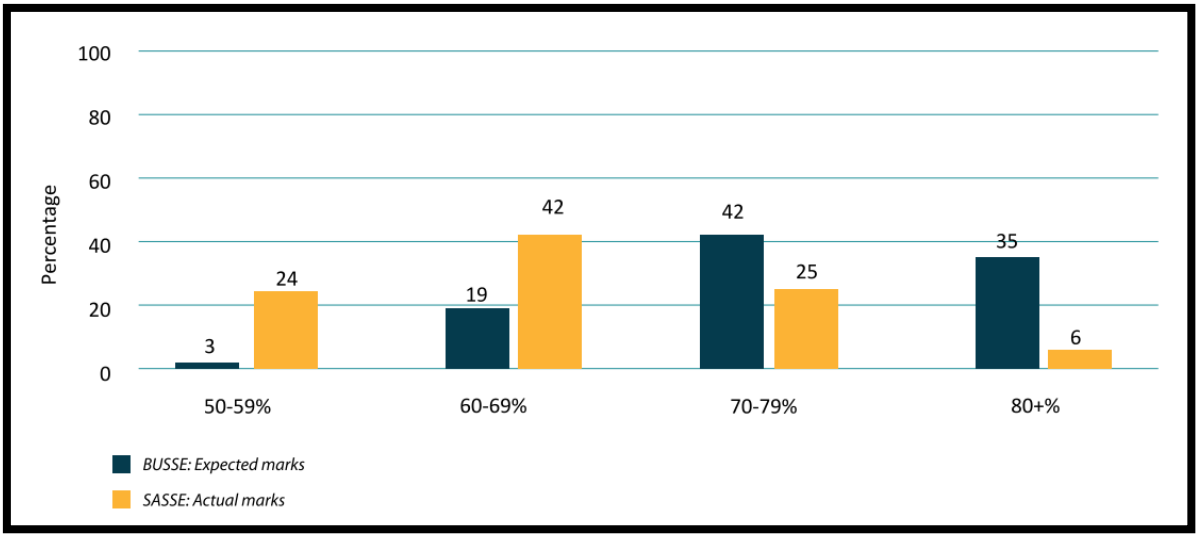


Figure 2.23: Expected versus actual self-reported marks

Source: Universities South Africa (2018:13)

2.14.6.5 Competing Demands and Financial Stress

With competing demands and financial stress factors, non-academic pursuits impact negatively on academic engagement and achievement. These may be financial stress, paid work commitments, workload, study/life balance and family responsibilities. The longer students spend on paid work and other non-academic activities the less time is left to concentrate on their studies, and students concerned about their finances find it arduous to study. According to the NSFAS (NSFAS, 2019) 690 000 students received funding to attend public HEIs or TVET colleges in 2018. They expect to fund 800 000 in 2019. The funding covers the costs of a student's tuition fees, food, accommodation, books and travel allowance and is available to students whose totally family annual income is less than R350 000. However, NSFAS has been plagued by many problems i.e. delays in payment of funds and not responding to applicants, which cause major financial stress on students who rely solely on NSFAS as their source of income to pay for their costs while studying (Moosa, 2019). Students studying at PHEIs are not afforded the same benefit of obtaining funding from NSFAS or DHET as students studying at PBHEIs. They need to apply for funding from other sources i.e. banks if they require funding for studies. Universities South Africa's (2018:9) report posits that around half of students indicate that their financial concerns have an impact on their academic performance. Figure 2.24, shows that 44.0% of students indicate that

financial stress i.e. the daily worry about paying their university tuition, impacts on their academic performance.

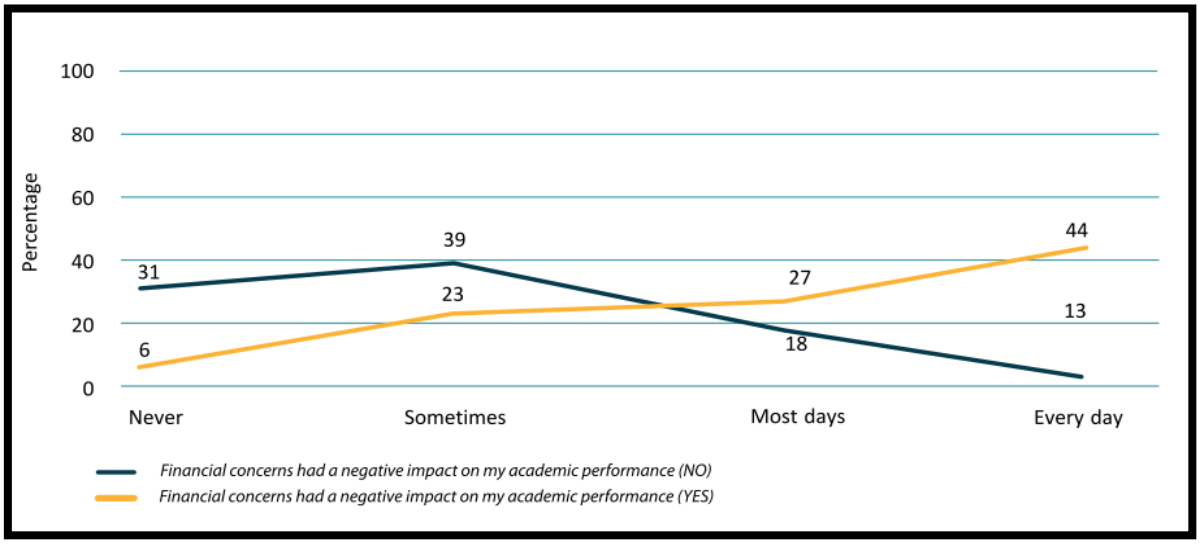


Figure 2.24: Financial concerns negatively impacts academic performance

Source: Universities South Africa (2018:10)

2.14.6.6 Institutional Structures and Process

HEI's structures and processes can unintentionally facilitate disengagement as the institution's culture and process can be alienating and difficult to understand and negotiate, especially a "hierarchical" HEI.

2.14.6.7 Academic Staff Factors

The actions, attitudes and behaviours of academic staff may facilitate student disengagement; "content that is inaccessible and the use of didactic and static pedagogies" by academic staff who are unskilled or uncomfortable with new technologies or methods, empowers student disengagement. According to the Universities South Africa (2018:13) report, student entering into HEIs do not expect to spend time interacting with their lecturers beyond the classroom, but 50.0% of them do expect to discuss their academic performance with their lecturer (Figure 2.25). In actuality, less than a quarter of the students have indicated that they do in fact discuss their academic performance with their lecturers and around 20.0%

discuss career plans, work on activities other than academic work, or discuss other topics, ideas or concepts with the lecturer outside of class time. The report argues that there is a decline in the relationships between students and lecturers, from previous SASSE and Beginning University Survey of Student Engagement (BUSSE) surveys, due to the #FeesMustFall protests. This is concerning as the lecturer plays a pivotal role in a student's life during their years of study.

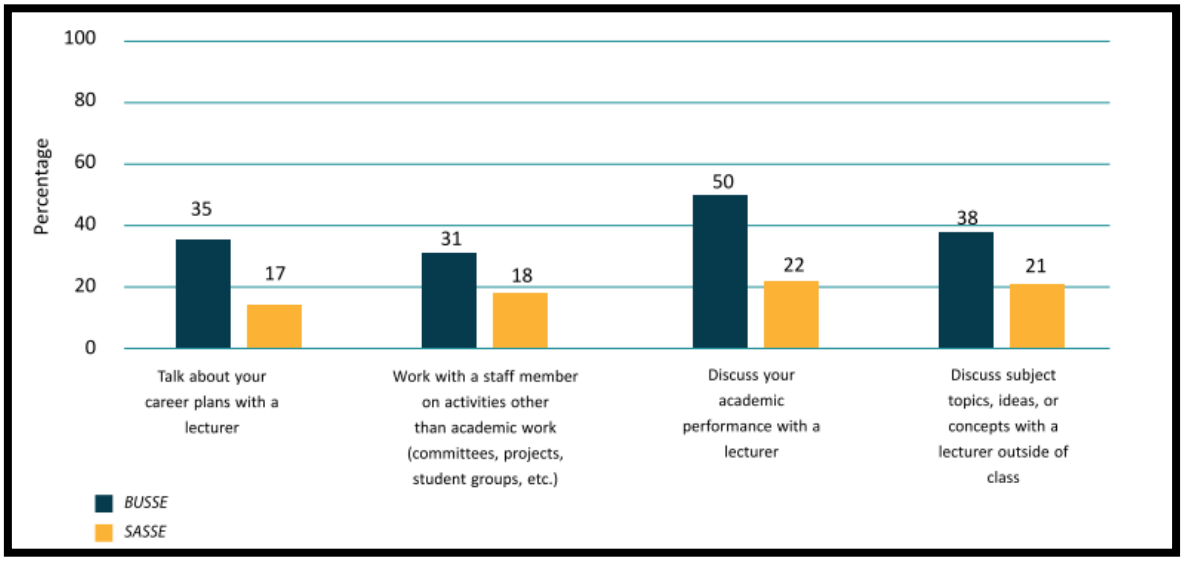


Figure 2.25: Student-staff Interaction items

Source: Universities South Africa (2018:13)

2.14.6.8 Online Teaching and Learning

The use of a LMS may appear to contribute to student disengagement as this reduces the amount of time students spend on campus or interacting F2F with their peers and academic staff. Some students never participate in online discussion groups compared to F2F learning. To counteract the lack of participation in online discussion groups, academic staff need to moderate the usage thereof to prevent disengagement of some students in the online learning community.

2.14.6.9 Students with a Disability or Impairment

Students with disabilities or impairment often feel unmotivated and/or incompetent in various academic and non-academic tasks which leads to frustration and

disengagement (Khazanchi & Khazanchi, 2018:190). Students with disabilities display certain characteristics that cause disengagement in the classroom which may vary according to their race, age, gender, and socio-economic status. The type of disability affects how much a student is engaged or disengaged in the classroom (Khazanchi & Khazanchi, 2018:186). If disengagement is ignored by the lecturer, ultimately the result will be academic failure and possible dropout (Khazanchi & Khazanchi, 2018:190).

2.14.7 Student Engagement in a South African Context

In 1998, the NSSE Institute started with the effort to improve the quality of HE within the United States, with the focus on students and their learning (National Survey of Student Engagement, 2019). According to the University of the Free State (2018b) in 2006, the division of Student Development and Success (now known as Centre for Teaching and Learning) at the University of the Free State requested permission from the NSSE Institute to adapt the NSSE for use in South Africa. The South African version, known as South African Survey of Student Engagement (SASSE), was administered for field testing in 2007 and a revised addition of SASSE was rolled out in 2013.

The SASSE survey questions were designed to measure whether educational practices are effective in five benchmarks in capturing aspects of the student experience. The five areas are the level of academic challenge, active and collaborative learning, student-staff interaction, enriching educational experiences, and supportive campus environment (Strydom *et al.*, 2010:11). It was found that of all five areas "enriching educational experiences" and "student-staff interaction" were low with an overall score of 25.0% each compared to 52.0% for "academic challenge", 42.0% for "active and collaborative learning", and 58.0% for "supportive campus environment".

After five years of application, the SASSE survey underwent an extensive review to align itself with international trends and deepen the contextualisation of the measure for South Africa (Strydom, Henn, Posthumus, Oosthuysen & Steyn, 2015:8). The review process resulted in grouping the previous five benchmarks within several

Engagement Indicators, organised within themes, to focus on important aspects of "educational quality, making them specific and actionable" (Table 2.13). The advantage of the themes and indicators is that they provide a more coherent framework and specific measures for improving teaching and learning (Strydom & Foxcroft, 2017:28–29).

Table 2.13: Key change within SASSE

SASSE Benchmarks 2007 - 2012	Key Changes	Engagement Indicators
Level of Academic Challenge	Expanded to focus on distinct dimensions of academic effort, including new topics of interest. In addition, key items on reading, writing, and study time will be reported in this time.	**Theme: Academic Challenge** Higher-Order Learning Reflective and Integrative Learning Learning Strategies Quantitative Reasoning
Active and Collaborative Learning	Modified to emphasise student-to-student collaboration. Updated diversity items from Enriching Educational Experience have been moved here.	**Theme: Learning with Peers** Collaborative Learning Discussion with Diverse Others
Student-Staff Interaction	The updated Student-Staff Interaction indicator is joined by a second measure about effective teaching practices.	**Theme: Experience with Staff** Student-Staff Interaction Effective Teaching Practices
Supportive Campus Environment	Expanded to focus separately on interactions with key people at the institution and perceptions of the institution's learning environment.	**Theme: Campus Environment** Quality of Interactions Supportive Environment
Enriching Educational Experiences	Selected items are reported separately as High-Impact Practices. Interactions with diverse others have been moved to Learning with Peers.	**High-Impact Practices** Student Societies Practical Work Research with Staff Service-Learning

Source: Strydom *et al.* (2015:8)

In the SASSE 2014 survey (Strydom *et al.*, 2015:26) students reported a very low interaction level with staff, with a mean (*Mn*) of 15,56 for first-year students and a *Mn* of 17,82 (out of a possible score of 60) for senior students in student-staff interaction, indicating a decline from the 2010 SASSE survey. The results show that senior students tend to interact more with staff members than first-year students. Studies indicate that student-staff interaction plays an important role in SE and success (Mkonto, 2018:69). Considering the poor results, it is concerning, as the role of academic and other staff should play a prominent role in the lives of students, especially when one needs to promote SE.

"Understanding students" has become essential in South Africa, following continued protests related to the HE sector (Bernard, Borokhovski, Schmid, Tamim & Abrami, 2014). Kuh, Ikenberry, Jankowski, Cain, Ewell, Hutchings and Kinzie (2015:ix) highlight that it is crucial to understand what students "know" and "are able to do". This is fundamental to student success and to the quality and effectiveness of HE. In the *Engaging the #StudentVoice Annual Report 2016*, compiled by Strydom, Loots, Oosthuysen, Hen-Boisen, Henn and Posthumus (2016:1), SASSE, SE measures were used to provide a data-driven "student voice" in understanding the challenges that South African students' face in the HE sector. The report emphasised the importance of the student's voice in HE following the ongoing protests. Four challenges were highlighted, namely: (1) the cost of tertiary education, (2) students feeling that their voice is not heard, (3) the need for new ways to engage and integrate the student voice in the planning and development of HE in South Africa, and (4) students being among the least informed, concerning choices, outcomes and processes in HE. Similarities in the circumstances and challenges that face South African HE, when being compared to other countries, support research that SE can be a potentially powerful tool for improving student success and the efficiency and effectiveness of the HE system as a whole (Strydom, Mentz & Kuh, 2010).

2.14.8 Prior Research on Student Engagement in Blended Learning Courses

Research on SE has been conducted in the online context since the inception and widespread adoption of online learning in mainstream education. As a means of assessing the efficacy of online learning, studies have focused on the role of SE and student agency in online learning (Hatzipanagos & Code, 2016:1354); causal links between learning-related factors and processes with the desired learning outcomes (Joksimović, Poquet, Kovanović, Dowell, Mills, Gašević, Dawson, Graesser & Brooks, 2018:43); as well as factors that influence SE in MOOCs (Hew, 2016:320).

From a methodological approach standpoint, SE in MOOCs has been investigated using the mixed method case study (Hew, 2016:320). This particular study identified five factors that played a role in MOOC SE. Problem-centric learning with clear

expositions, instructor accessibility and passion, active learning, peer interaction and course resources were found to play a role in SE. Joksimović *et al.* (2018:43) used a systematic literature review to design a framework for the prediction and measurement of SE and learning outcomes. The developed framework was based on an existing model (Schunk & Mullen, 2012). Using an intensive longitudinal methodology, Manwaring, Larsen, Graham, Henrie and Halverson (2017:21) investigated activity level SE in BL university-level programmes. The study findings showed that the variables of course design and student perceptions had a great influence on engagement.

While SE in online and BL programmes has been addressed in literature from Moore's interaction framework (Martin & Bolliger, 2018:205); Community of Inquiry (Lam, 2015b:81; Nagel & Kotzé, 2011:151; Shea & Bidjerano, 2010:1721) and problem-based instruction (Delialioğlu, 2012:310), there is a dearth of literature on SE in BL from a social cognitive perspective.

2.15 Theoretical Framework

To investigate the factors that affect students' learning engagement in BL, the use of a theoretical framework is necessary. This study used Bandura's SCT as its theoretical framework. Bandura's SCT provides a framework for understanding student learning behaviour with particular reference to the required changes in behaviour necessary when using BL within their programme.

2.15.1 Social Cognitive Theory Framework

Creek (2010) states that one of the learning theories that is imperative in the adult learning space is SCT. Albert Bandura, the architect of the Social Learning Theory in the 1960s, which later developed into the SCT in 1986 (Pajares *et al.*, 2009: 284), posits that learning occurs in a social context with a dynamic and reciprocal interaction between one's behaviours, personal factors, and environmental conditions (LaMonte, 2016). Pajares *et al.* (2009:284) suggest that individuals are proactively engaged in their own development and that they are able to exercise a

measure of control over their thoughts, feelings, and actions. Clearly and Zimmerman (2012) relate their study of the SCT to understand the factors underlying student motivation and desire to engage in and self-manage their academic behaviours while the Schunk and Mullen (2012:219 & 225) study discusses how self-efficacy affects motivation through goals and self-evaluations of progress and how various contextual factors, such as familial, sociocultural, and educational may influence self-efficacy.

According to the SCT, behavioural change is made possible by a personal sense of control whereby people who believe that they can take action to solve a problem instrumentally, become more prone in doing so and feel more committed to their decision (Bandura, 2009; Luszczynska & Schwarzer, 2005). The theory further states that human motivation and action are substantially regulated by forethought. People set goals for themselves, they then anticipate the likely consequences of such actions, and select and create courses of action likely to produce the desired outcomes and avoid detrimental ones (Bandura, 2001:7; Koch, n.d.) Through the exercise of forethought, people motivate themselves and guide their actions anticipatorily (Bandura, 1989).

The SCT outlines important factors that influence behaviour. Figure 2.26 provides the key constructs of the Bandura's SCT, which consists out of two cognitions, namely: perceived self-efficacy and outcome expectancies, and it also refers to other constructs, such as goals and socio-structural impediments and facilitators (Bandura, 1994, 2000, 2009:180). These constructs interact throughout the behaviour change process.

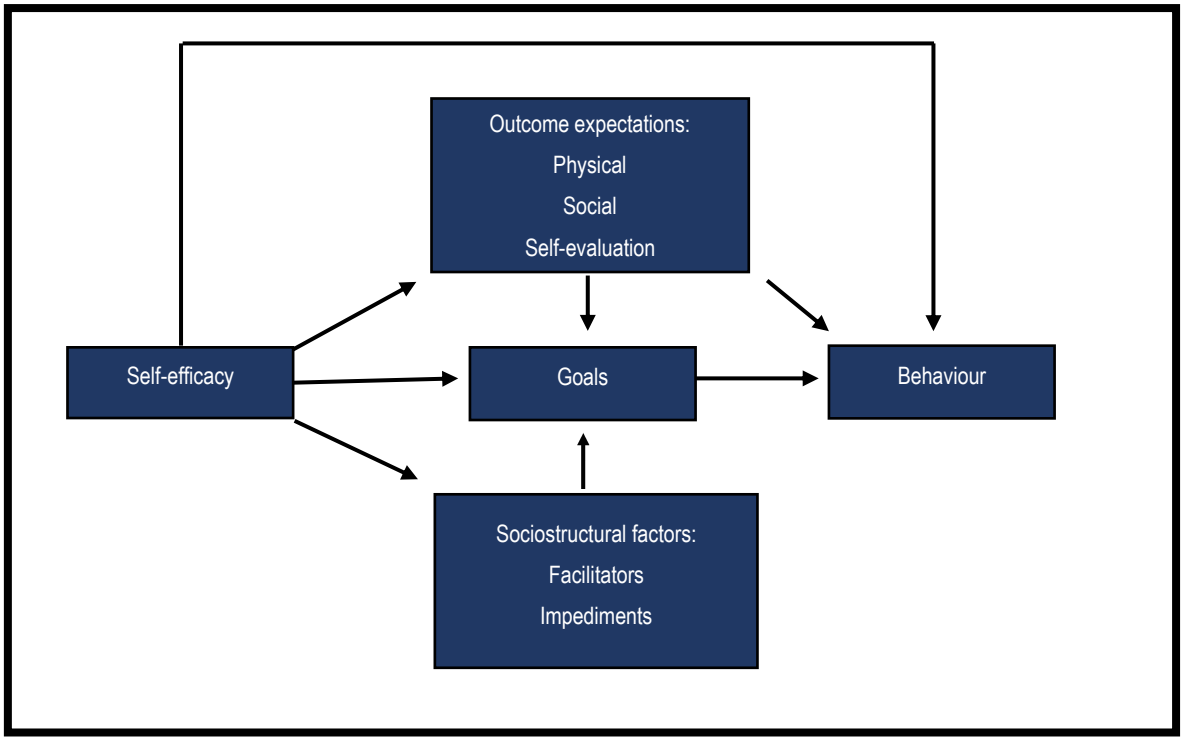


Figure 2.26: An illustration of Bandura's Social Cognitive Theory

Source: Bandura (2000:121, 2009:180)

2.15.1.1 Self-efficacy

The first construct is perceived self-efficacy. Self-efficacy is the belief in one's capabilities to organise and execute the sources of action required to manage prospective situations (Bandura, 1994:2, 1995:2, 1997:3, 2000:2). Efficacy beliefs affect self-motivation and action through their impact on goals and aspirations (Bandura, 2009). Bandura postulates that expectations of self-efficacy are self-regulatory cognitions that decide whether instrumental actions will be initiated, how much effort will be extended, and how long it will be sustained in the face of adversity (Luszczynska & Schwarzer, 2005:129; Salanova, Martínez & Llorens, 2012:152; Zimmerman, 1989:331). According to Schunk and Mullen (2012:219) and Linnenbrink and Pintrich (2003:119), self-efficacy is the key cognitive variable influencing motivation, SE and learning. Erlich and Russ-Eft, (2011:5) add that self-efficacy can assist in predicting behaviours such as those related to whether a person will engage, persevere and accomplish their goals.

Self-efficacy has an influence on how people prepare for action because self-related cognitions are a major ingredient in the motivation process and different levels of self-efficacy can improve or hinder motivation (Bandura, 1997). Granito and Chernobilsky (2012:2) emphasise that if a person's self-efficacy is low, then their motivation to perform will be low and they will, therefore, harbour pessimistic thoughts about their likely accomplishments and personal development (Luszczynska & Schwarzer, 2005:129). People with a high level of self-efficacy will choose to perform more challenging tasks; will set themselves higher goals and stick to them; will reshape actions by thinking about them and anticipate either optimistic or pessimistic scenarios in accordance with their level of self-efficacy in a specific domain (Salanova *et al.*, 2012:152). Self-efficacy has a correlation with behaviour.

According to Bandura (1997; Salanova *et al.*, 2012:152), self-efficacy could develop from four sources of influence, namely: (1) the person's own mastery experiences, (2) the vicarious experience of observing others perform tasks, (3) social persuasions, and (4) somatic and emotional states. These four sources vary in strength and importance with personal mastery being the strongest source of self-efficacy (Luszczynska & Schwarzer, 2005:130).

The self-efficacy component of Bandura's SCT has had an extreme impact on the study of motivation and achievement in academic settings (Chang & Chien, 2015:142). Schunk and Pajares (2002:16) postulate that students acquire information to appraise their self-efficacy from their actual performances, their vicarious experiences, verbal persuasions, and their physiological reactions. They also state that self-efficacy beliefs influence task choice (i.e. self-efficacy with using a computer is mainly related to the students' confidence in their capability of using computers and other types of technology (Alqurashi, 2016:48), as needed in a BL environment), the effort they exert, their persistence to complete tasks/activities, resilience, and achievement. Manzoor (2018:35) found that self-efficacy was a key enabler to students' encouragement to learning in a BL environment. Their study discovered a relationship between self-efficacy and the students' level of encouragement to learn in a BL environment. Students lacked the confidence at the start of the course, but once they settled into the course and understood the options

offered to them, they were then willing to experiment with new ways of learning and had positive views about their engagement with BL and the accomplishment of their individual learning needs.

2.15.1.2 Outcome Expectations

Bandura (2001:7) posits that "people construct outcome expectations from observed conditional relations between environmental events in the world around them, and the outcomes given. [sic] actions produce". He further states that the ability to bring anticipated outcomes to bear on current activities promotes foresight behaviour. While perceived self-efficacy refers to personal action control or agency, outcome expectancies are concerned with people's beliefs about the possible consequences of their actions (Luszczynska & Schwarzer, 2005:128) and how well they can perform in given situations (Bandura, 2009). Bandura (2009:180) argues that those of high efficacy expect to gain favourable outcomes through good performance, whereas those who expect poor performances of themselves conjure up negative outcomes. Luszczynska and Schwarzer (2005:130) further state that outcome expectancies can be organised along three dimensions, namely: (a) area of consequences, (b) positive or negative consequences, and (c) short-term or long-term consequences. The three areas within outcome expectations are (Abasi, Eslami & Rakhshani, 2015; Bandura, 1997, 2009; Luszczynska & Schwarzer, 2005):

(1) Physical outcome expectation refers to the anticipation of what will be experienced after behaviour change takes place. Physical outcome expectations describe beliefs about desirable physical outcomes that will occur after participating in a BL programme.

(2) Social outcome expectation refers to anticipated social responses after behaviour change. Social expectations reflect the beliefs about increased opportunities for social reactions and attaining social approval that may result from participating in a BL programme (i.e. such as companionship and finding new friends).

(3) Self-evaluation outcome expectation consists of beliefs about feelings of satisfaction and self-worth related to a BL programme. It refers to the anticipation of experiences, such as being ashamed, being proud of oneself, or satisfied, due to internal standards.

Both outcome expectancies and self-efficacy are seen as direct predictors of behaviour and operate as indirect pathways, affecting goal setting and the perception of socio-structural factors (Luszczynska & Schwarzer, 2005:131).

2.15.1.3 Socio-structural Factors

Bandura has recently added socio-structural factors to his theory (Conner, 2010:23 & 24). The factors are assumed to facilitate or inhibit the performance of a behaviour and affect behaviour via changing goals (Conner, 2010:24). Conner explains that the socio-structural factors refer to the impediments or opportunities associated with living conditions, health systems, and political, economic or environmental systems. These factors are assumed to inform goal setting and be influenced by self-efficacy. Bandura argues that those with a strong sense of self-efficacy appraise obstacles and barriers as well as the self-management facilitators available to them differently to those with a depleted sense of self-efficacy (Beauchamp *et al.*, 2019:112).

2.15.1.4 Goals

Goals serve as self-incentives, are plans to act, and can be conceived of as intentions to perform the behaviour. In adopting the desired behaviour, individuals need to first form a goal that they would like to achieve before they attempt to execute the action. According to the Bandura's SCT framework, goals increase people's cognitive and affective reactions to performance outcomes because goals specify the requirements for personal success (Zimmerman, Bandura & Martinez-Pons, 1992:669). They further posit that goals also prompt self-judgements and self-monitoring of performance attainment; however, self-regulation of motivation depends on self-efficacy beliefs as well as personal goals. Atieno (2018) state that educators should help learners set short and long-term academic and non-academic goals which will show them the possibilities ahead, while teaching them

to be self-driven and motivated. Bandura's research shows that high perceived self-efficacy leads students to set higher goals and increases the likelihood that they will dedicate themselves to those goals (Devi, Khandelwal & Das, 2017:723; Locke & Latham, 2002:714). All major theories agree upon the suggestion that goals should be as specific as possible in order to facilitate action (Dobson & Wilson, 2008:66; De Jong, 2014:13; Luszczynska & Schwarzer, 2005:131; Rouillard, 2003:48; Walji, 2017). The forming of goals is a necessity, it is certainly a pre-cursor, but does not necessarily suffice to ensure that an individual will maintain such ambition to pursue the goal (Bandura, 2000). Bandura (2000:193) further argues that people can't influence their own motivation and actions if they don't keep track of their own performance. He states that neither goals without knowing how one is performing nor knowing how one is performing without any goals is motivating (Bandura, 2009).

2.15.1.5 Behaviour

Self-efficacy beliefs affect behaviours indirectly through their impact on goals. Efficacy beliefs not only operate in their own right but also act on other determinants in the regulation of behaviour (Bandura, 1997, 1998:625). Beliefs in one's efficacy and efficient deployment of effort enhance the acquisition of knowledge and skills for managing the demands of everyday life. Also, people's beliefs in their efficacy to regulate their own motivation and behaviour affect every phase of personal change (Bandura, 1998:627). Behaviour is also partly regulated by the social reaction it evokes (Bandura, 1998:628) and by the positive and negative self-evaluative reactions to one's behaviour (Bandura, 1998:630). Behaviour that fulfils social norms gains positive reaction while behaviour that violates social norms brings social censure. Social norms convey behavioural standards (Bandura, 1998:629).

2.16 Conclusion

The literature review conducted in this chapter commenced with a review of the growth and scope of BL research, by various BL authors, and indicated findings of their research topics. The most published topic with 35 publication (41.2% of total publications) was "instructional design" followed by, "disposition", 37 publications

(31.8% of total publications) and thirdly “exploration”, 25 publications (29.4% of total publications). Africa displayed the most diverse landscape of blending in, namely: activity, course, programme, and multiple levels of blend due to its more recent development of BL compared to more established regions such as Northern America.

This chapter provided historical highlights that shaped BL core principles when launched as a distance education course, in 1840, progressing to using the PLATO computer-based education system during the 1960 to 1970s. During the 1980s to 1990, technology evolved and the use of LMSs was introduced. The late 1990s and early 2000s BL, in HE, became synonymous with countries such as the USA, UK and Australia. From 2000 LMSs became more sophisticated adding applications and tools that are used to make learning fun, creative and enriching.

In addition, the concept of BL was discussed from different perspectives from various authors due to no one single definition being accepted by all scholars. BL can be defined as a simple concept of an integration of F2F and online activities to a more complex definition where one takes percentages of contact delivery into consideration, the types of tools and activities used online or how one uses an educational technology (LMS) to transform and improve the learning process.

When one considers BL in teaching and learning, one needs to look at the many unique ways in which BL can be implemented within HEIs. In Chapter 2, nine models of BL were examined and briefly explained providing the reader with the characteristics of BL as well as the four levels, namely: (1) activity, (2) course, (3) programme and (4) institutional level blending.

There are arguably differing views and opinions on the approach to BL design. Lam and Ng (2015:344) indicate that for BL to be successful it requires the careful planning of the blended approach while Garrison and Vaughan (2008:105) state that BL is not conducive to a prescriptive instructional design template. McGee and Reis (2012:10 & 17) found that a loosely articulated design process allows for variability and flexibility in the design of blended programmes. McGee and Reis (2012:13 & 17) attest that it is pivotal that both varied interactivity and prompt

feedback are key to SE in blended programmes. Wong's (2017:108–109) approach focused on blended teaching rather than BL, exploring the potential of blended pedagogy in guiding HE lecturers to design and teach blended programmes.

The HE environment is rapidly changing with an increased need for HEIs to adapt their traditional method of teaching to a much more digital framework. According to Louw (2018), this adaption would ensure that HEIs remained relevant, valued and sustainable. As HEIs make use of educational technology in BL, their lecturers need to know and understand the different learning theories so that they will be better equipped to fit the perceived needs of students with the appropriate theoretical approach and educational technology.

Lastly, to investigate students' learning engagement in BL the study used Bandura's SCT as its theoretical framework (Bandura, 2000, 2009). Bandura's SCT provided a framework for understanding student learning behaviour with particular reference to the required changes in behaviour which are when using BL. In the case of this study, behaviour and engagement were similarly construed.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This study investigated the social cognitive perspective on student learning engagement in BL programmes offered at PHEIs. The study was aimed at answering the primary question: *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?* As reflected in Chapter 1, there is a growing need for PSET institutions to adapt to the growing demands and trends for learners to attend PSET institutions and obtain a qualification. This adaptation in turn, extends itself to the demands from government, society and the economy as a whole. To accommodate these demands, PSET facilities need to find inventive ways to assist with aligning themselves with the evolving world of education - hence, the incorporation of BL as a mode of teaching and learning delivery. Many HEIs move to incorporate BL, while many HEIs don't know whether BL is being utilised effectively within their institution, and whether effective student learning engagement is taking place.

Albeit that there is an abundance of literature on BL, as defined in Chapter 2, there are still numerous opposing viewpoints by scholars on the term BL and what constitutes the best combination of F2F and online teaching and learning. Research on BL and academic achievement results show that students engaged in BL have better results compared to students participating in only F2F (McKenzie, Perini, Rohlf, Toukhsati, Conduit & Sanson, 2013:125; Ololube, 2018:162; Owston, York & Murtha, 2013:38; Zhang & Zhu, 2018:251) or online learning mode (Lim, Morris & Kupritz, 2006:815). The importance of understanding the viewpoints of students in making BL effective, the extent at which student learning engagement is taking place and whether students are satisfied with the current stance at which BL is proceeding at the PHE provider needs to be established. This explains the need for research to investigate student learning engagement in BL through a social

cognitive perspective with the focus on the development, improvement and delivery of BL programmes at a PHE provider and in PHEIs in South Africa.

This chapter outlines the research approach used in this study. The chapter starts with a brief description of various philosophical paradigms, then focuses on the chosen paradigm for this study. The chapter further continues with outlining the selected research methodology and design employed, namely a quantitative non-experimental descriptive cross-sectional survey, to address the primary research and secondary research questions which addresses Bandura's SCT's four constructs. Three open-ended questions were included in the survey to supplement the quantitative data. The chapter also discusses the various stages utilised in selecting the participants for the pilot study and main study, the data collection process and the process of data analysis. In addition, this chapter also addresses the validity, reliability and ethical consideration of the research.

3.2 The Philosophical Paradigm

> *Knowing what you want to find out, at least initially, leads inexorably to the question of how you will get that information* (Miles & Huberman, 1994:34).

All research is based on some underlying philosophical assumptions on what constitutes "valid" research and which research method(s) is/are appropriate for the development of knowledge. Therefore, to conduct and evaluate any type of research, it is important to know and clarify what these assumptions are (Thomas, 2010:291).

According to Guba (1990:17), and Guba and Lincoln (1994:107), who are leaders in the field (Kivunja & Kuyini, 2017:26 & 38), a research paradigm may be viewed as a basic set of beliefs or a worldview that guides research action or an investigation as well as dictates how research data is analysed (Leavy, 2017:264). It defines the researcher's philosophical orientation and has a significant implication on how results of the study should be interpreted, how decisions are reached in the

research process, including the choice of methodology and methods (Kivunja & Kuyini, 2017:26).

A paradigm consists of four elements namely: (1) *epistemology* (i.e. the branch of philosophy that studies the nature and forms of knowledge and the process by which knowledge is acquired and validated, how knowledge is communicated to other humans) (Cohen, Manion & Morrison, 2007:7; Gall, Gall & Borg, 2003:13); (2) *ontology* (i.e. it is the study of being, it is concerned with what constitutes reality "what is") (Scotland, 2012:9); (3) *axiology* (i.e. refers to the ethical issues that must be considered and also considers the philosophical approach to making decisions of value or the right decisions) which exerts significant influences on the (4) *methodology* (i.e. refers to the research design, methods, approaches and procedures used in an investigation) used in research (Bagele & Kawulich, 2012; Guba & Lincoln, 1994:108; Kivunja & Kuyini, 2017:26–28 & 38; Morgan, 2007:57; Rehman & Alharthi, 2016:51).

According to Scotland (2012:9) every paradigm is grounded upon its own ontological and epistemological assumptions and views; therefore have differing assumptions of reality and knowledge which supports the research approach. He further states that all paradigms can use both quantitative and qualitative data (Scotland, 2012:10). Qualitative research is sometimes described as ethnographic, interpretive, critical, or postmodern research while quantitative research is often referred to as empirical, positivist, postpositivist, or objectivist (Willis, Jost & Nilakanta, 2007:11–12). The third research method, mixed methods research, is an approach to the inquiry that combines qualitative and quantitative forms in a study such as pragmatism paradigm. Kivunja and Kuyini (2017:30) posit that a large number of paradigms can be grouped into four taxonomies, namely positivist, constructive/interpretivist, critical and pragmatic paradigms (Table 3.1).

Table 3.1: Four paradigm taxonomies

Positivism	**Constructive/Interpretivism**
Ontological assumptions There is a single reality or truth (more realist). Epistemological assumptions Reality can be measured and hence the focus is on reliable and valid tools to obtain that. Axiological assumption Research is undertaken in a value-free way; the researcher is independent from the data and maintains an objective stance. Methodology Experimental research, Survey Research. Method Usually quantitative, could include: Sampling, Measurement and scaling, Statistical analysis, Questionnaire, Focus group, Interview.	Ontological assumptions There is no single reality or truth. Reality is created by individuals in groups. Epistemological assumptions Reality needs to be interpreted. It is used to discover the underlying meaning of events. Axiological assumption Research is value bound; the researcher is part of what is being researched, can't be separated and so will be subjective. Methodology Ethnography, Grounded theory, Phenomenological research, Heuristic inquiry Action research, Discourse analysis, Feminist standpoint research. Method Usually qualitative, could include: Qualitative interview, Observation, Case study, Life history, Narrative, Image data analysis.
Pragmatism	**Critical**
Ontological assumptions Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations. Epistemological assumptions The best method is one that solves problems. Finding out is the means, change is the underlying aim. Axiological assumption Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view. Methodology Mixed or multiple method designs, Design based research, Action research. Method Mixed methods approach, such as data mining expert review, usability testing, physical prototype, Interviews, Observations, Testing and experimentation.	Ontological assumptions Realities are socially constructed entities that are under constant internal influence. Epistemological assumptions Reality and knowledge are both socially constructed and influenced by power relations from within society. Axiological assumption Respects cultural norms. Methodology Critical discourse analysis, Critical ethnography Action research, Ideology critique. Method Ideological review, Civil actions, Open-ended interviews, Focus groups, Open-ended questionnaires, Journals.

Source: Adapted from Dudovskiy (2019), Kivunja and Kuyini (2017:35), Patel (2015) and Žukauskas, Vveinhardt and Andriukaitienė (2018:125)

Choosing a paradigm depends on how the researcher views what is real, what the research knows and how he/she knows it, along with the theoretical perspective(s) about the chosen research topic, the literature that currently exists on the topic, and the researcher's own value system work simultaneously to help select the paradigm most appropriate to him/her (Figure 3.1).

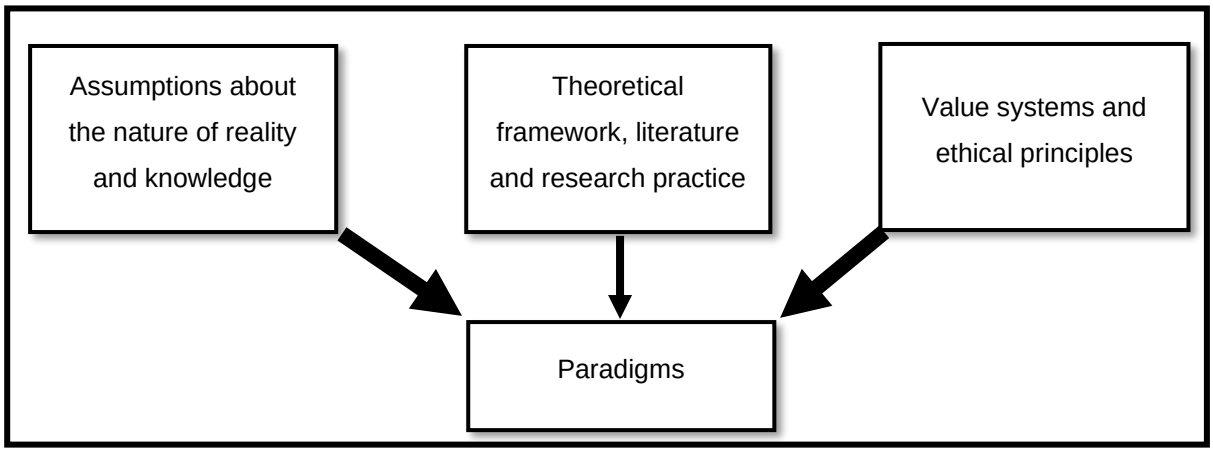


Figure 3.1: Factors influencing the choice of a paradigm

Source: Bagele and Kawulich (2012)

Positivism, also known as logical positivism, holds that the scientific method is the only way to establish truth and objective reality (Bagele & Kawulich, 2012). Bagele and Kawulich (2012) state that positivism holds that the "methods, techniques and procedures used in the natural sciences offer the best framework for investigating the social world". Singh (2007:407) defines positivism as a:

> *paradigm assuming that human behaviour is determined by external stimuli, and that it is possible to use the principles and methods traditionally employed by the natural scientist to observe and measure social phenomena.*

The term "positivism" that originated from French philosopher Auguste Comte in the 1830s to reflect a strict empirical approach in which claims about knowledge are based directly on experience, emphasises facts or causes of social phenomena apart from the subjective states of individuals (Bagele & Kawulich, 2012; Fuller, 2001:619; Rehman & Alharthi, 2016:53; Taylor, Bogdan & DeVault, 2016:3).

Positivism typically applies the scientific method to the study of human action and is viewed as being objectivist and searches for causes through methods such as questionnaires, inventories, and demography that produce data amenable to statistical analysis (Bagele & Kawulich, 2012; Taylor *et al.*, 2016:4).

The positivist paradigm is therefore best suited to the present study as it investigates the learning engagement of a cohort of students from a social cognitive perspective, who are registered in a BL programme at a PHE provider. The comparison of idealised models in theory with reality is the attempt of positivism to apply the theory to the research in the context of assessing the degree of (its) applicability. The implication which blooms is that the emphasis of the research should be on that which is clearly apparent and additionally assessed, regardless of whether or not it is set in certainty or in the perceptions of the target individuals (Brundrett & Rhodes, 2014:14). De Vos, Strydom, Fouché and Delport (2011:7) also state that positivists recognise that they can investigate the implications of a particular normative position, but they can't verify or disprove the position itself.

Since the paradigm of inquiry for this study is positivist, a quantitative approach is used to collect primary data and will be discussed in Section 3.3. Quantitative research designs, according to Singh (2007:63), can be broadly divided into two types, namely: exploratory research and conclusive research. Exploratory research is often conducted to explore the research issue which is usually done when alternative options have not been clearly defined or their scope is unclear, whereas conclusive research is applied to generate findings that are practically useful in reaching conclusions or decision making (Methodology, 2019; Singh, 2007:63). Conclusive research design can be divided into two categories: descriptive research and causal research (Section 3.4). A quantitative non-experimental descriptive, cross-sectional survey was conducted to investigate students' perceptions of their learning engagement in their BL programme (Lubbe, 2016:66). The questions asked within the questionnaire focused on measuring students' attributes, perceptions and opinions within Bandura's SCT constructs and to gauge students' self-reported behaviour. The survey questionnaire used to collect data will be discussed in Section 3.7 of this chapter. Collins and Hussey (2009:54) state that the purpose of positivism is to seek generalisation. Survey researchers typically select

and study a sample (Section 3.6) from the population (Section 3.5) and generalise results from the sample to the population (Collins & Hussey, 2009:54; Creswell, 2012:381) to reach a conclusion (Chapter 5) from the results of the study (Chapter 4).

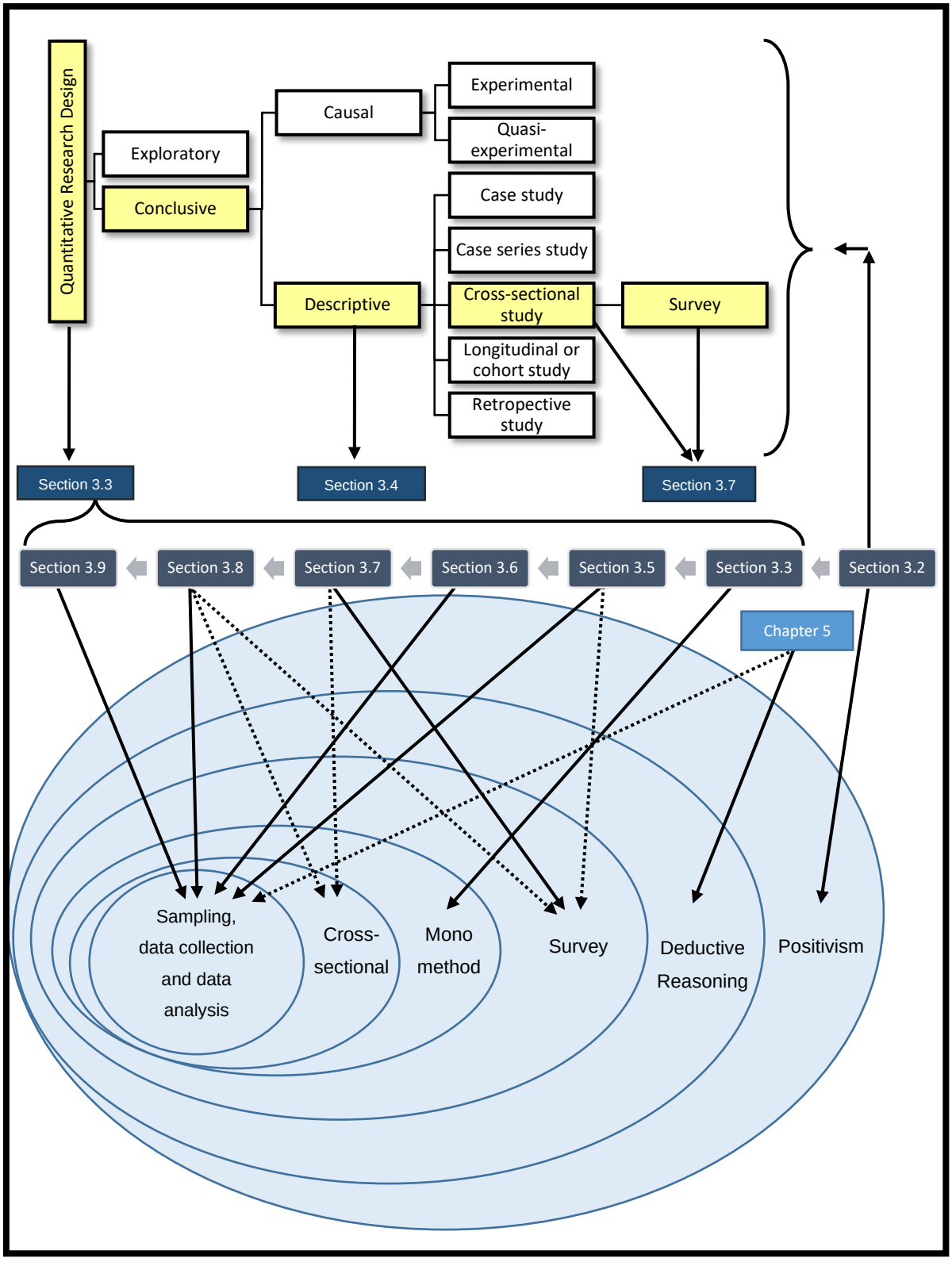


Figure 3.2: Methodology of this research

Source: Adapted from Singh (2007:64) and Saunders, Lewis and Thornhill (2009:138)

3.3 The Research Methodology

The research methodology is a strategy of enquiry, that moves from the underlying assumptions to research design, and the procedures for data collection (Thomas, 2010:301) methods for data analysis, selection of subjects, and details of the specific treatments, if any (Willis *et al.*, 2007:14). Tawil (2018:52) defines research methodology as the groundwork and procedural basis for conducting a study by an investigator. Research methodology employs various steps that are used in obtaining data to answer the research question (Kumar, 2008:5). Kumar (2008:5) further states that research methodology, encompasses the research method and reasoning for the researcher's selected method, within the context of the research study, together with the purpose for the individual's selection.

The SCT framework was used to determine the research question and gave direction to the research methodology and research design used in this study. In an effort to investigate the primary research question, *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?* and the four secondary questions, a quantitative research method approach was used. The "Quantitative research remains the dominant paradigm in many areas of social science" and is seen by some researchers and policymakers as the only real research (Willis *et al.*, 2007:15). The quantitative method was appropriate for this study, as Muijs (2004:7) states that if one wants to find out the "state of something" then quantitative research is particularly suited to finding an answer. Quantitative method is defined as an inquiry approach whereby the investigator specifies narrow questions, locates or develops instruments to gather data to answer questions, and analyses numbers from the instruments, using statistics (Creswell, 2012:626). The process is systematic and objective, and attempts to exclude bias, whereby the researcher interprets the data from a population to generalise the results to the universe that is being studied (Maree & Pietersen, 2011:145).

Quantitative data is defined as “numerical records that result from a process of measurement and on which basic mathematical operations can be carried out” whereas qualitative data “measures behaviour that is not computable by arithmetic relations and is represented by pictures, words or images” Singh (2007:407) and video clips (Saunders *et al.*, 2015:165). The analysis of quantitative data that was gathered through a questionnaire survey is discussed in Section 3.9 of this chapter.

The qualitative data, for the three open-ended questions were analysed and divided into themes, main themes, and sub-themes using thematic analysis. The qualitative data was used to supplement the quantitative data to understand why respondents did not complete activities and/or tasks on the LMS, respondents’ opinions on making BL successful at the PHE provider and which activities, tasks and/or assignments respondents would like added to the LMS to assist them in their BL programme.

3.4 Research Design

The definitions of research design are somewhat ambiguous. Blaikie and Priest (2019) define a research design as an integrated statement of, and justification for the technical decisions involved in planning a research project. Cohen, Manion and Morrison (2018:173) describe a research design as a plan or strategy that is drawn up for organising the research and making it practicable so that the research question(s) can be answered based on evidence and warrants. Saunders, Lewis and Thornhill (2009:135–136) state that the importance of clearly defining the research question of one’s research can’t be overemphasised. They argue that the research design will contain clear objectives, derived from the research question(s), specifying how the researcher will collect the data, and considering the constraints that will be experienced as well as discussing ethical issues. Gelo, Braakmann and Benetka (2008:272) define research design as a plan of action or structure that links the philosophical foundations and the methodological assumptions of a research approach to its research methods in order to provide “credible, accountable and legitimate answers” to the research question(s). Mouton (2013:55) states that the research design is the “plan or blueprint” of the research and differentiates between

research design and research methodology as illustrated in Table 3.2. Mouton (2013:55-56), Thomas (2010:308) and Hakim (2000:1) provide an analogy of research design to the activities of an architect designing a house.

Table 3.2: Differences between research design and research methodology

Research design	**Research methodology**
Focuses on the end product: What kind of study is being planned and what kind of result is aimed at?	Focuses on the research process and the kind of tools and procedures to be used.
Point of departure = Research problem or question.	Point of departure = Specific tasks (data collection or sampling) at hand.
Focuses on the logic of research: What kind of evidence is required to address the research question adequately?	Focuses on the individual (not linear) steps in the research process and the most "objective" (unbiased) procedures to be employed.

Source: Mouton (2013:56)

Cohen *et al.* (2018:173) posit that some researchers argue that a research design ought to go into considerable detail on data collection instruments and data types, while other researchers argue that it is a logistical rather than a logical matter, and the design comprises of, or mainly of, a logical argument in which all the elements of the argument cohere. According to these arguments, De Vos *et al.* (2011:143) explain that a research design focuses on the end result and all the steps in the process to achieve the outcome of the study.

Every research project needs a research design that is carefully tailored to obtain appropriate data for investigating the specific research question. Descriptive and exploratory research have some similarities, but also differ in many respects (De Vos *et al.*, 2011:96). However, although they blend in practice, descriptive research portrays a picture of the specific details of a situation, social setting or relationship (Table 3.3). Using descriptive research, De Vos *et al.* (2011:96) state that the researcher will begin with a well-defined topic and will then conduct research to describe it accurately, whereas with exploratory research the aim is to become familiar with basic facts and to create a general picture of conditions.

Table 3.3: Purposes of research

	Descriptive research	**Causal research**
Defined	Attempts to describe systematically a situation, problem, phenomenon, service or programme, or provides information or describes attitudes towards an issue.	Research design where the main emphasis is on determining a cause and effect relationship.
Question asked	Focuses on "how" and "why" questions.	If "X", then "Y". It seeks to answer the "why" question.

Source: (Bhat, 2019; Kumar, 2011; Rwegoshora, n.d.:16; Singh, 2007:66; De Vos *et al.*, 2011:95–96)

Descriptive research refers to the nature of the research question and data analysis applied to this study. Ethridge (2004:24) characterises descriptive research as "simply the attempt to determine, describe or identify what is, while analytical research attempts to establish why it is that way or how it came to be". Rubin and Babbie (2005:125) refer to descriptive research as the characteristics of a chosen population, while De Vos *et al.* (2011:96) state that descriptive research presents a picture of the specific details of a situation, relationship, or social setting and focuses on "how" and "why" questions. Additionally, Fox and Bayat (2007:8) posit that descriptive research is "aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method."

Descriptive research is appropriate for circumstances where the researcher believes that the information required to solve the problem does not exist at that time. Therefore, Fox and Bayat (2007:8) state that by examining the circumstances, collecting data, analysing and interpreting the data and reaching a satisfactory solution is pivotal in answering the research question(s). It enumerates descriptive data about a population and does not try to establish a causal relationship between events. This is a major limitation, according to Singh (2007:64) as it can't help determine what causes a specific behaviour or occurrence from the study.

While there are many types of quantitative research designs, De Vos *et al.* (2011:144) affirms that there are mainly two classes in which a quantitative

approach can be categorised; they are experimental research and non-experimental research (Lochmiller & Lester, 2017). Experimental research design is categorised by a control group and an experimental group where subjects are assigned randomly to either group. Researchers try to maintain control over all aspects that may affect the results of an experiment and this allows the researcher to manipulate a specific independent variable in order to determine what effect the manipulation has on the other dependent variables (Singh, 2007:66). Non-experimental research design is mainly used in descriptive studies in which the units that have been chosen to take part in the research study are measured on all the relevant variables at a specific time (Maree & Pietersen, 2011:152). They further state that no manipulation of variables takes place and the research does not include an experimental or a control group (Maree & Pietersen, 2011:152).

In summary, this study as previously mentioned in Section 3.2, leans towards using a descriptive quantitative research design where a cross-sectional survey was used to obtain descriptive data to answer the research question: *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?*

3.5 Research Population

The PHE provider for this study was selected as it had implemented BL gradually within its curriculum since 2015 and offered BL programmes from a one-year (higher certificate) to a three-year (bachelor) qualification. The target population (N = 1380) consisted of a cohort of full-time undergraduate students that were registered at the PHE provider to complete a BL programme, within the FITC, in 2019. The programme Bachelor of Business Administration's (BBA) third-year students were also included in the population as the BBA programme was the only other programme being offered at the time of this study as the PHE provider was phasing out the programme from their campus. The population comprised first-, second- and third-year students as well as students who needed to re-do one or more modules to complete their qualification. A population is a group of individual persons, items, objects (Singh, 2007:88), events, organisational units, case records

or other sampling units (De Vos *et al.*, 2011:223) from which samples are taken for measurement. The respondents, in the selected population, had been selected as they possessed the specific characteristics and traits (De Vos *et al.*, 2011:223) needed to investigate student learning engagement in BL programmes at a PHEI. The respondents, at the time of completing the online survey questionnaire, had already been registered in a BL programme for a minimum of six months. The sampling strategy used in determining the sample from the population is discussed in the next section.

3.6 The Sampling Strategy

A sample comprises of elements or a subset of the population (*N* = 1380) which is considered by the researcher for the actual inclusion in the study, or it may be viewed as a subset of measurements drawn from a population in which the researcher is interested (Unrau, Gabor & Grinnell, 2007:279). Sampling, according to De Vos *et al.* (2011:224) and Creswell (2012:142), is studied in an attempt to understand the population from which it has been taken, in other words, generalisability of the results to the defined population. In quantitative research sampling, the intention of sampling is to choose individuals from the population that are representatives of that population so that the results obtained can be generalised to it. This is known as external validity. To accomplish this, quantitative researchers may resort to using probability sampling (Gelo *et al.*, 2008:274).

Probability according to Singh (2007:90) is:

> *The likelihood of the occurrence of an event, whose likelihood value can range from zero to one. A probability of zero means that the occurrence of that event is impossible and a probability of one denotes that the likelihood of the occurrence of that event is sure. However, in reality, probabilities range from zero to one but never attain the value of zero or one.*

With probability sampling, the probability or chance of each element in a population having an equal and independent chance of selection in the sample is known due to randomisation involved in the process (Kumar, 2011; Singh, 2007:102). Therefore, the probability sampling method uses some form of random selection (Leedy & Ormrod, 2015:177).

The second sampling strategy is non-probability. Non-probability sampling does not involve the process of randomisation, thus the probability of selection of each sampling unit is not known and therefore the researcher can't estimate the population parameters from sample statistics (Singh, 2007:107).

There are numerous quantitative sampling strategies that researchers can use in their studies Figure 3.3 illustrates the different sampling methods under the two quantitative sampling groups.

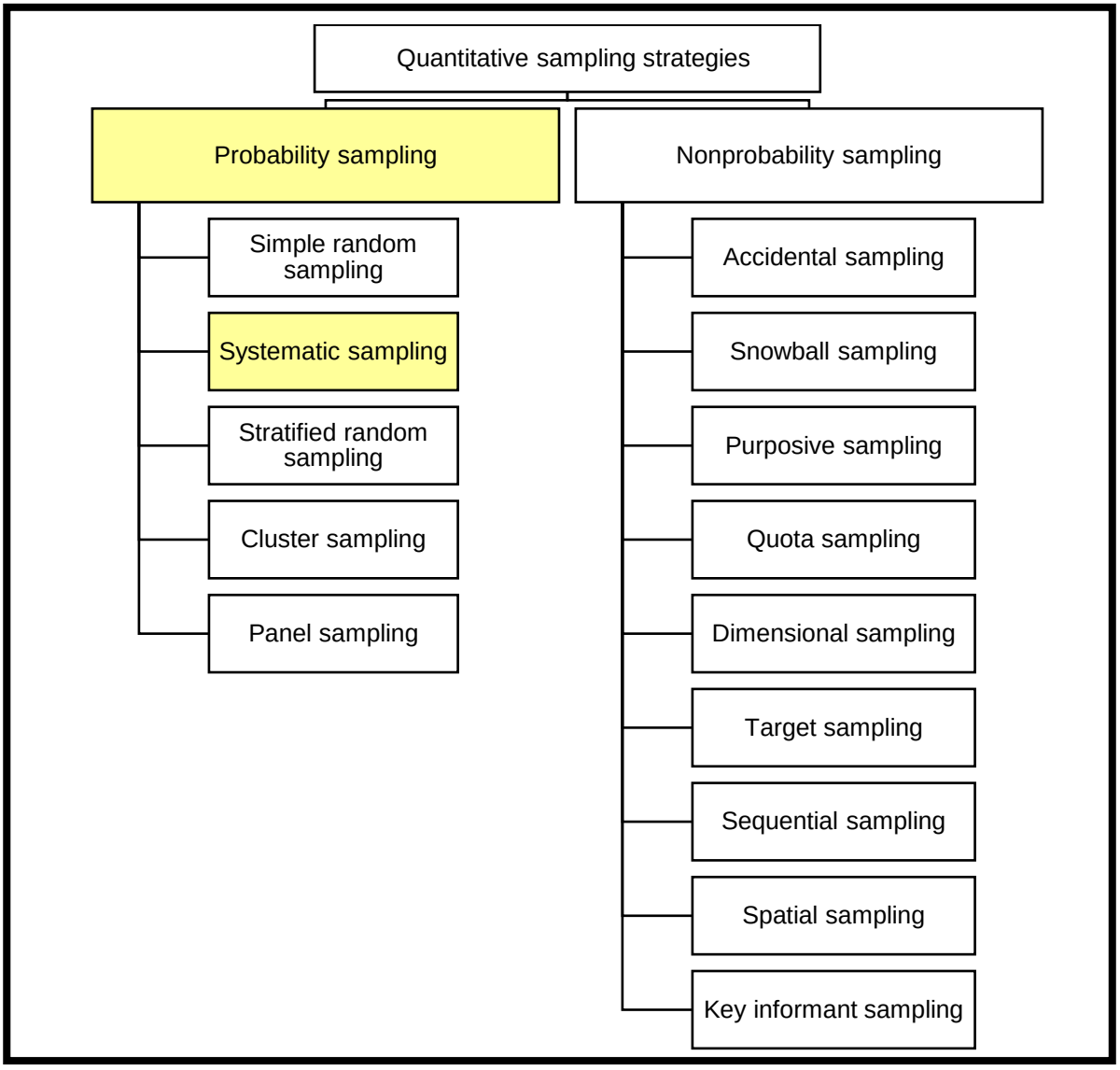


Figure 3.3: Quantitative sampling strategies

Source: De Vos *et al.* (2011:228–234)

For the purposes of this study only the probability sampling strategies will be briefly defined. They are: (1) *simple random sampling* (i.e. each individual of the identified population has an equal chance of being included in the sample), (2) *systematic sampling* (i.e. involves the selection of each *n*th unit of the target population from a randomly ordered list of the population), (3) *stratified random sampling* (i.e. obtained by separating the population into groups so that each element belongs to a single group, from which a random sample is chosen), (4) *cluster sampling* (i.e. a random sample or groups, which are naturally occurring in the population- is selected), and lastly (5) *panel sampling* (i.e. a fixed panel of persons is selected from the population

of persons involved in a particular issue) (Gelo *et al.*, 2008:275; De Vos *et al.*, 2011:228–231).

Saunders *et al.* (2009:243, 2015) state that the major reason for using sampling techniques is dependent on the "feasibility and sensibility of collecting data" to answer the studies research question(s) and to address the research objectives from the entire population. The use of sampling may therefore, result in more accurate information than might be obtained even though the entire population was studied because with a sample, time, money and effort can be used to produce better-quality research (De Vos *et al.*, 2011:224). In addition, the nature of the research does not always allow the researcher access to the entire population.

Figure 3.4 shows that survey or data collection can be broadly classified into two types: (1) *census survey* (i.e. data is collected from each individual of the population of interest) and *sample survey* (i.e. data is collected from some selected individuals of the population) (Singh, 2007:89). According to Singh (2007:89) researchers frequently use sample surveys because it has fewer costs and time constraints attached when using it than that of census surveys. Likewise, in social sciences it is not feasible to collect data from an entire population on the variables of interest. He further states that the researcher will firstly identify a population parameter they want to estimate and then, in the next stage, will select a representative sample of the population from the whole population to estimate the population parameters for sample statistics (Singh, 2007:89).

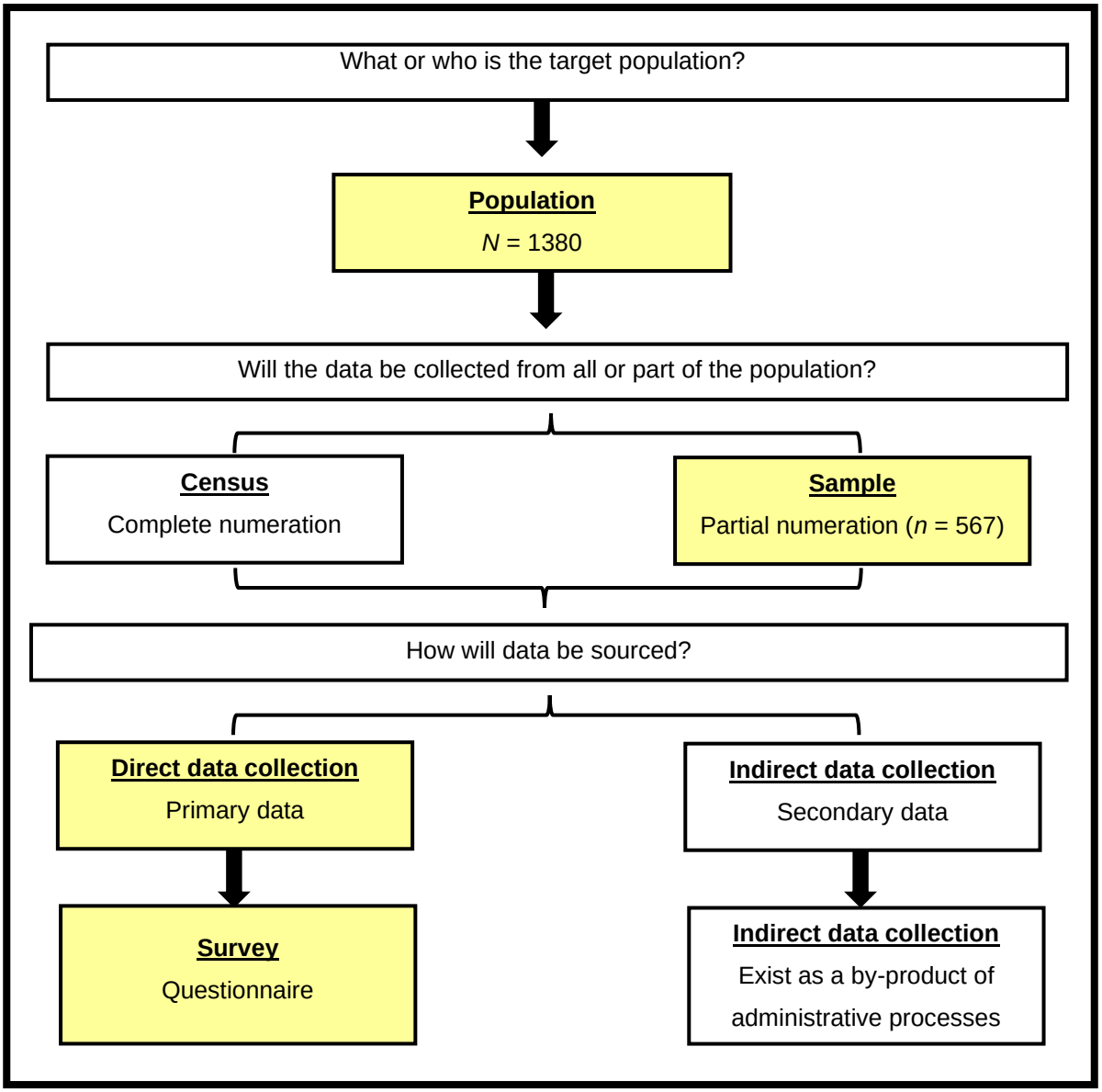


Figure 3.4: Collecting data about a population flowchart: census versus sample

Source: Adapted from Australian Bureau of Statistics (2013)

The issue of the minimum size of a sample is continuously reiterated in literature. Creswell (2012:146) postulates that it is important to determine the size of the sample that the researcher needs. He suggests, as a rule of thumb, that the larger the size of the sample the less the potential for error is that the sample will be different from the population. The difference between the sample estimate and the true population score is known as sampling error. Stoker (1985) as cited in De Vos *et al.* (2011:225) offers a table as an indication of what the size of a sample for a study should be (Table 3.4):

Table 3.4: Guidelines for sampling

Population	Percentage suggested	Number of respondents
20	100%	20
30	80%	24
50	64%	32
100	45%	45
200	32%	64
500	20%	100
1 000	14%	140
10 000	4.5%	450
100 000	2%	2 000
200 000	1%	2 000

Source: Stoker (1985) as cited in De Vos *et al.* (2011:225)

In considering the research paradigm, research methodology and research design discussed in previous chapters, this study used the probabilistic systematic random (Babbie, 2016: 207) sampling approach to investigate a sample (n = 567) of the total population (N = 1380) of a cohort of full-time undergraduate students within the FITC and in the phasing out programmes at the PHE provider. The population was first divided into the year that they were registered at the PHE provider ranging from 2017 to 2019 using student numbering. Using Excel, the list of student numbers was arranged in numerical order. The sampling interval of every *second* person was then applied to the population to determine the list-based sample frame for emailing. The sample of 690 students were invited to participate in the online survey. The researcher expected to receive 552 responses (80.0% response rate) similar to

online surveys undertaken at the PHE provider, but a higher percentage of 82.2% was obtained.

The reasons for applying a sample survey using systematic random sampling was due to the time constraints pertinent to the researcher to conduct the study, and to minimise the disruption of teaching and learning taking place at the PHE provider, and lastly to minimise costs of the study. Babbie (2016:208) states that systematic sampling, in some instances, is slightly more accurate than simple random sampling and Babbie (2007:202–205) considers it having a higher value than simple random sampling. The criteria for students to be selected in the sample were that the students needed to be: (1) registered as a full-time student at the PHE provider and (2) registered for a minimum of six months in a BL programme. Data collection instrumentation is discussed in the Section 3.7.

3.7 The Data Collection Instrument

According to Creswell (2012:377) the most popular form of survey design for quantitative data collection used in education is a cross-section survey design. A cross-sectional survey design is used by a researcher to collect data at one point in time opposed to longitudinal survey design that is used to collect data over time (Cohen *et al.*, 2018:348; Creswell, 2012:377 & 379; Faulkner & Faulkner, 2019:72; De Vos *et al.*, 2011:156). A randomised cross-sectional survey design can be utilised to determine whether a particular problem exists within a group of participants and what the level of the problem is (De Vos *et al.*, 2011:156). This design has the advantage of measuring the quantitative or numeric description of: current status, beliefs, attitudes, trends, opinions, or practices of a population by studying a sample of that population (Creswell, 2012:377, 2014:155; McMillan & Schumacher, 2001:602). Nardi (2014:19, 2018) states that questionnaires are particularly suited to respondents who can read, for measuring people's attitudes and opinions, and for getting to a very large number of respondents who would be too difficult and time-consuming to observe using qualitative methods. The researcher generalises or draws inferences, from the sample results, to the

population. In this study, quantitative data was collected by means of an online survey design in a form of a structured questionnaire.

The online survey was compiled using the online survey generator software, SurveyMonkey®. A questionnaire developed by Meyer, Wohlers and Marshall (2014) was adapted for the purposes of this study to make it relevant for the PHE provider and to align the study towards Bandura's SCT framework (Bandura, 2000, 2009) (Appendix H). Permission was requested and granted by Dr Salome Meyer, to use their survey for the current study (Appendix B).

The data collection method of using an online survey was the best suited to collect the necessary data as a great advantage of online surveys is their timeliness and immediate feedback capabilities (Kaczmirek, 2016:214).

Students had access to computer labs and a library to complete the online survey. They could also access the survey using a mobile device such as laptops, tablets or mobile phones. The online survey was also the single method used for this research in obtaining data which was completed by full-time students registered for the 2019 academic year in a one- (higher certificate) to three- (bachelor) year BL programme within the FITC at the PHE provider. It was expected that respondents would take approximately 20 minutes to complete the online survey.

Babbie (2007:246) defines a questionnaire as "a document containing questions and or other types of items designed to solicit information appropriate for analysis". The questionnaire was designed to be completed anonymously by the respondents by not requesting any personal details that could identify them. A cover letter (Appendix G) was written to accompany the survey questionnaire to explain the intention of the study thereby allowing respondents to make an informed decision on whether they wanted to partake voluntarily in the study.

The online survey questionnaire contained 32 questions/statements in total, of which 29 were closed-ended and three open-ended questions used to investigate students' perceptions of their learning engagement in their BL programme. The questions asked within the questionnaire focused on measuring students' attributes,

perceptions and opinions within Bandura's SCT constructs and to gauge students' self-reported behaviour and is sufficient given the research objectives.

The closed-ended questions/statements were a combination of dropdown box, multiple-choice and matrix/rating (Likert-type scale) questions. The benefit of using Likert-type scale closed-ended questions/statements according to Ary, Jacobs, Sorensen and Razavieh (2010:393–394), is that points can be assigned to the various responses and therefore central tendencies, correlation, variability and the like can be calculated. Closed-ended questions/statements can be easily and quickly answered by respondents. Ary *et al.* (2010:392) further states that all respondents have the same frame of reference in responding and this may also make it easier for respondents to respond to questions on private or sensitive topics. The use of open-ended questions, in a survey questionnaire, is used when there are a great number of possible answers that respondents can supply or when the researcher can't predict all the possible answers (Ary *et al.*, 2010:391). This also permits free responses rather than restricting the respondents to choosing from stated alternatives (Ary *et al.*, 2010:391–392).

The questions were released in a logic setting to control the release of questions so that no irrelevant question was asked of respondents. The logic release of questions was dependent on how respondents had answered a previous question (Table 3.5).

Table 3.5: Skip logic for the data collection instrument

Question(s)	Skip Logic	Skip to…
Confirmation Page	Skip logic	Yes: Question 1 No: End of survey
1 to 7	No skip logic	
8	Skip logic	Yes: Question 9 No: Question 10 I prefer not to say: Question 10
9	No skip logic	
10	Skip logic	Yes: Question 11 No: Question 12
11	No skip logic	
12 to 17	No skip logic	
18 to 20	Question 21 skipped if 18-20 was completed	
21	No skip logic	
22 to 32	No skip logic	

The descriptive questionnaire was divided into five sections and a demographics data collection section. A brief outline of the different sections of the questionnaire is discussed below:

(1) Section A: Demographics Data

Section A includes nine demographical questions (questions 1 to 9) namely; age, gender, highest level of education, the educational programme that respondents were completing in 2019, in which year they were currently completing their qualification, had they registered in a BL programme previously, and was their decision to enrol in the current programme influenced by the fact that the programme was offered in BL mode, and whether they have ever been diagnosed with any disability or impairment. This section was included to obtain demographical information needed to describe the respondents of the sample. Closed-ended questions were used to obtain the data needed for analysis.

Questions 3 to 5 were with reference to the highest qualification acquired, the programme in which the respondents were currently registered in and the year in which they were completing their qualification, in order to determine the different educational backgrounds and level of education of the respondents.

Question 6 related to whether respondents had previously been registered in a BL programme(s) and was asked to determine whether respondents had prior exposure to the same. This would assist in verifying whether the respondents had some experience with BL thereby indicating some familiarity with the concept. Question 7 on enquiring about the respondent's decision to enrol in a BL programme (at the PHE provider) was used to determine whether BL was an important influential factor in the respondents selecting the programme.

Knowing if respondents have any disability or impartment, questions 8 and 9, was important as this may influence SE in academic activities as briefly discussed in Section 2.14.6.9.

(2) Section B: Student Engagement

The aim of the questions in Section B (questions 10 to 21) was to collect data on the extent of SE in F2F and online activities at the PHE provider using 11 closed-ended multiple-choice questions and one open-ended question. As mentioned in Section 2.14.2, an important factor is; for students to learn and develop will depend on the extent of engagement with academic activities. Krause and Coates (2008:493) state that SE focuses on the extent to which students are engaging in activities which HE research has shown to be linked with high quality learning outcomes. Gebre, Saroyan and Bracewell (2014:94) posit that students need to be mindfully engaged in intellectual activities when using technology (i.e. such as computers and LMSs), collaborate and work with other students using the tools available to them, reflect on their learning and develop their metacognitive awareness and be clear about the learning experience. Delialioğlu (2012:310) further

argues that students' low engagement with academic activities is considered the main cause for student dissatisfaction, negative experience, and dropping out from their studies.

Question 10 and 11 asked whether respondents received orientation in using the LMS in BL at the PHE provider and whether they found orientation useful. This was asked to determine whether there is a relationship between orientation and the respondent's self-efficacy in engaging on the LMS at the PHE provider. According to Cassidy (2018:68), it is important to gather data on how useful the respondents found orientation, how it impacted their feelings about studying online and the extent to which they engaged with the programme.

Questions 12 to 14 and 18 were asked to establish the extent of SE in using the LMS as part of BL. Question 17 was used to identify if respondents completed activities and/or tasks on the LMS. If respondents answered "yes" it was then imperative to determine how many activities the respondents completed. If respondents replied "no" to question 17, an open-ended question requested respondents to supply a reason for not completing any activities and/or tasks. The answers supplied could provide the researcher with valuable information on why respondents don't partake in activities and/or tasks that could assist with their learning.

One closed-ended multiple-choice question, question 15, asked respondents whether content, activities and/or tasks where discussed by lecturers in the classroom. The question was used to determine whether lecturers discuss content, activities and/or tasks with students as Vyrastekova (2019) states that it is important that lecturers inform students on how and why they should use the online material in their own time in an effort to promote SE online, so that more in-depth discussions about the content, activities and/or tasks can take place during F2F sessions.

Question 16 and 19 asked whether the activities and tasks on the LMS are compulsory to complete and whether the activities and/or tasks were

graded. These questions were asked, as suggested by Meyer *et al.* (2014:94), to determine whether respondents take responsibility for their own learning. Therefore, it seeks to enquire whether students complete their activities and/or tasks regardless of their compulsory completion or grading.

(3) Section C: Self-efficacy

Section C consisted of three multiple-choice questions and one 5-point Likert scale question (questions 22 to 25), the answers ranging from being *not confident* (1) to being *very confident* (5) (Vagias, 2006). Two questions requested respondents to rate their level of competency in computer skills and one question asked for the respondents' level of skill in using the LMS. These questions were used to determine the respondents' self-reported current computer literacy level and level of skill in using the LMS. The researcher wanted to determine if there was a relationship between computer literacy level and level of skill in using the LMS and self-efficacy as well as their engagement in using the LMS.

The 5-point Likert scale question ranging from *not confident at all* (1) *to very confident* (5), was used to discover which LMS tools and applications the respondents were confident in using. This was to determine whether there was a linear correlation between respondents' perceptions about their confidence in using the LMS tools and applications and their level of self-efficacy; and their level of engagement with the LMS tools and applications.

(4) Section D: Outcome Expectations

Section D only consisted out of one question, question 26, which was a 5-point Likert scale question ranging from *not at all important* (1) to *very important* (5). The question asked respondents what their expected goals were in relation to their participation in the BL programme. The question was asked to determine respondents' level of agreement regarding their outcome expectancies in participating in the BL programme which

influences the respondents' behaviour (in participating in the BL programme) and affects the respondents' goal setting.

(5) Section E: Socio-structural

Section E consisted of two questions, questions 27 and 28. The first question needed respondents to state on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5) their level of agreement whether the PHE provider provided learning spaces that gave the flexibility to decide where the respondent wanted to study. The second question needed respondents to state the level of influence form *not at all influential* (1) to *extremely influential* (5) on whether the listed factors in the questionnaire impacted on their participation in the BL programme. The questions were asked to determine the level to which the socio-structural factors facilitated or inhibited the performance of behaviour of respondents which were associated with the environment in which the respondents found themselves (Conner, 2010:23 & 24). The socio-structural factors are assumed to inform goal setting and be influenced by self-efficacy.

(6) Section F: Goals

Section F consisted of one question, question 29 where respondents had to rate on a 5-point Likert scale ranging from n*ever* (1) to *always* (5), the frequency of thinking about their goals. This question will assist in determining whether the respondents have preconceived goals, that give meaning, direction and satisfaction to their lives, that they want to achieve while attending the BL programme which in turn may serve as self-incentives to action behaviour (Bandura, 2011:55).

The understanding of student experience in a BL environment becomes significant (Lam, 2015a:11) when studying student learning engagement. Two open-ended questions, (31 and 32), were used in the questionnaire to attain respondents' perception and thoughts on their experiences with BL at the PHE provider as well as which activities, tasks and/or assignments students wanted, if any, to be added

on the LMS to assist with BL. Respondents were allowed to answer in open text format so that complete knowledge, feeling and understanding could be described and to ensure that respondents were not limited to a set of options provided to them by the researcher.

Before a quantitative measuring instrument can be used to collect valid and reliable data, the researcher must ensure that the measuring procedure and the measuring instrument have acceptable levels of reliability and validity (De Vos *et al.*, 2011:172). According to Denscombe (2009:106) the concepts of reliability and validity originate from the use of quantitative research within a positivist paradigm. The appropriate criteria, for positivism, are the conventional benchmarks of rigour: internal validity, external validity, reliability, and objectivity (Guba & Lincoln, 1994:114). The reliability and validity of the measurement instrument influences the extent to which a researcher can legitimately learn something about the topic under investigation, the probability that the researcher will obtain statistical significance in any data analysis, and the extent to which the researcher can draw meaningful conclusions from the data (Leedy & Ormrod, 2015:114). Reliability and validity are both quality measures of research instruments and are closely interrelated (Sarantakos, 2013:107). Table 3.6 indicates the different criteria between reliability and validity. The reliability and validity of the measuring instrument will be discussed in Sections 3.7.1 and 3.7.2.

Table 3.6: Criteria of validity and reliability

Validity …	**Reliability …**
• is a measure of the quality of measurement. • tests the quality of indicators and research instruments (i.e. quality of the data). • measures relevance, precision, and accuracy. • tests the ability to produce findings that are in agreement with theoretical or conceptual values. **ASKS**: Does the instrument measure what it is supposed to measure?	• is a measure of the quality of measurement. • tests the quality of indicators and research instruments (i.e. quality of the method). • measures objectivity, stability, consistency, and precision. • tests consistency, i.e. the ability to produce the same findings every time the procedure is repeated. **ASKS**: Does the instrument produce the same results, every time it is employed.

Source: Adapted from Sarantakos (2013:107) and Denscombe (2010:106)

3.7.1 Reliability

Salkind (2006:106, 2009:110, 2012:115, 2013:165, 2018:100) refers to *dependable, consistent, stable, trustworthy, predictable* and *faithful* as synonyms for reliability. He further elaborates that if something is reliable it will perform in the future as it has performed in the past. The reliability of the measurement procedure is therefore, according to De Vos *et al.* (2011:177), the stability or consistency of the measurement and refers to the measuring instrument's ability to yield consistent numerical results each time it is applied; no fluctuation occurs unless there are variations in the variables being measured (Babbie, 2007:143; Denscombe, 2010:144; Leedy & Ormrod, 2010:29, 2015:116; Lochmiller & Lester, 2017). Denscombe (2009:144) postulates that similar findings will be achieved when used in different settings, or by different researchers, or with the same people at different times, or with separate groups of similar people at the same time.

3.7.1.1 Cronbach Alpha Coefficient (Cronbach's α)

Cronbach's α is a commonly used statistic to assess or to determine the internal consistency reliability of an instrument or scale (Andrew, Pedersen & McEvoy, 2011:202; Heale & Twycross, 2015:66; Newman & Keith, 1998:39). Cronbach's α

measures how well a set of variables or items measure a single, unidimensional latent construct. It is essentially a correlation between the item responses in the questionnaire (Andrew *et al.*, 2011). If the items are strongly correlated with one another, their internal consistency will be high, and the alpha coefficient will be close to one. But, if the items are poorly formulated and do not correlate strongly, the alpha coefficient will be close to zero. The Cronbach's α result is a number between 0 and 1. The acceptable reliability score is one that is 0.7 and higher (Heale & Twycross, 2015; Leung, 2001:84). The following guidelines provided by Pietersen and Maree (2011:216), and accepted by researchers, are indicated in Table 3.7.

Table 3.7: Interpretation of Cronbach's α

Number	**Interpretation**
0,90	High reliability
0,80	Moderate reliability
0,70	Low reliability

Source: Pietersen and Maree (2011:216)

This study employed a pilot study (discussed in Section 3.8.2 and Section 3.8.2.1) with an interview with two respondents to measure the reliability of the measuring data collection instrument (Appendix H). The study also utilised the Cronbach's α coefficient as De Vos *et al.* (2011:177) state that the most regularly used reliability measure is the Cronbach's α coefficient as is discussed in Section 3.7.1.1.

The questionnaire was designed by Meyer and colleagues (Meyer *et al.*, 2014) and was adapted for the purpose of this study. The adjustments to the design of the instrument were guided and influenced by the review of literature and by the contribution of a subject expert.

3.7.2 Validity

Validity, according to Andrew *et al.* (2011:202) and Leedy and Ormrod (2015:115), is the extent to which an instrument accurately measures the target it was designed to measure and helps the researcher determine whether or not an instrument addresses its designed purpose. Salkind (2006:113, 2018:105) refers to validity as:

truthfulness, authenticity, accuracy, soundness and genuineness. Therefore, the definition of validity has two aspects as stated by De Vos *et al.* (2011:173): (1) the concept is measured accurately, and (2) the instrument actually measures the concept in question. Singh (2007:79) purports that researchers should be concerned with both internal and external validity. Internal validity refers to the true causes which result in an outcome while external validity indicates the extent to which a research study can be generalised to other situations. Salkind (2017:99) states that reliability and validity are the first lines of defence against spurious and incorrect conclusions. Therefore, if the instrument used in research fails, then everything else down the line fails as well.

There are different types of internal validity that a researcher can use to establish validity of an instrument. The types are: (1) *content validity* (refers to the degree to which a test measures what it intends to measure), (2) *face validity* (concerns the superficial appearance of face value of a measurement procedure) (3) *construct validity* (refers to the congruence between the researcher's ideas and the way that the researcher measures them), and (4) *criterion or criterion related validity* (the extent to which a test score accurately reflects some type of performance indicator) (Creswell, 2014; Heale & Twycross, 2015:66; Leedy & Ormrod, 2015:115; Lochmiller & Lester, 2017; Orcher, 2014; Pietersen & Maree, 2011:217; Salkind, 2010; Singh, 2007:79; De Vos *et al.*, 2011:173). Table 3.8 indicates three types of validity. Internal and external validity of the study will be discussed under Sections 3.7.2.1 and 3.7.2.2. Content and face validity were found to be most relevant to this study and are explained below.

Table 3.8: Types of validity

Type of Validity	What is it?	How do you establish it?
Content	A measure of how well the items represent the entire universe of items.	Ask an expert if the items assess what you want them to assess.
Criterion *Concurrent*	A measure of how well a test estimates a criterion.	Select a criterion and correlate scores on the test with scores on the criterion in the present.
Predictive	A measure of how well a test predicts a criterion.	Select a criterion and correlate scores on the test with scores on the criterion in the future.
Construct	A measure of how well a test assesses some underlying construct.	Assess the underlying construct on which the test is based and correlate these scores with the test scores.

Source: Salkind (2017:105)

3.7.2.1 Internal Validity

Content validity refers to the extent to which the instrument covers the complete content of a particular construct that it is set out to measure (Pietersen & Maree, 2011:217). Singh (2007:79) defines content validity as where the researcher tries to assess whether the content of the measurement techniques is in consonance with the known literature on the topic. Rubin and Babbie (2001:194, 2008:186, 2011:200) state that content validity is "established on the basis of judgements; that is when researchers or other experts make judgements about whether the measure covers the universe of facets that make up the concept".

To establish content validity, the researcher used a questionnaire, as discussed in Section 3.7, that was previously used by Dr Salome Meyer and colleagues (Meyer *et al.*, 2014). The questionnaire was adapted to suit the needs of this study using Bandura's SCT framework as scaffolding. The literature review guided the researcher in formulating questions that would answer the primary and secondary research questions. A draft version of the data collection instrument was presented to a subject expert who provided recommendations for the improvement on the structuring of the data collection instrument and assisted the researcher in ensuring that the representativeness and suitability of the questions asked met the objectives of the study prior to pilot testing (Pietersen & Maree, 2011:217; Ruel, Wagner & Gillespie, 2016:103; Saunders *et al.*, 2009:394). The researcher organised the

questions, as recommended by the subject expert, into the objectives of the study to protect internal validity. The Likert-type scale response anchors, as developed by Vagias (2006), were used in the data collection instrument to create consistency in the options of reply for respondents to select. After amending the data collection instrument, it was then piloted to a sample of ten respondents who provided input into the improvement of the structure of questions, removal of ambiguous questions as well as the removal of words that respondents did not understand.

After the pilot study had been conducted, the researcher approached the subject expert for the second time with the recommendations made by the respondents which including the meeting held with two respondents. The researcher, in combination with the subject expert, adapted the data collection instrument as indicated in Table 3.10.

A second opinion was received from another educational expert who has been working within a BL PHE environment and has extensive expertise in BL and PHE. The research objectives and data collection instrument were provided, for the expert to assess the content validity of the data collection instrument in answering the research objectives.

The pilot testing of the instrument was the second validation that assisted with the content validity and face validity of the instrument (Creswell, 2014:161; Saunders *et al.*, 2009:394). The pilot study is discussed in Section 3.8.2 and the results are in Section 3.8.2.1.

Face validity refers to the extent to which the instrument “looks” valid (Pietersen & Maree, 2011:217). Gravetter and Forzano (2003:87) indicate that face validity is the simplest and least scientific definition of validity. De Vos *et al.* (2011:174) claim that methodologists argue that face validity is not technically a form of validation, but rather that it is relevant to those who will complete or administer the instrument. They also state that face validity is a desirable characteristic of a measuring instrument and without it, the researcher may encounter resistance from respondents in completing the instrument which may then adversely affect the results obtained. Face validity was sought from two experts consulted during

content validation as well as through piloting the survey to ten respondents. The researcher also received advice from a statistician on the structure of the questionnaire.

3.7.2.2 External Validity

External validity is concerned with the question of whether the results obtained from the study can be generalised beyond the specific research context (Bryman & Bell, 2015:50–51; Faulkner & Faulkner, 2019:101; Rubin & Babbie, 2008:233). This is the main reason why quantitative researchers seek to generate representative samples from the population, setting and procedures. Faulkner and Faulkner (2019:101) state that the more a study can be generalised to a larger population, the more external validity the study has attained. External validity can't be quantified in terms of a specific set of guidelines, however it can be evaluated through several characteristics, namely (1) whether the study is explained in enough detail so that other researchers can repeat the study, the more a study can be replicated, the more external validity it assumes; (2) how the sampling was conducted by the researcher; (3) how the respondents of the measure were chosen; (4) the size of the sample (Faulkner & Faulkner, 2019:101). The external validity, for this study, was achieved through the sampling selection strategy (discussed in Section 3.6) from the population of a cohort of students completing their qualification at a PHE provider.

3.8 The Data Collection Process

In order to obtain data that will reflect student learning engagement, from a social cognitive perspective in BL it was decided by the researcher to make use of an online survey questionnaire designed on the online survey generator software, SurveyMonkey®. According to Nardi (2014:19, 2018) questionnaires are particularly suited to respondents who can read, for measuring people's attitudes and opinions, and to getting a very large number of respondents who would be too difficult and time-consuming to observe using qualitative methods. The survey questionnaire, as discussed in Section 3.7, was adapted from Dr Salome Meyer and

colleagues (Meyer *et al.*, 2014), to suit the needs of this study using the Bandura's SCT framework as scaffolding.

The data was collected from respondents during the beginning of the semester, from 8 July to 5 August 2019. Respondents were invited via their official student email accounts (Appendix D), as well as through their programme manager and/or programme co-ordinator, to voluntary complete the online survey. A cover letter to the survey (Appendix G) was attached to the questionnaire that informed respondents on the purpose of the research so that they could make an informed decision on whether they wanted to voluntarily partake in the research. Respondents could also request further information (Appendix E) on the research by contacting the researcher directly if they wished to do so. Consent was requested from respondents before they could complete the survey (Appendix F). The respondents could either complete the survey using the PHE provider's computers situated in the library, computer labs and cyber centre, or on their mobile devices or at home.

The timeline for sending the original email with a follow-up reminder email to non-respondents is shown in Table 3.9. The email messages followed the format recommended by Creswell (2012:391).

Table 3.9: Timeline for emailing survey and reminders

Steps	**Timeline**	**Date**
First mailing of survey	Day 1	8 July 2019
Second mailing of survey	Two weeks	22 July 2019
Closing for responses	Two weeks	5 August 2019

Posters were also designed by the researcher and placed around campus to encourage students to partake in the online survey.

3.8.1 Ethical Consideration

Ethical considerations in research are critical. In positivism, ethics is an important consideration and it is taken very seriously by the inquirer, but it is "extrinsic to the inquiry process itself" (Guba & Lincoln, 1994:114). The term *ethics* is defined as follows:

> *It is a set of moral principles which is suggested by an individual or group, is subsequently widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students* (De Vos *et al.*, 2011:114).

In all the steps of the research process, the researcher ensured that ethical practices were followed and abided by (Creswell, 2012). To make sure that ethical considerations were compiled with, the researcher considered the following ethical aspects during the duration of the entire study:

(1) The researcher acquired permission from the original designer of the questionnaire Meyer *et al.* (2014) (Appendix B) before adapting the questionnaire for the purposes of his study (Neuman, 2014:155).

(2) Before conducting research, ethical clearance (Appendix A) was obtained from Unisa's College of Education Ethics Review Committee for the questionnaire that was used to conduct the pilot study and main study (Denscombe, 2010:61; De Vos *et al.*, 2011:127).

(3) Permission to conduct research at the PHE provider's campus site as well as using their students as human research subject (Appendix C), was sought and approved by the PHE provider's ethics committee (Saunders *et al.*, 2009:173).The anonymity of the PHE provider's brand name and identity was maintained throughout the study process (Saunders *et al.*, 2009:199).

(4) According to Burns (2000) and Salkind (2016:77), both researcher and the participants must have a clear understanding about the anonymity of the respondents, confidentiality of the results and findings of the study. Therefore, the respondents' identity, information and responses were kept private and confidential (Salkind, 2010, 2017:78 & 80). In addition, the results from the study were presented and/or disclosed anonymously (Saunders *et al.*, 2015:255).

(5) All respondents were solicited voluntary with informed consent by emailing them an invitation letter (Appendix D) with a link to the online survey questionnaire (Salkind, 2010, 2017:79; De Vos *et al.*, 2011:116–117). Respondents needed to provide consent before they could access the survey. If students did not provide consent, they would then be directed to the "disqualified page" using "question skip logic" on SurveyMonkey®.

(6) The researcher has an ethical obligation to protect respondents, within all possible reasonable limits, from any physical and emotional harm (De Vos *et al.*, 2011:115). Respondents were informed beforehand about any potential impact of the investigation through the Participation Information Sheet (Appendix E).

(7) Lastly, the researcher strived to be honest, respectful and sympathetic towards all respondents and continually conducted the research according to the policy of Unisa's College of Education Ethics Review Committee and the PHE provider's Ethics Committee. The researcher also strived to report the results in an objective and honest way.

3.8.2 Pilot Study

A pilot study was conducted for this research study as Ismail, Kinchin and Edwards, (2018:15) argue that a pilot study is crucial for a well-planned dissertation design to ensure methodological rigour and scientific validity. De Vos *et al.* (2011:195) also argue that the questionnaire should be thoroughly pilot tested before being utilised in the main investigation to ensure that errors of whatever nature can be rectified

immediately and at little cost. A pilot study, as defined by (Barker, 2003:327–328), is the procedure for testing and validating an instrument by administering it to a small group of participants from the intended test population.

After receiving ethical clearance from Unisa's College of Education Ethics Review Committee (Appendix A) and permission to conduct research at the selected PHE provider (Appendix C), the researcher sought input from a subject and educational expert (Singh, 2007:202) on the content and formulation of the survey using SurveyMonkey® as the data collecting online software. Input by the expert was received on 27 May 2019 whereby changes were made to the invitation email, welcoming message and questions within the questionnaire. Recommendations were also received by the Approval Committee of the PHE provider on the structure of two questions in the survey. This helped establish content validity and enabled the researcher to execute necessary amendments prior to pilot testing with a sample from the population (Saunders *et al.*, 2009:394).

Saunders *et al.* (2009:394), Isaac and Michael (1995), and Hill (1998) suggest that a sample of minimum of 10 to 30 participants be used for a pilot study in survey research whereby Roscoe (Hill, 1998) indicates that samples less than ten are not recommended. The researcher had to take into consideration the time constraint to conduct the pilot study since students were heading into exam preparation week and he did not want to cause a disturbance while students were preparing for their examinations.

The survey was piloted to a cohort of ten students (n = 10), from the PHE provider on 29 May 2019, to refine the questionnaire even further so that when the survey was released to the sample population, they would not experience problems in answering questions truthfully (Saunders *et al.*, 2009:394) or misinterpret questions. Babbie (2004:256) and De Vos *et al.* (2011:195) recommend that it is better to request persons to complete the questionnaire than just to read through it looking for mistakes as a question may seem to make sense on the first reading, but may prove to be impossible to answer. The pilot testing was also used to test whether questions were released in a logical order depending on how questions were answered. As an example, if students answer "no" or "I prefer not to say" to being

diagnosed with any disability or impairment, the sequential question of: “Which of the following have you been diagnosed with?” would then be bypassed. The pilot study also provided an opportunity for the researcher to test how data was recorded in SurveyMonkey® for analysis.

The respondents completed the pilot survey on SurveyMonkey® by giving consent to complete the questionnaire. They provided written comments on a printed format of the questionnaire on weaknesses in the instrument and potential amendments that could be implemented to make the questionnaire more effective and efficient for the study. The researcher also encouraged respondents to think out loud and voice their ongoing mental reaction so that he could narrate their thought processes while they were taking the survey (Ruel *et al.*, 2016:106). Respondents were encouraged to remark about what they perceived they were being asked and if they found anything confusing or misleading about the survey question (Ruel *et al.*, 2016:106). After the respondents had completed the online survey, the researcher had a debriefing session with two respondents to gather feedback and reactions to specific questions, the survey design and the survey process.

The results of the pilot study are discussed in Section 3.8.2.1 and a discussion of the changes effected to the questionnaire (Section 3.8.2.2).

3.8.2.1 Pilot Study: Online Survey Results

An email invitation to partake in the online survey, using SurveyMonkey®, was sent to a cohort of ten students who were registered at the PHE provider in the 2019 academic year. All ten students agreed to voluntarily partake in the pilot study. Students were provided a computer lab in which they could complete the online survey and were also provided with a hardcopy of the questionnaire on which they could supply feedback in the following areas: (1) the clarity of instruction, (2) which, if any, questions were unclear or ambiguous, (3) which, if any, questions the respondents felt uneasy about answering, (4) whether the layout was clear and easy to work through (5) and whether questions appeared in a logical format (Saunders *et al.*, 2009:394; Simon, 2011).

The respondents (*n* = 10) included three female students and seven male students ranging from 16 – 24 years (16-17: *n* = 1) (19-20: *n* = 4) (21-22: *n* = 4) (23-24: *n* = 1). The pilot sample included Setswana (*n* = 4) as the majority home language, followed by IsiZulu (*n* = 2), North Sotho (*n* = 2), SiSwati (*n* = 1), and English (*n* = 1). All respondents had attained a grade 12 standard of education of which nine had completed their schooling in an urban area which was situated in Gauteng (*n* = 5), North West (*n* = 2), Mpumalanga (*n* = 1), Limpopo (*n* = 1), and KwaZulu-Natal (*n* = 1).

Students rated their computer skills level as beginner (30.0%) and competent (70.0%) and 80.0% indicated that they were confident with using a computer. All students received training in using the LMS before commencing with the BL programme. All respondents indicated that their lecturer(s) had discussed the activities/tasks/assignments that are on the LMS during their F2F sessions and they had completed their activities/tasks/assignments on the LMS with the majority completing more than 14 activities/ tasks/ assignments for the 2019 academic year.

The respondents rated their level of skills using LMS as high (60.0%) and moderate (40.0%) with most students rating their overall experience with the BL programme at the PHE provider as good.

3.8.2.2 Pilot Study: Changes to the Data Collection Instrument

Table 3.10 lists the questions as initially planned that were used in the pilot study as well as the amendments that were made after conducting the pilot study. Such amendments were effected in consultation with a subject expert. Extra instructions were added to each question to assist the respondents in completing the survey i.e. “please tick one option” or “please make a selection at each tool”. Questions 2, 3, 5 and 6 were deleted from the questionnaire as knowing the respondents race, home language, location of secondary schooling would not have contributed to answering the primary and secondary research questions. Dawson (2013) argues that one should not ask unnecessary questions or any that are not relevant to one’s research topic.

Table 3.10: Changes to data collection instrument

Question number	Original questions	Amendment questions
1	Please indicate your age.	Age categories were removed e.g. 16-18 and respondents could type in their own age.
2	Please indicate your race.	This question was deleted and replaced with “what is your gender?”
3	What is your home language?	This question was deleted.
4	What is your highest level of education (or qualification) completed?	
5	The secondary school where you matriculated was in a/an…	This question was deleted.
6	In which province did you complete your secondary schooling?	This question was deleted.
7	Please select the name of the programme that you are studying in 2019.	This question became question 4. An option of “other (please specify)” was added to the option of answers.
8	You are currently a … year student.	This question moved to question 5.
		New question added as question 6: “Have you taken any blended learning course(s) before starting your current course at the private higher education provider? (please tick one option)”.
		New question added as question 7: “Was your decision to enrol in the course at the private higher education provider influenced by the fact that it is offered in a blended learning mode? (please tick one option)”.
9	Have you been diagnosed with any disability or impairment?	This question moved to question 8.

Question number	Original questions	Amendment questions
10	Which of the following impairment have you been diagnosed with?	This question moved to question 9.
11	Did you receive training/orientation in using the learning management system?	This question moved to question 10.
		New question added as question 11: “Did you find the training/orientation in using the learning management system helpful? (please tick one option)”.
12	How long have you been using the learning management system?	
13	How many hours a day do you spend studying content on the learning management system?	
14	How many hours a day do you spend communicating with your fellow students using the learning management system?	
15	Does the lecturer discuss the activities/tasks/assignments on the learning management system during your classroom periods?	Question rephrased: “Please rate the extent to which you agree/disagree with the following statement: "My lecturer(s) discuss the content, activities and/or tasks on the learning management system during my classroom periods." (please tick one option)” The answer provided to respondents changed from a “yes/no” answer to a 5-point Likert scale option. This question moved to question 15.

Question number	Original questions	Amendment questions
		New question added as question 16: “Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks are compulsory to complete on the learning management system." (please tick one option)”.
16	Have you completed any of the activities/tasks/assignments on the learning management system?	This question moved to question 17. The word “assignments” was removed from the question.
17	How many activities/tasks/assignments have you completed for the current college year?	This question moved to question 18. The word “assignments” was removed from the question. The word “current” was underlined and the year “2019 only” was added to the question. Although the sentence/question did maintain the word “current” five students expressed uncertainty as to the period referred to.
		New question added as question 19: “Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks on the learning management system are graded by my lecturer(s)." (please tick one option)”.
		New question added as question 20: “Please rate the extent to which you agree/disagree with the following statement: "The lecturer(s) provide(s) feedback on the activities and/or tasks completed on the learning management system." (please tick one option)”
18	Why have you not completed any activities/tasks/assignments on the learning management system?	The word “assignments” was removed from the question. This question moved to question 21.
19	How would you rate your computer skills level?	This question moved to question 22.

Question number	Original questions	Amendment questions
20	How confident are you with using a computer?	The 5-point Likert scale by Vagias (2006) instead of a four response answer. This question moved to question 23.
21	How would you describe your current level of skills in using the learning management system?	This question moved to question 24.
22	How would you rate your confidence in using the following tools and applications?	This question moved to question 25. Some of the applications and tools were removed and made relevant to the learning management system that the PHE provider was using.
23	Rate your envisaged goals in relation to your participation in a blended learning programme:	This question was reworded as students were confused in the manner the sentence was structured. The 5-point Likert scale was also changed from *strongly disagree* (1) to *strongly agree* (5) and replaced with *not at all important* (1) to *very important* (2). This question moved to question 26.
24	The College provides learning spaces that gives me flexibility to decide where I want to study on campus (this includes spaces outside the classroom, such as the library, computer labs, rooms available for individual and group work/breakout sessions).	This question moved to question 27.
25	Rate the level to which the following factors impact on your participation in blended learning programme:	This question was reworded as students were confused by the manner in which the sentence was structured. The 5-point Likert scale was also changed from *strongly disagree* (1) to *strongly agree* (5) and replaced with not *at all influential* (1) to *extremely influential* (2). This question moved to question 28.

Question number	Original questions	Amendment questions
26	Rate your frequency of thinking about the following goals.	This question moved to question 29.
27	How would you rate your overall experience with blended learning at the private higher education provider?	This question moved to question 30.
28	What do you think the private higher education provider needs to do (or keep doing) to make blended learning successful for students?	This question moved to question 31.
29	What activities/tasks would you like to be added on the learning management system to assist you with your blended learning programme?	This question moved to question 32.

3.9 Data Analysis

After the closing date for responses, 5 August 2019, the complete dataset was downloaded from SurveyMonkey® in IBM SPSS (version 25) format for analysis. The data analyses incorporated various statistical procedures and test statistics in order to analyse the data. This included constructing basic frequency tables and calculating summary statistics such as *Mn*, Median (*Md*) and Standard Deviation (SD) in order to investigate variation in the data. These were considered univariate statistics. Further bivariate analysis included cross tabulations to investigate group differences. More specifically Mann-Whitney *U* and Kruskal-Wallis H tests were used. According to Pallant 2016:227 the Mann-Whitney *U* Test is a non-parametric test to compare outcomes between "two independent groups on a continuous measure" (i.e. between males and females) and compares *Md* and distributions. It converts the scores on the continuous variable to ranks across the two groups and then evaluates whether the ranks for the two groups differ significantly. The Kruskal-Wallis H Test also referred to as the Kruskal-Wallis H Test, is a non-parametric test that is an alternative to the Mann-Whitney *U* Test. It allows the researcher to compare the scores on some continuous variables for three or more groups (Pallant, 2016:232). The Kruskal-Wallis H Test is similar in nature to the Mann-Whitney *U* Test, but it allows the researcher to compare more groups. The scores are converted to ranks and the *Mn* rank for each group is compared. Therefore, this is a "between groups" analysis, so different people must be in each of the different groups (Pallant, 2016:232). The Pearson's chi-square (chi-square) test was used to explore the relationship between two categorial variables (Pallant, 2016:217).

As part of scale construction for self-efficacy, a multivariate statistical technique in the form of Exploratory Factor Analysis (EFA) was employed. Pallant (2016:181) postulates that EFA is frequently used in the early stages of research to gather information concerning the interelationships amongst variables. EFA is a statistical method utilised to reveal the underlying structure of a relatively large set of variables and a technique within factor analysis where the main goal is to identify the underlying relationships between measurable variables (Norris & Lecavalier, 2009). Tabachnick and Fidell (2007:613) state that "it is comforting to have at least 300

cases for factor analysis" and the outcomes can therefore, be generalised to the population. The sample size for this study is n = 567, therefore inference can be generalised to the broader population N = 1380.

To assess internal consistency reliability, for this study, the Cronbach's α was calculated. Cronbach's α was discussed in Section 3.7.1.1 of this chapter. To assess the linear relationships the Spearman's rho correlation analysis was employed. Correlation analysis is a method of statistical evaluation used to study the strength of a linear relationship between two, numerically measured, continuous variables. The correlation between two variables can either be positive or negative ranging between -1 and +1 (Boston University School of Public Health, 2013). The following guidelines from Cohen (1988:79–81) suggest that the not effect size (r = 0); very small/very weak, (r = 0.001 to 0.09); small/weak, (r = 0.10 to 0.29); medium/moderate, (r = 0.30 to 0.49) and large/strong, (r = 0.50 to 1.0).

The qualitative analysis that was employed to analyse the three open-ended questions asked in the online survey, into themes was thematic analysis. According to Maguire and Delahunt (2017:3352) thematic analysis is the "process of identifying patterns or themes within qualitative data." Common trends were identified from respondents' comments and tabulated in Table 4.40 to table 4.42 as main themes, themes and sub-themes. Verbatim responses were provided to support each theme (Singer & Couper, 2017:127).

3.10 Conclusion

Chapter 3 explained the descriptive quantitative research design for this study using a positivist paradigm of inquiry. It described and argued the reason for using a cross-sectional survey to obtain descriptive data from a sample population of n = 567 respondents of a total population of N = 1380, to answer the primary and secondary research questions. The sampling strategy used in selecting the sample population was systematic sampling. Furthermore, a pilot study was conducted with ten respondents prior to the main study to improve the quality and efficiency of the survey questionnaire. Additionally, this chapter discussed the reliability and validity

of the survey questionnaire as well as the ethical consideration. Lastly, the method employed in analysing the data for the survey questionnaire, was based on the use of descriptive statistics to interpret the results which will be discussed in Chapter 4.

CHAPTER 4

RESULTS OF THE STUDY

4.1 Introduction

This study aimed to investigate the nature and extent of PHE students' social cognitive learning engagement, in BL programmes, at a PHE provider. The study investigated first- to third-year full-time time students' learning engagement, including students who were required to repeat certain modules, during the completion of their qualification (i.e. from higher certificate until bachelor) and how BL had impacted their experience of teaching and learning. The majority of respondents were registered in FITC (95.6%) with some respondents from other programmes (4.6%) that were being phased out from the campus (Table 4.4).

In the preceding chapter, the research design and methodology were discussed. The research design and methodology were used to develop a data collection instrument, namely an online survey questionnaire. This study used a cross-sectional survey to obtain descriptive data to answer the research question: *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?* The online survey, using SurveyMonkey ®, was employed for the period 8 July 2019 to 5 August 2019 to gather data from PHE respondents.

In this chapter, the results of the data analysis for this descriptive quantitative research study are examined. The demographics of the respondents' results will first be presented and are followed by the results of the secondary research questions in relation to the Bandura's SCT framework (Figure 4.1). The secondary research questions for this study were:

(1) How do private higher education students perceive their self-efficacy in relation to blended learning?

(2) How do private higher education students' outcome expectations impact their engagement in blended learning programmes?

(3) How do socio-structural factors impact the private higher education students' engagement in blended learning programmes?

(4) How do private higher education students' goal orientations impact their engagement in blended learning programmes?

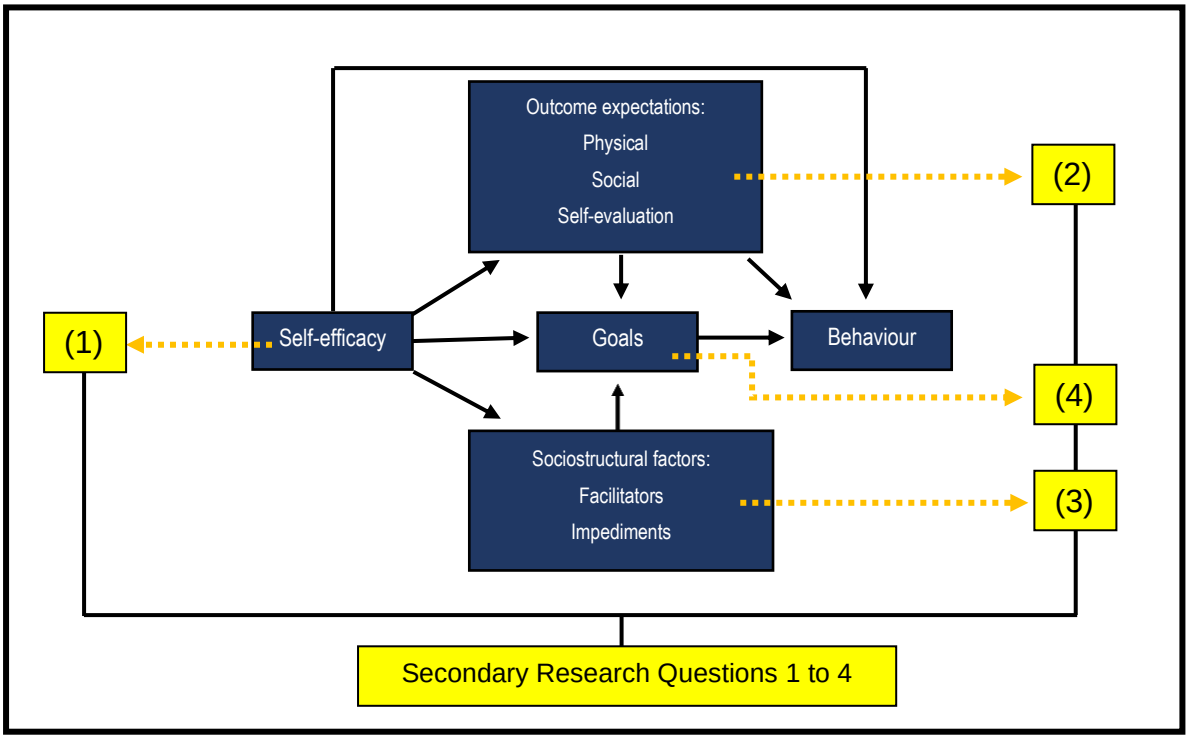


Figure 4.1: Results presented according to Bandura's Social Cognitive Theory and the four secondary research questions (1 to 4)
Source: Adapted from Bandura (2000:121, 2009:180)

4.2 Demographics of Respondents

This section will provide a brief overview of the demographics of the respondents. The descriptive data illustrated below represents the questions asked in the online survey under Section A, questions 1 to 5, on respondent's age, gender, highest level of education and current programme and year of study in 2019. The same will orientate the reader with the results of this chapter. The overall response rate of

n = 567 respondents was obtained from a total *N* = 1380 population of full-time registered students at the PHE provider. Therefore, a response rate of 41.1% of the total population was attained. The sample reflects to some extent the actual population distribution. According to Stoker (1985) as cited in De Vos *et al.* (2011:225) a 14.0% sample size would be adequate enough to generalise results to the general population.

Survey question 1: What is your age?

Question 1 was used to determine the age of the respondents so that they can be grouped together into two age groups namely: pedagogy (i.e. age group of 17 to 21 years) and andragogy (i.e. age group of 22 years and older) for group difference for this study, with a particular emphasis on self-efficacy and SE as Chyung (2007:220-221) reported in his study on "*Age and gender differences in online behavior, self-efficacy, and academic performance*"

Table 4.1 represents the two age groups of respondents. The majority age group of respondents (70.7%) attending the PHE provider, falls into the pedagogy group which is characteristic of students in their undergraduate years of study. Respondents aged 22 years and older represent 29.3% of the sample population.

Table 4.1: Age group of respondents

Age Group	**Frequency**	% **(*n* = 567)**
17-21 years	401	70.7%
22 years and older	166	29.3%

Figure 4.2 provides a graphical representation of the two age groups.

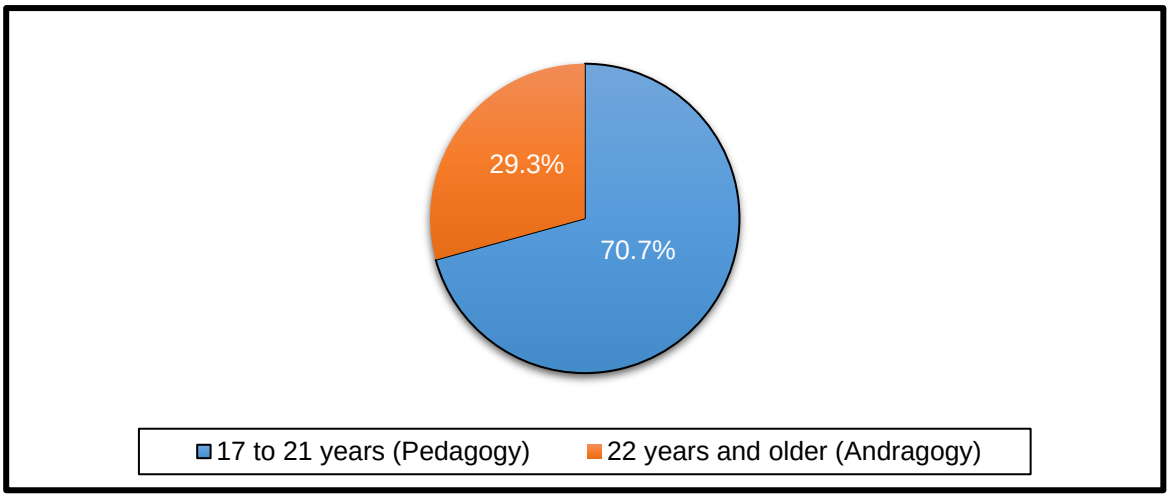


Figure 4.2: Age group of respondents (*n* = 567)

Survey question 2: What is your gender?

Table 4.2 reports the percentage distribution by gender including respondents who did not wish to say or did not associate with either male or female gender. It is evident from the data that the respondents were mostly male (61.2%) and about a third were female (37.7%) with 1.1% of respondents not wanting to indicate their gender or who did not perceive themselves to fall into either male or female gender category.

Table 4.2: Gender breakdown of participants

Gender	**Frequency**	**%** **(*n* = 567)**
Male	347	61.2%
Female	214	37.7%
Prefer not to say/other	6	1.1%

Figure 4.3 provides a graphical representation of gender distribution.

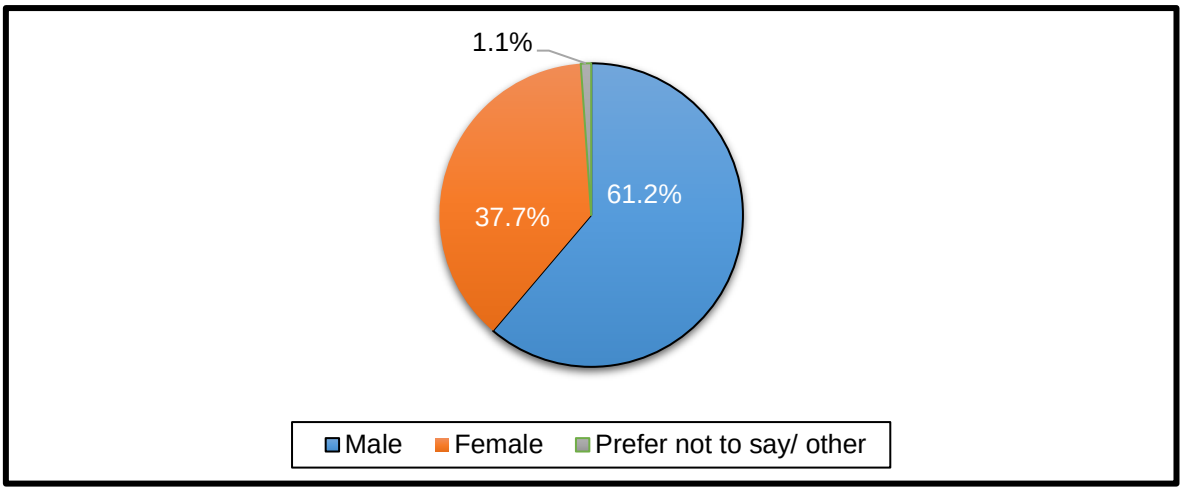


Figure 4.3: Gender breakdown of participants (*n* = 567)

Survey question 3: What is your highest level of education (or qualification) completed?

Table 4.3 indicates the highest level of education that the respondents have obtained. According to the data the majority of respondents had a grade 12 (70.2%) secondary schooling qualification, whereas 29.8% had already obtained a HE qualification.

Table 4.3: Highest level of qualification obtained by respondents

Highest Level of Education	**Frequency**	**% (*n* = 567)**
Grade 12	398	70.2%
Higher Certificate	92	16.2%
Diploma	63	11.1%
Bachelor	14	2.5%

Figure 4.4 visually represents the highest qualification level obtained by respondents.

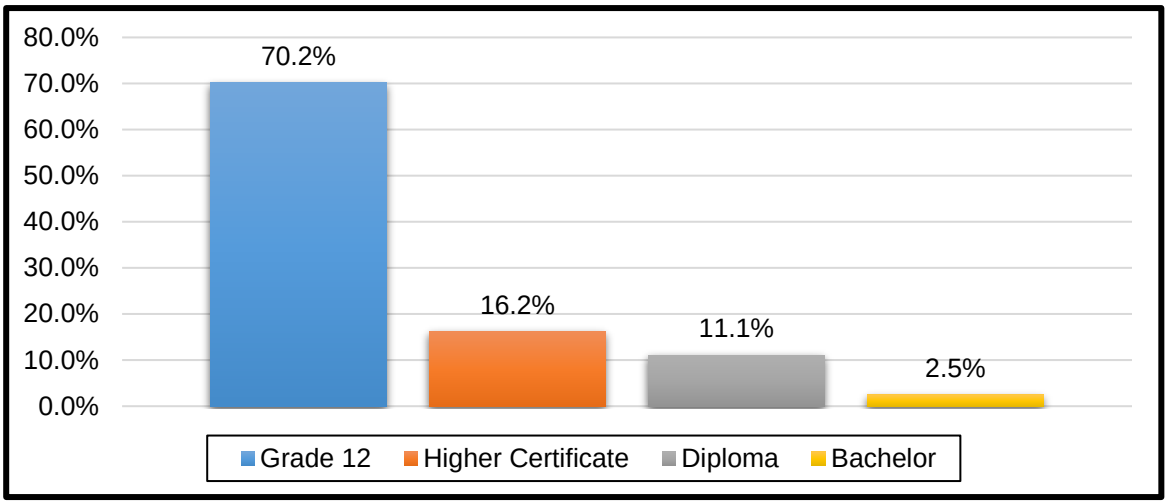


Figure 4.4: Highest level of qualification obtained by respondents (*n* = 567)

Survey question 4: Please select the name of the course that you are studying in 2019.

Table 4.4 presents the programme that the respondents are registered for and aiming to complete in the 2019 academic year. The results of this question showed that 95.6% of respondents were registered in the FITC and 4.4% under other faculties.

Table 4.4: Programme of study for academic year 2019 per faculty of respondents

Programme	**Frequency**	**% (*n* = 567)**
Faculty of Information Technology and Communication (FITC)		
Diploma in IT in Software Development (DISD)	153	27.0%
Diploma in IT in Network Management (DINM)	146	25.7%
Higher Certificate in IT in Support Service (HIS)	97	17.1%
Diploma in IT Management (DITM)	74	13.1%
Bachelor of IT in Business Systems (BIT)	72	12.7%
Faculty of Commerce		
Bachelor of Business Administration (BBA)	22	3.9%
Higher Certificate in Business Management Principles and Practices (HCBMPP)	1	0.2%
Higher Certificate in Business Management (HCBM)	1	0.2%
Faculty of Humanities		
Diploma in Public Relations (DPR)	1	0.2%

Survey question 5: You are currently a … year student.

Table 4.5 shows the current year of study of respondents for 2019. 63.1% of respondents are in their first year of study which indicates that they have been registered and attending a BL programme for at least six months or longer. More than a third of the respondents (36.9%) were in their second, third and fourth year of their qualification and have at least a year and six months attending a BL programme. Third and fourth year respondents will be combined for statistical and reporting purposes and shown as "third/fourth" year respondents.

Table 4.5: Current year of study of respondents

Student Year	**Frequency**	**% (*n* = 567)**
First	358	63.1%
Second	80	14.1%
Third	128	22.6%
Fourth	1	0.2%

Figure 4.5 shows the percentage of respondents in their current year of study.

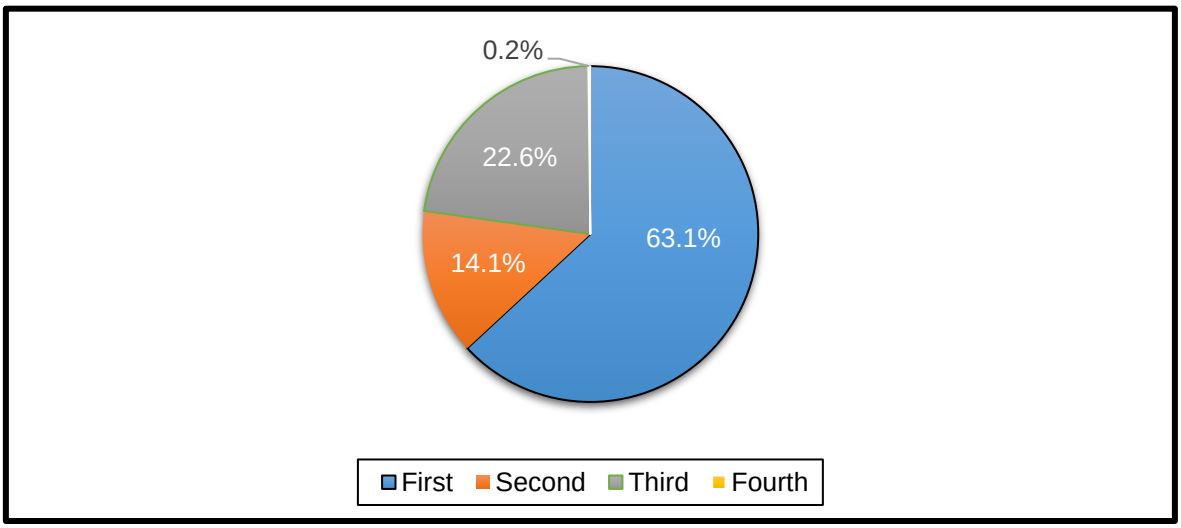


Figure 4.5: Current year of study of respondents (*n* = 567)

Questions 6 to 9 under Section A: Demographics of the online survey will provide more detail on the profile of the respondents concerning their previous exposure to

a BL programme and whether they have been diagnosed with a disability or impairment. The results for questions 6 to 9 will be provided under Section 4.2.1.

4.2.1 Respondents' Prior Knowledge of Blended Learning and Level of Influence in Attending a Blended Learning Programme

Survey question 6: Have you taken any blended learning course(s) before starting your current course at the private higher education provider?

Question 6 was asked to assess whether respondents had previously completed any BL programme(s) and whether respondents had prior exposure to BL. The results for question 6 are presented in Table 4.6. The majority of respondents (72.8%) had never attended or completed a BL programme before starting their current BL programme at the PHE provider. Less than a third of respondents (27.2%) had previously attended a BL programme and therefore had prior knowledge of BL before commencing with their current BL programme.

Table 4.6: Previous participation in a blended learning programme

Previous participation in BL programme	**Frequency**	% **(*n* = 567)**
Yes	154	27.2%
No	413	72.8%

Figure 4.6 visually represents the percentage of respondents who had taken a BL programme before starting their current programme at the PHE provider.

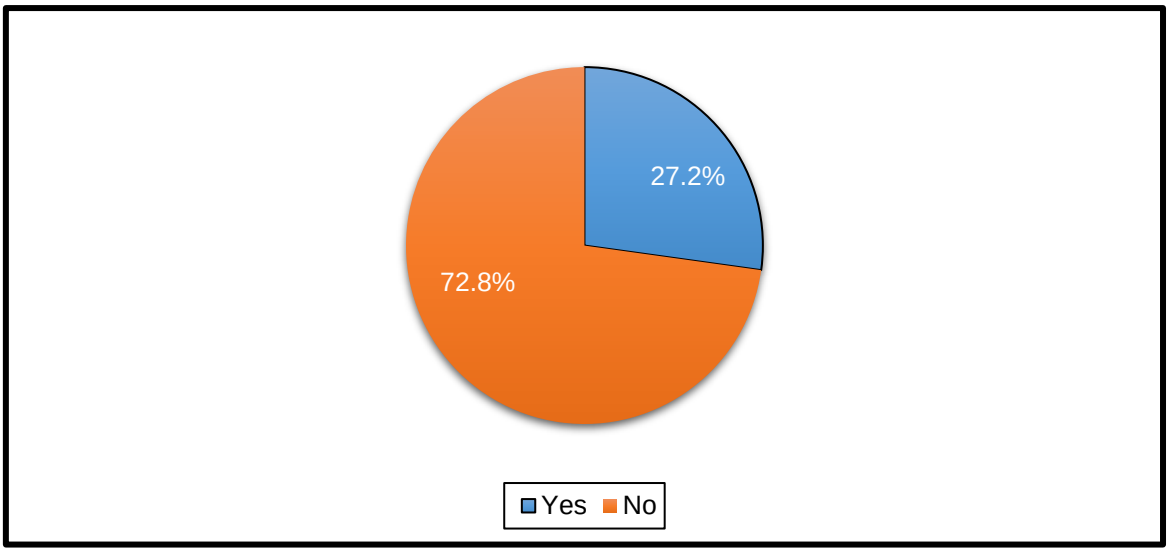


Figure 4.6: Previous participation in a BL programme (*n* = 567)

Survey question 7: Was your decision to enrol in the course at the private higher education provider influenced by the fact that it is offered in a blended learning mode?

Question 7 enquired whether the respondent's decision to enrol in their programme was influenced by the fact that it was offered in BL mode. The question was asked of respondents in a 5-point Likert scale question, ranging from *not at all influential* (1) to *extremely influential* (5), and is reported in Table 4.7.

Table 4.7: Decision to enrol in the current blended learning programme influenced by it being offered in blended learning mode

Level of influence in enrol in a BL programme	**Frequency**	**% (*n* = 567)**
Not at all influential	224	39.5%
Slightly influential	111	19.6%
Somewhat influential	110	19.4%
Very influential	84	14.8%
Extremely influential	38	6.7%

Table 4.7 indicates that the majority of respondents were influenced, slightly to extremely influential, (60.5%) by the fact that the programme of choice was offered in BL mode. This influence could have been motivated by the fact that their

qualification of choice was in the field on ICT and therefore needed some degree of ICT influence. More than a quarter of respondents were *not at all influenced* (39.5%) by the fact that the programme of choice was offered in BL mode.

4.2.1.2 Group Differences for Respondents' Prior Knowledge of Blended Learning and the Influence in Attending a Blended Learning Programme

A chi-square test was utilised to assess the differences between groups concerning respondents' previous BL experience with the age group of respondents and the respondents' highest level of education. The results are discussed in Sections 4.2.1.2.1 and 4.2.1.2.2

4.2.1.2.1 Previous Blended Learning Experience versus Age Group of Respondents

A chi-square test of independence was performed to examine the differences between respondents who had attended a BL programme previously and the age group in which the respondents were categorised. The relation between these two variables was statistically significant, χ^2 (1, n = 567) = 12.32, p = 0.000, *phi* = 0.15 (small effect). Respondents aged 22 years and older (andragogy) (37.3%) had a higher prior exposure to BL than respondents aged 17 to 21 years (pedagogy) (22.9%).

4.2.1.2.2 Previous Blended Learning Experience versus Highest Level of Education

A chi-square test of independence was performed to examine the differences between respondents who had previously attended a BL programme and the respondents' highest level of education. The relation between these two variables was statistically significant, χ^2 (2, n = 567) = 17.38, p = 0.000, *phi* = 0.18 (small effect). Respondents who had obtained a higher certificate qualification (44.6%) had the highest exposure to BL followed by a diploma/bachelor qualification (27.3%) and the lowest exposure was respondents who had obtained their grade 12 (23.1%). The reason why respondents with a higher certificate qualification possessed the

highest exposure to BL, could be attributed to the respondents obtaining a higher certificate programme at the current PHE provider before registering for their current programme.

4.2.2 Respondents with Disability or Impairment

Respondents were asked if they had been diagnosed with any disability or impairment. If respondents replied “yes” they then needed to select which of the disabilities or impairments they had been diagnosed with from the list of five items provided. Nine respondents indicated that they were diagnosed with a disability or impairment (Table 4.8). Of the nine respondents, six (66.7%) were diagnosed with sensory impairment, two (22.2%) were diagnosed with a disability or impairment that was not listed and one (11.1%) respondent was diagnosed with a mobility impairment.

Table 4.8: Disability or impairment of respondents

Disability or impairment	**Frequency**	**%** **(*n* = 9)**
Sensory impairment (vision or hearing)	6	66.7%
Disability or impairment not listed above	2	22.2%
Mobility impairment	1	11.1%
Learning disability	0	0%
Mental health disorder	0	0%

4.3 Self-efficacy in Relation to Blended Learning

As part of the study the aim was to measure the construct of self-efficacy to answer the secondary research question (1) (Figure 4.7).

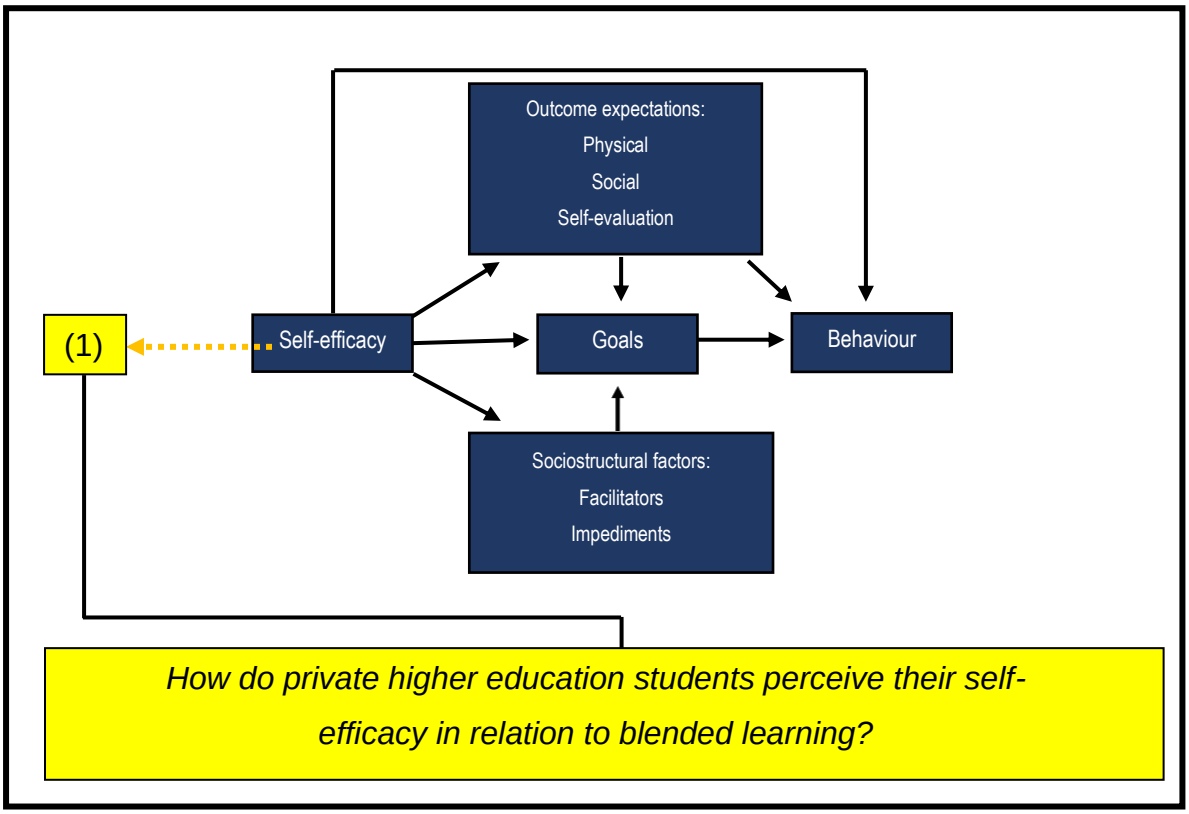


Figure 4.7: Secondary research question (1): *How do private higher education students perceive their self-efficacy in relation to blended learning?*

In Chapter 2 this construct is defined as the belief in one's capabilities to organise and execute the sources of action required to manage prospective situations (Bandura, 1994:2, 1995:2, 1997:3, 2000:2). In order to obtain an indicator measure of the level of self-efficacy, four questions were posed to respondents, namely: questions 22 to 25. Table 4.10 to Table 4.12 report the proportional distribution for computer skills level, confidence in using a computer, level of skill in using an LMS and the respondent's confidence level in using LMS tools and applications associated with an LMS. A proxy measure will then be presented in Section 4.3.2 for self-efficacy in relation to BL moving to Section 4.3.3 with the comparison of group differences toward self-efficacy using statistical techniques of the Mann-Whitney *U* Test and Kruskal-Wallis H Test. The section will conclude with the

Spearman's rho correlation analysis to analyse the relationship between self-efficacy and the confidence level and skill in using a computer and the LMS.

4.3.1 Results per Question on Self-efficacy

The individual results per question for self-efficacy in relation to BL from survey questions 22 to 24 are reported below. An EFA was applied to question 25, using IBM SPSS, to investigate the underlying measurement structure of variables that "clump together" deriving three factors.

Survey question 23: How confident are you with using a computer?

In question 23, respondents where requested to indicate their confidence level in using a computer (Table 4.9). The results indicate that nearly three-quarters of respondents were *confident* to *very confident* (74.6%) in using a computer while 24.5% were *somewhat* to *moderately confident* and five (0.9%) respondents were *not confident at all* in using a computer. The degree of knowledge and level of proficiency in using a computer has an effect on the respondent's self-efficacy and engagement in using both a computer and a LMS. Therefore 25.4% of respondents will need more assistance and guidance in using a computer during F2F classroom interaction, than the 74.6% of respondents who indicated that they are confident.

Table 4.9: How confident are you with using a computer?

Confidence in using a computer	**Frequency**	**% (*n* = 567)**
Not confident at all	5	0.9%
Somewhat confident	21	3.7%
Moderately confident	118	20.8%
Confident	223	39.3%
Very confident	200	35.3%

Figure 4.8 shows a graphic presentation of respondents' confidence level in using a computer.

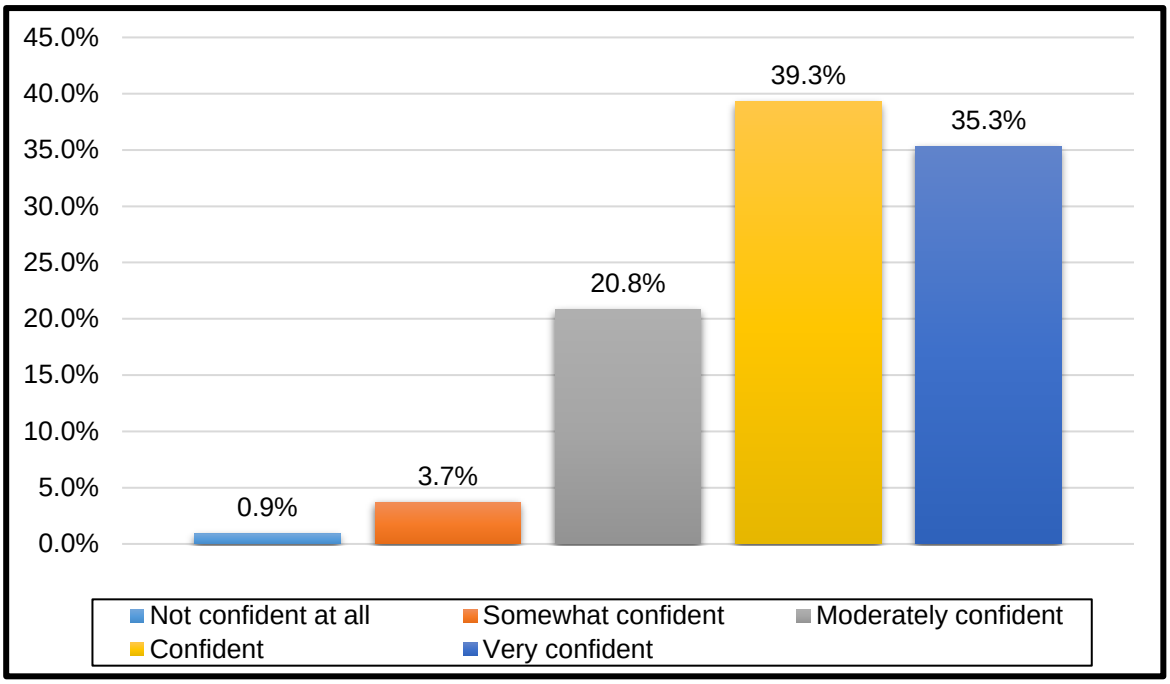


Figure 4.8: How confident are you with using a computer? (*n* = 567)

Survey question 22: How would you rate your computer skills level?

Table 4.10 indicates the computer skills level of respondents. The majority of respondents indicated that they perceive their computer skills to be at an intermediate level (48.7%), while 40.4% indicated their computer skills to be competent and 10.8% stated their level of computer skills to be on beginner's level. Only one (0.2%) respondent indicated that s/he had never used a computer previously. Although 74.6% of respondents indicated that they were confident in using a computer (Table 4.9), only 40.4% showed that they were competent in possessing the skills needed to operate specific software, applications and/or devices.

Table 4.10: How would you rate your computer skills level?

Computer skills level	**Frequency**	**% (*n* = 567)**
Never used a computer	1	0.2%
Beginner	61	10.8%
Intermediate	276	48.7%
Competent	229	40.4%

Figure 4.9 provides a graphical representation on the level of computer skills distribution of respondents.

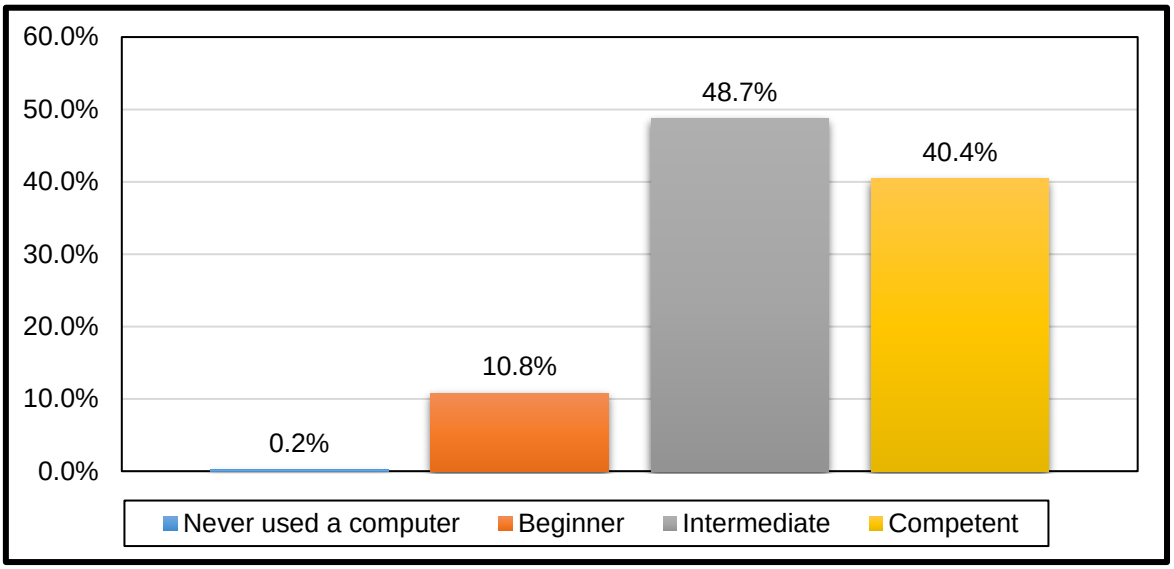


Figure 4.9: How would you rate your computer skills level? (*n* = 567)

Survey question 24: How would you describe your current level of skills in using the LMS?

Table 4.11 presents the level of skill respondents perceived having used the PHE provider's LMS. The majority of respondents showed *moderate level skill* (58.7%) to *high level skill* (36.9%) in using the LMS. Only 4.2% stated that they had low level skill, while one respondent (0.2%) indicated that they had no skill in using the LMS. The 36.9% result indicated by respondents for the *high skill level* in using the LMS, can be related to the skills acquired from the respondents' years of study in their respected BL programmes as reflected in Section 4.3.3.3.

Table 4.11: How would you describe your current level of skills in using the LMS?

Level of skill using a LMS	**Frequency**	**% (n = 567)**
No skills	1	0.2%
Low level skill	24	4.2%
Moderate level skill	333	58.7%
High level skill	209	36.9%

Figure 4.10 provides a graphical representation of the respondents' level of skill in using an LMS.

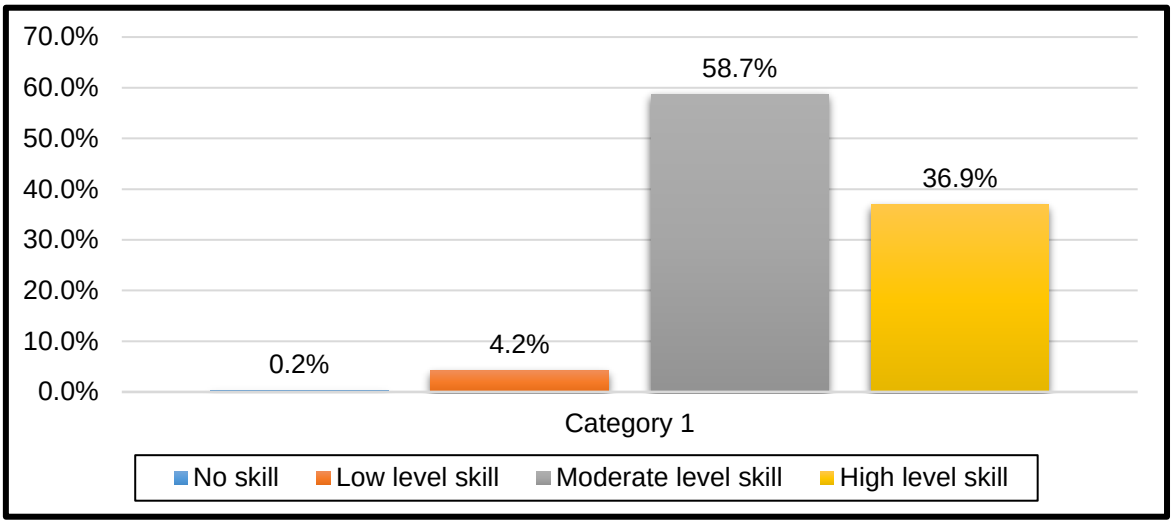


Figure 4.10: How would you describe your current level of skills in using the LMS? (*n* = 567)

Survey question 25: How would you rate your confidence level in using the following tools and applications?

Question 25 was posed to respondents in a 5-point Likert scale question, ranging from *not confident at all* (1) to *very confident* (5), on which LMS tools and applications (i.e. in an LMS) the respondents were confident in using. The question consisted of 13 items as listed in Table 4.12 and these are ranked from highest to lowest *Mn*. The results reflect that respondents showed high confidence levels in using mobile devices, SafeAssign and assignment submission tools while showing low confidence in ePortfolios, discussion forums, video-conferencing, wikis and Turnitin. In analysing plagiarism tools such as SafeAssign and Turnitin, SafeAssign received the lowest SD indicating that the data points tend to be close to the *Mn* = 4.29 of the set (*very confident)* while Turnitin received a *Mn* of 2.54 (*somewhat confident*) but received a high SD indicating that the data points are distributed over a wider range of values. This states that although Turnitin received a low overall *Mn* score, respondents emanating mainly from third/fourth-year respondents had more confidence in using Turnitin than the other two years of study (Section 4.3.3.5).

Table 4.12: Descriptive statistics: How would you rate your confidence level in using the following tools and applications? (*n* = 567)

Confidence level in using the following LMS tools and applications	***Mn*** 1 = *not confident at all* to *5 = very confident*	**SD**
Mobile/cellphone devices (including tablets, smartphones)	4.39	1.056
SafeAssign	4.29	0.932
Assignment submission tools	4.08	1.002
Online quizzes/surveys	3.74	1.197
Video recordings (including YouTube©)	3.33	1.385
Glossary tools	3.22	1.239
Weblogs (blogs)	3.19	1.205
Audio recordings (including podcasts)	3.09	1.407
ePortfolios	2.95	1.329
Discussion forums	2.92	1.240
Video-conferencing	2.72	1.335
Wikis	2.63	1.322
Turnitin	2.54	1.396

An EFA was employed, using IBM SPSS, to investigate the underlying measurement structure of which variables "clump together" (Pallant, 2016:185). Prior to performing an EFA, the suitability of the data was assessed by examining the correlation matrix for coefficients of 0.3 and above (Pallant, 2016:183). The correlation matrix revealed a large set of coefficients of 0.3 and above which indicated that EFA may be appropriate. The Kaiser-Meyer-Olkin value was 0.833 exceeding the recommended value of 0.6 and Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix (Pallant, 2016:183 & 199).

The extraction method used was the Principal Axis Factoring and rotation method being Varimax rotation. A three-factor solution emerged with eigenvalues exceeding one, with a total of 58.8% of the variance, with Factor A contributing 41.3%, Factor B contributing 9.4% and Factor C contributing 8.1%, thus indicating that the "LMS tools and application" items are not unidimensional. A review of the three factors through the Rotated Factor Matrix, shown in Table 4.13, revealed that they measure three underlying aspects relating to self-efficacy, namely: LMS tools (Factor A),

media (Factor B) and applications/devices (Factor C). Only the factor with the highest loading is indicted in Table 4.13

Table 4.13: Rotated Factor Matrix: How would you rate your confidence level in using the following tools and applications? (*n* = 567)

Confidence level in using the following LMS tools and applications	**LMS Tools** (Factor A)	**Media** (Factor B)	**Application/devices** (Factor C)
Weblogs (blogs)	0.710		
Discussion forums	0.664		
Wikis	0.660		
ePortfolios	0.507		
Video-conferencing	0.490		
Glossary tools	0.490		
Turnitin	0.326		
Audio recordings (including podcasts)		0.801	
Video recordings (including YouTube©)		0.728	
Assignment submission tools			0.725
SafeAssign			0.572
Online quizzes/surveys			0.455
Mobile/cellphone devices (including tablets, smartphones)			0.432

It is important to assess the internal consistency reliability of these proposed factors. One of the most commonly used indicators of internal consistency is Cronbach's α. The acceptable reliability score is one that is 0.7 and higher (Heale & Twycross, 2015; Leung, 2001:84). Table 4.14 illustrates the Cronbach's α for LMS tools (Factor A) at 0.823, media (Factor B) at 0.846 and applications/devices (Factor C) at 0.701 with an overall value of 0.762. As all have shown Cronbach's α above 0.7 it can therefore be argued that the reliability is considered acceptable (Pallant, 2016:100).

Table 4.14: Cronbach's α: How would you rate your confidence level in using the following tools and applications? (*n* = 567)

	# of items	**Cronbach's α**
LMS Tools (Factor A)	7	0.823
Media (Factor B)	2	0.846
Applications/devices (Factor C)	4	0.701
Overall	3	0.762

Table 4.15 indicates the ranking, from highest to lowest, of *Mn* scores for the three factors, LMS tools, media and application/devices. The respondents were *confident* in using applications/devices (*Mn* = 4.13, SD = 0.763) that they were using everyday (i.e. their mobile devices). They were also *confident* in using assignment submission tools and SafeAssign that formed an integral part of learning and achieving their qualification. These two applications are considered obligatory for all respondents. Respondents were required to know, understand and be confident in operating these applications in order to ensure a positive conclusion to their studies.

Media platforms (i.e. podcasts and YouTube© videos) with a *Mn* of 3.21 were rated *moderately confident*. Although a *moderately confident* level was achieved, attention should be given to the SD which signifies that there is a large range of variation amongst respondents' levels of confidence.

The least confident factor was LMS tools (Factor A) at a *Mn* of 2.88 (SD = 0.902) (refer to Section 4.3.3.3.4). This could attribute to respondents who are in their first year of study being *somewhat confident* in using LMS tools due to (1) not often making use of these tools in the LMS as part of learning, (2) the LMS not having some of these tools for respondents to utilise, or (3) the lecturer not making use of or encouraging respondents to use the LMS tools as a part of teaching and learning, thereby resulting in the respondents *somewhat confidence* level expressed in using LMS tools. The most confident respondents were the third/fourth-year respondents that indicated a *moderately confident* level of self-efficacy in using LMS tools.

Table 4.15: Confidence level in using the following tools and applications (*n* = 567)

	Mn 1 = *not confident at all* to *5 = very confident*	**SD**
Application/devices (Factor C)	4.13	0.763
Media (Factor B)	3.21	1.300
LMS Tools (Factor A)	2.88	0.902

Given these results, a single construct measure was calculated for each factor as well as for overall (average summation) of self-efficacy. Section 4.3.2 presents the proxy variable for self-efficacy results for questions 22, 23, 24 and 25 (LMS tools, media, and application/devices).

4.3.2 Proxy Measure for Self-efficacy

A proxy variable is a "variable that is used to measure an unobservable quantity of interest" and although it is not a direct measure of the desired quantity, it is strongly related to the unobserved variable of interest (Clinton, 2011:878).

Table 4.16 presents the *Mn* results for the six factors of self-efficacy. The results indicate that respondents achieved their highest score for their current level of skill using an LMS (*Mn* = 4.15, SD = 0.703), followed by their confidence in using application/devices (*Mn* = 4.13, SD = 0.763) and their computer skills (*Mn* = 4.12, SD = 0.825) whilst they lacked confidence in using tools in the LMS which received the lowest score (*Mn* = 2.88, SD = 0.902). This indicates that respondents perceived their self-efficacy predominantly with tasks/activities that they completed daily thereby increasing their skill level while tasks/activities that they were unfamiliar with achieved a lower self-efficacy.

Table 4.16: Descriptive statistics for self-efficacy in relation to blended learning (*n* = 567)

Self-efficacy in Relation to Blended Learning	**Scoring Levels**	***Mn***	**SD**
How would you rate your computer skills level?	*1 = never used a computer* to *5 = competent*	4.12	0.825
How confident are you with using a computer?	*1 = not confident at all* to *5 = very confident*	4.04	0.888
How would you describe your current level of skills using an LMS?	*1 = no skill* to *5 = high skill)*	4.15	0.703
LMS Tools (Factor A)	*1 = not confident at all* to *5 = very confident*	2.88	0.902
Media (Factor B)	*1 = not confident at all* to *5 = very confident*	3.21	1.299
Applications/devices (Factor C)	*1 = not confident at all* to *5 = very confident*	4.13	0.763

The six factors as shown in Table 4.16 achieved a Cronbach's α value of 0.772 (above 0.7) and it can therefore be reasoned that the reliability of all six factors representing self-efficacy in relation to BL as a single construct is considered acceptable (Pallant, 2016:100). Lower values on the index suggest lower levels of self-efficacy, while higher values suggest higher levels of self-efficacy.

Figure 4.11 illustrates the construct self-efficacy in relation to BL. The histogram shows the distribution of scores skewed to the left (skewness = -0.29) which indicates that the data is fairly symmetrical with a kurtosis = 0.044 (McNeese, 2016:4). The *Mn* achieved for self-efficacy is 3.76, of a possible five, with a SD of 0.627 for *n* = 567. While the *Mn* for self-efficacy is 3.76, most respondents scored between 3.1 and 4.4, however the data tails at 5.0. This indicates that respondents' self-efficacy in relation to BL achieved a high level of self-efficacy. The histogram also indicates that there are data points sitting on their own which indicates extreme outliners of respondents who show very low levels of self-efficacy. Although a small number of outliners have occurred, measures need to be implemented to assist these respondents in improving their self-efficacy, otherwise they may become disengaged from their programme.

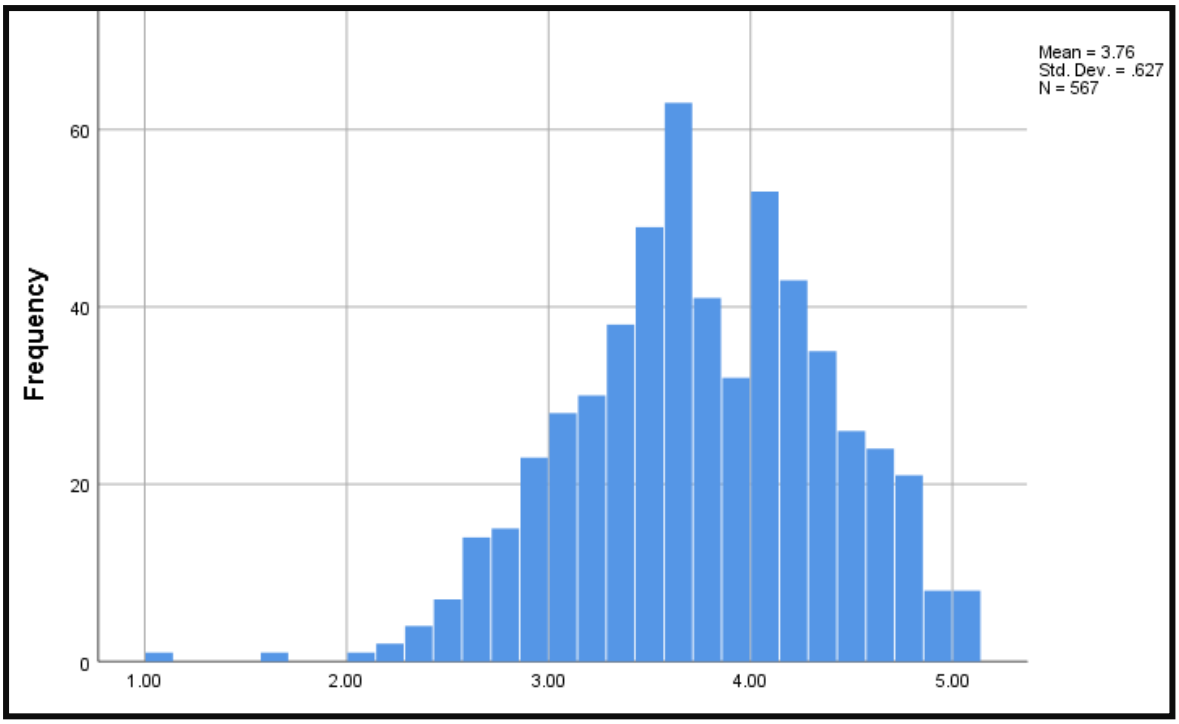


Figure 4.11: Histogram displaying frequency distribution of self-efficacy

4.3.3 Group Differences for Self-efficacy

Mann-Whitney *U* Test, Kruskal-Wallis H Test, and chi-square test were utilised to assess the difference between groups concerning self-efficacy in relation to BL. The "effect size", also known as "strength of association" is interpreted using the guidelines proposed by (Cohen, 1988:22) and is indicated as "*r*". The results are discussed in Sections 4.3.3.1 to 4.3.3.4. A chi-square test of independence was used to determine whether there is a significant difference between the use of Turnitin and self-efficacy.

4.3.3.1 Age Groups versus Self-efficacy

A Mann-Whitney *U* Test revealed a significant difference in the self-efficacy levels of respondents aged 17 to 21 years (pedagogy) (*Md* = 3.65, *n* = 401) compared to those aged 22 years and older (andragogy) (*Md* = 3.99, *n* = 166), *U* = 28 133.5, *z* = –2.90, *p* = 0.004, with a small effect size of (*r* = 0.12). In the context of PHE, this indicates that the andragogy respondents reported higher significant levels of self-efficacy towards BL.

4.3.3.1.1 Age Groups versus Confidence Level in using a Computer

A chi-square test of independence was performed to examine the differences between respondents' age groups and their confidence level in using a computer. The relation between these variables was statistically significant, χ^2 (4, n = 567) = 13.83, p = 0.008, *phi* = 0.16 (small effect size). Respondents in the andragogy age group (83.1%) showed higher confidence levels than the pedagogy age group (71.1%).

4.3.3.2 Gender versus Self-efficacy

A Mann-Whitney *U* Test revealed no significant difference in self-efficacy levels in relation to BL of male respondents (*Md* = 3.78, *n* = 347), or those of females (*Md* = 3.72, *n* = 214), *U* = 28 133.5, z = -1.44, *p* = 0.15. Therefore, both males and females showed the same self-efficacy towards their BL programme.

4.3.3.2.1 Gender versus the use of Media (Factor B)

Although there was no significant difference between gender and self-efficacy, a statistical significance was found between gender and the use of media (Factor B).

A Mann-Whitney *U* Test revealed a significant difference in the use of media (Factor B) between the genders of the respondents. Male respondents (*Md* = 3.50, *n* = 347) and female respondents (*Md* = 3.00, *n* = 214), *U* = 30 000.5, *z* = –2.233, *p* = 0.026, with a small effect size (*r* = 0.16). This result signifies that male respondents were more confident in using media than their female counterparts.

4.3.3.3 Year of Study versus Self-efficacy

The chi-squared test and Kruskal-Wallis Test were conducted to show the significance of year of study on (1) confidence level of using a computer, (2) skill level of using a computer (3) in using LMS tools (Factor A) and (4) the self-efficacy levels of respondents in relation to BL.

4.3.3.3.1 Year of Study versus Confidence in using a Computer

A chi-square test of independence was performed to examine the differences between year of study and the confidence level in using a computer. The relation between these variables was statistically significant, χ^2 (8, *n* = 567) = 41.40, *p* = 0.000, *phi* = 0.27 (small effect size). Respondents in their third/fourth year (89.9%) showed higher confidence levels in using a computer than second-year (82.5%) and first-year (67.3%) respondents.

4.3.3.3.2 Year of Study versus Skill Level in using a Computer

A Kruskal-Wallis H Test revealed a statistically significant difference in the level of skill in using a computer across three different years of study (Group (Gp)1, *n* = 358: first years, Gp2 , *n* = 80: second years, Gp3, *n* = 129: third/fourth years), χ^2 (2, *n* = 567) = 57.52*, p* = 0.000, with a medium effect size of (*r* = 0.31). The third/fourth- and second-year respondents recorded a higher *Md* score (*Md* = 4.00) than first-year respondents, which recorded a *Md* score of 3.00.

4.3.3.3.3 Year of Study versus Skill Level in using the Learning Management System

A Kruskal-Wallis H Test revealed a statistically significant difference in the level of skill in using the PHE provider's LMS across three different years of study (Gp1, *n* = 358: first years, Gp2 , *n* = 80: second years, Gp3, *n* = 129: third/fourth years), χ^2 (2, *n* = 567) = 47.22*, p* = 0.000, with a small effect size of (*r* = 0.28). The third/fourth-year respondents recorded a higher *Md* score (*Md* = 4.00) than the other two groups, which both recorded a *Md* score of 3.00.

4.3.3.3.4 Year of Study versus LMS Tools (Factor A)

A Kruskal-Wallis H Test revealed a statistically significant difference in level of confidence in using LMS tools (Factor A) across three different years of study (Gp1, *n* = 358: first years, Gp2 , *n* = 80: second years, Gp3, *n* = 129: third/fourth years), χ^2 (2, *n* = 567) = 26.14*, p* = 0.000, with a small effect size of (*r* = 0.21). The

third/fourth-year respondents recorded a higher *Md* score (*Md* = 3.29) than second-year respondents who recorded a *Md* score (*Md* = 3.00) and lastly the first-year respondents who recorded a *Md* score (*M*d = 2.71).

4.3.3.3.5 Year of Study versus Self-efficacy in Relation to Blended Learning

A Kruskal-Wallis H Test revealed a statistically significant difference in self-efficacy levels in relation to BL across three different years of study at the PHE provider (Gp1, *n* = 358: first years, Gp2 , *n* = 80: second years, Gp3, *n* = 129: third/fourth years), χ^2 (2, *n* = 567) = 56.15, *p* = 0.000, with a medium effect of (*r* = 0.31). The third/fourth-year respondents recorded a higher *Md* score (*Md* = 4.14) than second-year respondents who recorded a *Md* score (*Md* = 3.93) and lastly the first-year respondents who recorded a *Md* score (*M*d = 3.59).

As expected, respondents in their third/fourth year (Sections 4.3.3.3.1, 4.3.3.3.3, 4.3.3.3.4 and 4.3.3.3.5) revealed higher levels of self-efficacy, as was already supported by age group (Section 4.3.3.1).

4.3.3.4 Programme of study versus Self-efficacy

A Kruskal-Wallis H Test revealed a statistically significant difference in the type of programme a respondent was studying and their level of self-efficacy (Gp1, *n* = 97: HIS, Gp2 , *n* = 153: DISD, Gp3, *n* = 74: DITM, Gp4 , *n* = 146: DINM, Gp5, *n* = 72: BIT, Gp6, *n* = 22: BBA, χ^2 (5, *n* = 564) = 14.06, *p* = 0.015, with a small effect of *r* = 0.13. The BBA respondents received the highest *Md* score (*Md* = 3.92), then in descending *Md* score order DINM (*Md* = 3.86), DITM (*Md* = 3.84), BIT (*Md* = 3.78), DISD (*Md* = 3.70) and lastly were the HIS respondents who recorded a *Md* score (*M*d = 3.56). The BBA programme received the highest *Md* (*Md* = 3.92) as majority of the respondents studying in the BBA programme maintained 95.5% third-year respondents, whilst the HIS programme primarily contained 95.9% first-year respondents within its programme. Therefore, the results achieved in this section further highlight support in the outcome achieved, in that the duration of studying

accomplished by the respondent in any BL programme, is directly correlated to the level of self-efficacy displayed by the respondent (Section 4.3.3.3).

4.3.3.5 Turnitin versus Self-efficacy

A chi-square test of independence was performed to examine the differences between year of study and the confidence level in using Turnitin. The relation between these variables was statistically significant, χ^2 (8, *n* = 567) = 53.73, *p* = 0.000, *phi* = 0.31 (medium effect size). Respondents in their third/fourth year (47.3%) showed the highest confident levels in using Turnitin than second-year (33.8%) and first-year (20.4%) respondents.

4.3.4 Spearman's Rho Correlation Analysis for Confidence Level and Level of Skills in Using a Computer and Learning Management System versus Self-efficacy

A Spearman's rho correlation was run to determine the relationship between the confidence level and level of skill in using a computer and LMS, and age group of respondents as indicated in Table 4.17. A weak, positive correlation was found between the age group of respondents and the confidence respondents displayed in using a computer (*rho* = 0.19, *n* = 567, p = 0.000), the computer skills of respondents (*rho* = 0.14, *n* = 567, p = 0.001), and also with respondents' skill in using the LMS (*rho* = 0.19, *n* = 567, p = 0.000). The lower the age group of respondents the lower the levels of confidence and skill respondents showed in using a computer and LMS.

Table 4.17 further indicates the relationship between the confidence level and level of skill in using a computer and LMS, and level of self-efficacy. A strong, positive correlation was found between the self-efficacy and the confidence respondents displayed in using a computer (*rho* = 0.67, *n* = 567, p = 0.000), the computer skills of respondents (*rho* = 0.61, *n* = 567, p = 0.000), and also with respondents' skill in using the LMS (*rho* = 0.54, *n* = 567, p = 0.000). The higher the levels of confidence

and skill respondents showed in using a computer and LMS, the higher the self-efficacy of the respondents.

Table 4.17: Spearman's Rho Correlation Analysis relation for self-efficacy and age group, and respondents' level of confidence and skill in using a computer and learning management system

		Confidence in using a computer	**Computer skills level**	**LMS skill level**
Age group	Correlation Coefficient	0.190	0.138	0.185
	Sig. (2-tailed)	0.000	0.001	0.000
	n =	567	567	567
Self-efficacy	Correlation Coefficient	0.671	0.611	0.544
	Sig. (2-tailed)	0.000	0.000	0.000
	n =	567	567	567

4.3.4.1 Year of Study versus Self-efficacy

A Spearman rho correlation was completed on the year of study of a respondent and self-efficacy. There was a significant moderate, positive correlation between the two variables, *rho* = 0.32, *n* = 567, *p* = 0.000. The more respondents progressed through the years of study, the greater their display in their self-efficacy.

4.3.4.2 Respondents That Found the Orientation Helpful versus Self-efficacy

A Spearman rho correlation was completed on respondents that found orientation to be helpful in using the LMS and self-efficacy. There was a significant but small, positive correlation between the two variables, *rho* = 0.11, *n* = 491, *p* = 0.016. The respondents who attended the orientation session and who found orientation to be helpful showed greater self-efficacy in using the LMS.

4.4 Students' Outcome Expectations and Student Engagement in Blended Learning Programmes

The second secondary research question that this study aims to measure, as part of Bandura's SCT, is the construct outcome expectations. The construct of outcome expectations is used to answer the secondary research question (2) (Figure 4.12).

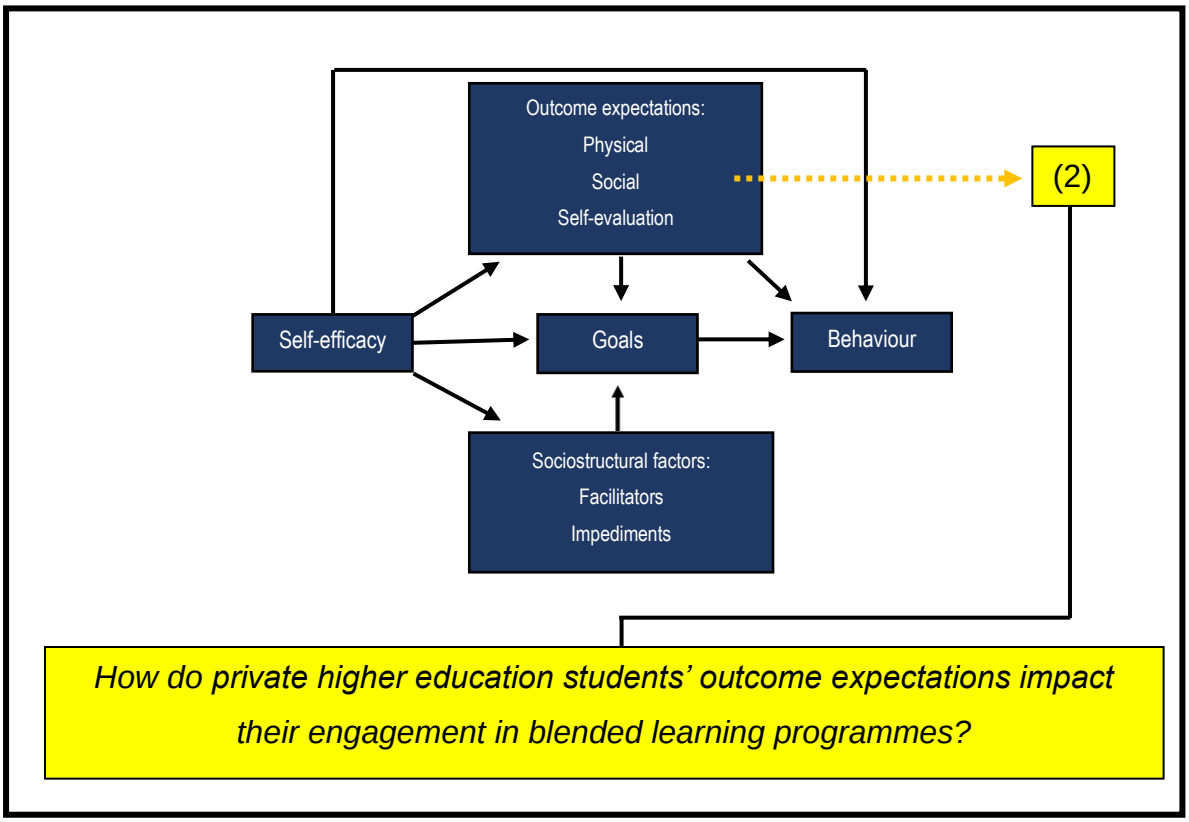


Figure 4.12: Secondary research question (2): *How do private higher education students perceive their self-efficacy in relation to blended learning?*

Outcome expectations are concerned with people's beliefs about the possible consequences of their actions. There are three areas within outcome expectations, according to Bandura (1997, 2009:180), namely physical, social and self-evaluation. The items asked under question 26 will be categorised into these three areas.

In order to obtain an indicator measure for outcome expectations, one question was asked to respondents in a 5-point Likert scale question, ranging from *not at all*

important (1) to *very important* (5)*,* on the importance of outcome expectations in attaining their goals. Table 4.18 and Table 4.19 report the proportional distribution responses to respondents' outcome expectations whilst attending their BL programme.

4.4.1 Result per Question on Outcome Expectations

The results on the importance of PHE students' outcome expectations which impact their engagement in attaining their goals whilst attending a BL programme is expanded upon hereunder.

Survey question 26: To what extent are the following goals important to you in relation to your participation in the blended learning course that you are attending?

Question 26 consisted of seven items as listed in Table 4.18. Respondents' outcome expectation that was the highest (*Mn* = 4.37, SD = 0.855*)* with them being more comfortable in using technology in their BL programme. The lowest (*Mn* = 3.85, SD = 1.005) outcome expectation that respondents perceived in achieving their goals pertained to collaborating with their peers.

Table 4.18: Descriptive statistics: To what extent are the following goals important to you in relation to your participation in the blended learning course that you are attending? (*n* = 567)

Outcome Expectations	***Mn*** 1 = *not at all important* to *5 = very important*	**SD**
Make me more comfortable in using technology	4.37	0.855
Improve the efficiency of my course work	4.33	0.814
Improve my understanding of concepts related to my course	4.26	0.879
Allow me to work from multiple settings	4.17	0.926
It will help me save time	4.14	0.964
It will help me save costs/money	4.12	1.047
Allow me to collaborate with other students	3.85	1.005

As discussed in Section 2.15.1.2 the items in Table 4.18 are categorised within the three variables of outcome expectations as stated by Bandura (1997, 2009:180) namely physical, social and self-evaluation.

Table 4.19: Descriptive statistics: To what extent are the following goals important to you in relation to your participation in the blended learning course that you are attending? (*n* = 567)

Outcome Expectations	***Mn*** 1 = *not at all important* to *5 = very important*	**SD**
Self-evaluation	4.32	0.718
Physical	4.15	0.819
Social	3.85	1.005

The Cronbach's α showed an acceptable internal reliability for the three constructs in Table 4.19 of an overall value for outcome expectations of 0.732. The construct, physical (three items) achieved a Cronbach's α value of 0.784 and self-evaluation (three items) achieved a value of 0.799. As social outcome expectation only consisted out of one item, no Cronbach α was needed.

Table 4.19 presents the *Mn* values of the three variables under outcome expectations. Respondents scored self-evaluation outcome expectations the highest with a *Mn* of 4.32 and SD of 0.718. Respondents found it *very important* that participating in a BL programme would help them achieve their expectations by making them more comfortable in using technology and therefore assisting them in improving their understanding of concepts related to their BL programme. The respondents further indicated that they found it *very important* to increase efficiency in their course work.

The variable that ranked second was physical outcome expectations with a *Mn* of 4.15 and SD of 0.819. Respondents believed it *important* that attending a BL programme would allow them to work from multiple settings thereby assisting them in saving time and costs/money.

Social outcome expectation received a *Mn* of 3.85 with a SD of 1.005 indicating that respondents' scores leaned more towards *important* than *neutral*. Respondents thought it important that a BL programme may encourage personal interaction between peers either during F2F instruction or with the use of a LMS. All three variables received a high SD, however, social outcome expectations received the highest SD of 1.005 of the three variables which meant that the data points are distributed over a wider range of values than self-evaluation and physical expectations.

Figure 4.13 illustrates the overall *Mn* score of 4.11, of a possible five, for outcome expectations with a SD of 0.690 for *n* = 567. The histogram shows the normal distribution of scores skewed to the left (skewness = -1.091) indicating that the data is higher skewed with a heavier tail (kurtosis = 2.177) than for a normal distribution (McNeese, 2016:4). A large number of respondents thought that it was *important* that their anticipated outcome expectations would be met if they participated in their BL programme and that the outcomes are meaningful and valuable to them. However, there are some respondents who showed low beliefs that their expectations would be met if they participated in BL. This is evident by the extreme outliners to the left of the graph, as shown in Figure 4.13. There were also respondents who scored an extremely high score of around five in their beliefs of positive outcomes through their participation in BL.

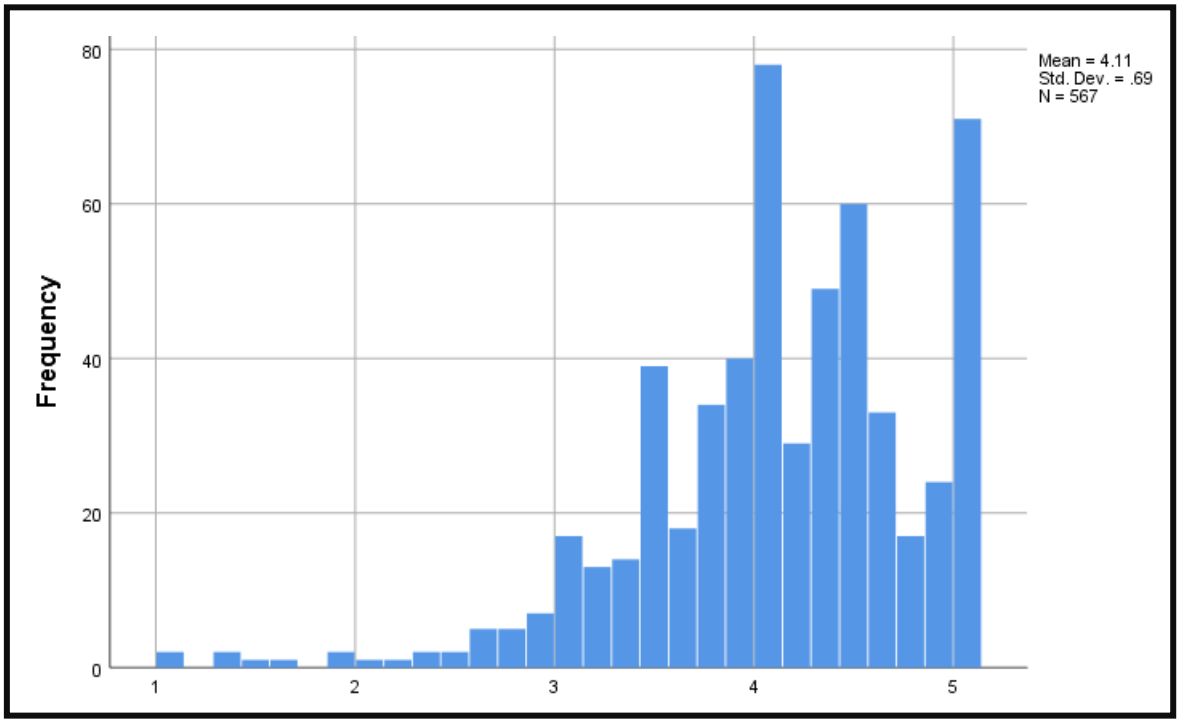


Figure 4.13: Histogram displaying frequency distribution of outcome expectations

4.4.2 Group Differences for Socio-structural Factors

No group difference could be found when analysing the three variables of outcome expectations, namely: physical, social and self-evaluations.

4.4.3 Spearman's Rho Correlation Analysis for Outcome Expectations

A Spearman's rho correlation was run to determine the relationship between the variables of the construct outcome expectations as indicated in Table 4.20. A strong, positive correlation was found between self-evaluation and physical outcome expectations (*rho* = 0.51, *n* = 567, p = 0.000), and a moderate, positive correlation between self-evaluation and social outcome expectations (*rho* = 0.48, *n* = 567, p = 0.000), and also between physical and social outcome expectations (*rho* = 0.39, *n* = 567, p = 0.000). The levels of importance of the three outcome expectations have a positive relation to each other.

Table 4.20: Spearman's rho Correlation Analysis relation for outcome expectations

		Physical	**Social**
Self-evaluation	Correlation Coefficient	0.517	0.480
	Sig. (2-tailed)	0.000	0.000
	n =	567	567
Physical	Correlation Coefficient	-	0.389
	Sig. (2-tailed)		0.000
	n =		567

4.5 Students' Perceived Socio-structural Factors and Their Learning Engagement in Blended Learning Programmes

The third construct of Bandura's SCT is socio-structural factors. Socio-structural factors are assumed to facilitate or inhibit the performance of behaviour and affect behaviour via changing goals (Conner, 2010:24). In this section, the survey questions 27 and 28 were analysed to answer the secondary research question as indicated in Figure 4.14.

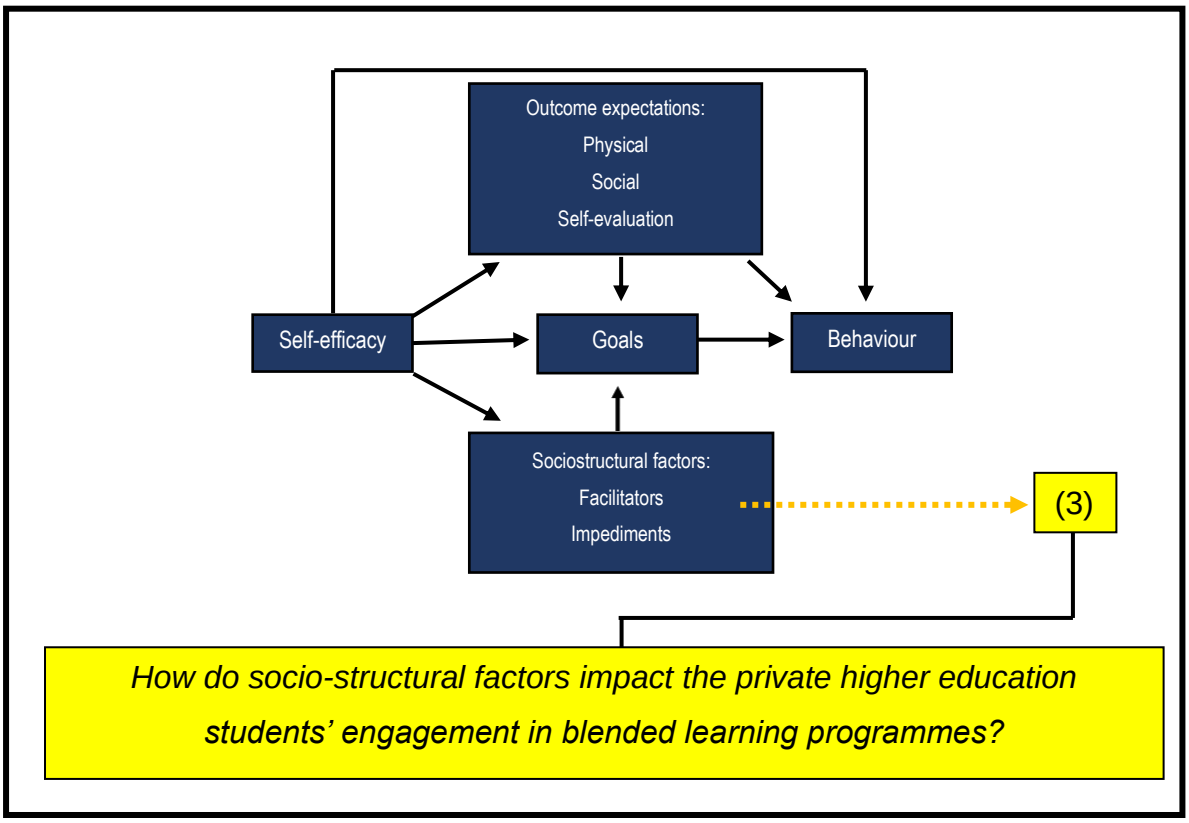


Figure 4.14: Secondary research question (3): How do socio-structural factors impact the private higher education students' engagement in blended learning programmes?

Two questions were asked of respondents to determine the impact of socio-structural factors on their engagement in their BL programme. The first question, question 27 (i.e. facilitators), which was asked to respondents in a 5-point Likert scale question, ranging from *strongly disagree* (1) to *strongly agree* (5), was whether the PHE provider provided learning spaces that gave respondents flexibility to decide where they wanted to study on campus. The second question, question 28, requested respondents to score five impediments in a 5-point Likert scale question, ranging from n*ot at all influential* (1) to e*xtremely influential* (5) on how these impediments influenced their engagement in their BL programme. The results for question 27 and 28 are presented in Section 4.5.1.

4.5.1 Results per Question on Socio-structural Factors

The results on the socio-structural factors impacting on PHE students' engagement in BL programmes are reported under each of the questions.

Survey question 27: The college provides learning spaces that gives me flexibility to decide where I want to study on campus (this includes spaces outside the classroom, such as the library, computer labs, rooms available for individual and group work/breakout sessions).

Respondents were asked if the PHE provider provided them with learning spaces on campus, therefore affording them flexibility to study during their BL programmes. Respondents' overall score for question 27 attained a *Mn* of 3.84 and SD of 1.052 for n = 561. This result indicates that respondents agreed that the PHE provider provided them with enough learning spaces on campus. However, with an SD of 1.052 there was an amount of variation with some respondents who disagreed with the statement. This result will be further analysed by interpreting the percentage results obtained from the respondents.

Figure 4.15 illustrates that 47.6% of respondents agreed that the PHE provider provided enough learning spaces for them to study on campus, while 26.6% strongly agreed. This concludes that the majority of respondents were happy with the learning spaces provided to them by the PHE provider. One cannot however dismiss the 15.5% of respondents who were undecided on whether they did have enough learning spaces on campus and the 10.4% of respondents who disagreed and even strongly disagreed to having enough learning spaces. Therefore, it could be of concern to the PHE provider that a quarter of the respondents' participation in their BL programme could be hindered as they perceived a lack of learning spaces on campus to complete their studies.

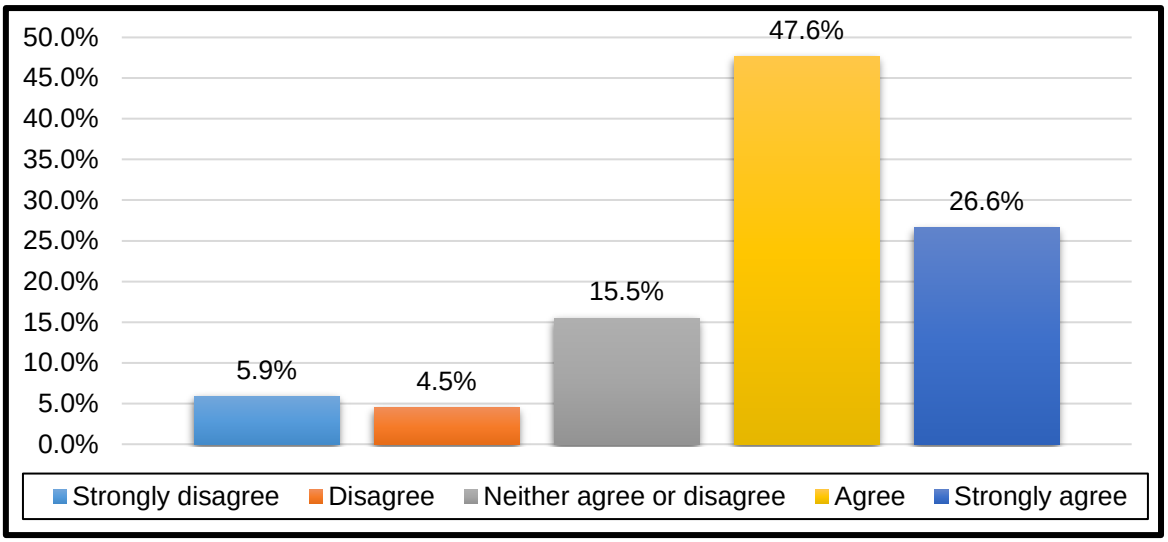


Figure 4.15: The college provides learning spaces that gives me flexibility to decide where I want to study on campus (*n* = 561)

Various statistical techniques were performed to compare the difference between groups. When analysing the data of various groups (i.e. gender, age, highest level of qualification, programme studying or year of studying) it was found that there were no statistically significant differences from the aforementioned groups that the PHE provider provides learning spaces that give respondents flexibility to decide where they want to study on campus.

Survey question 28: How do the following factors influence your participation in your blended learning course?

Respondents were requested to rate on a 5-point Likert scale, ranging from n*ot at all influential* (1) to e*xtremely influential* (5), the extent to which they thought that the five impediments impeded their participation in their BL programme.

Table 4.21 shows the percentage of level of influence in ranking order, from highest to lowest percentage for the five impediments of socio-structural factors. Four of five of the impediments in question 28 received a high percentage (above 80.0%) as being influential impediments. Two impediments namely, time management (86.7%) and limited access to technological devices (86.6%), showed the largest prevalence that is considered influential followed by poor access to technology

(82.6%) and then low level of digital skill (81.9%). The lowest percentage impediment is fear of technology (61.0%) which shows a clear difference of 20.9% and a higher level of influence than the other four impediments.

Table 4.21: Level of influence of impediments to a blended learning programme (*n* = 561)

Impediments to a BL programme	**Level of influence**				
	Slightly influential	Somewhat influential	Moderately influential	Extremely influential	**Total influence**
Time limitations	11.6%	22.5%	22.5%	30.1%	**86.7%**
Limited access to technological devices	15.5%	22.1%	29.9%	19.1%	**86.6%**
Poor access to Wifi	13.7%	17.6%	18.9%	32.4%	**82.6%**
Low levels of digital skills	15.5%	27.8%	27.5%	11.1%	**81.9%**
Fear of technology	15.2%	17.8%	17.3%	10.7%	**61.0%**

Not only is it important to see which impediments have the highest prevalence, but it is also important to see to what extent the impediments have an influence on student participation. To affirm the extent, the *Mn* scores per impediment with their SD, are shown in Table 4.22. The *Mn* scores are ranked in order from highest to lowest.

Table 4.22: Descriptive statistics: How do the following factors influence your participation in your blended learning course? (*n* = 561)

Impediments to a BL programme	***Mn*** 1 = *not at all influential* to *5 = extremely influential*	**SD**
Time limitations	3.44	1.374
Poor access to Wifi	3.35	1.481
Limited access to technological devices	3.26	1.299
Low levels of digital skills	2.98	1.265
Fear of technology	2.45	1.421

The first three impediments displayed higher *Mn* scores (above 3.0) compared to the latter two which scored a *Mn* below 3.0. The *Mn* scores suggest that time limitation has the highest impact on SE which was already supported in the data

showing prevalence that is considered influential in Table 4.21. This could be attributed to the high workload required of respondents during F2F instruction combined with the requirements of completing tasks and activities on the LMS.

Fear of technology received the lowest *Mn* score of 2.45, *slightly influential,* however it received a high SD of 1.421. The high SD achieved for all five impediments suggests that although a *Mn* score range of 2.45 to 3.44 was obtained, the variation around the *Mn* for each impediment is large.

Figure 4.16 visually represents the level of influence for each impediment. The impediment that received the highest percentage for *extremely influential* was poor access to Wifi (32.4%) followed by time limitation (30.1%). This is followed by limited access to technology devices (19.1%), low levels of digital skills and fear of technology (10.7%), which also received the highest percentage of 39.0% for *not at all influential*.

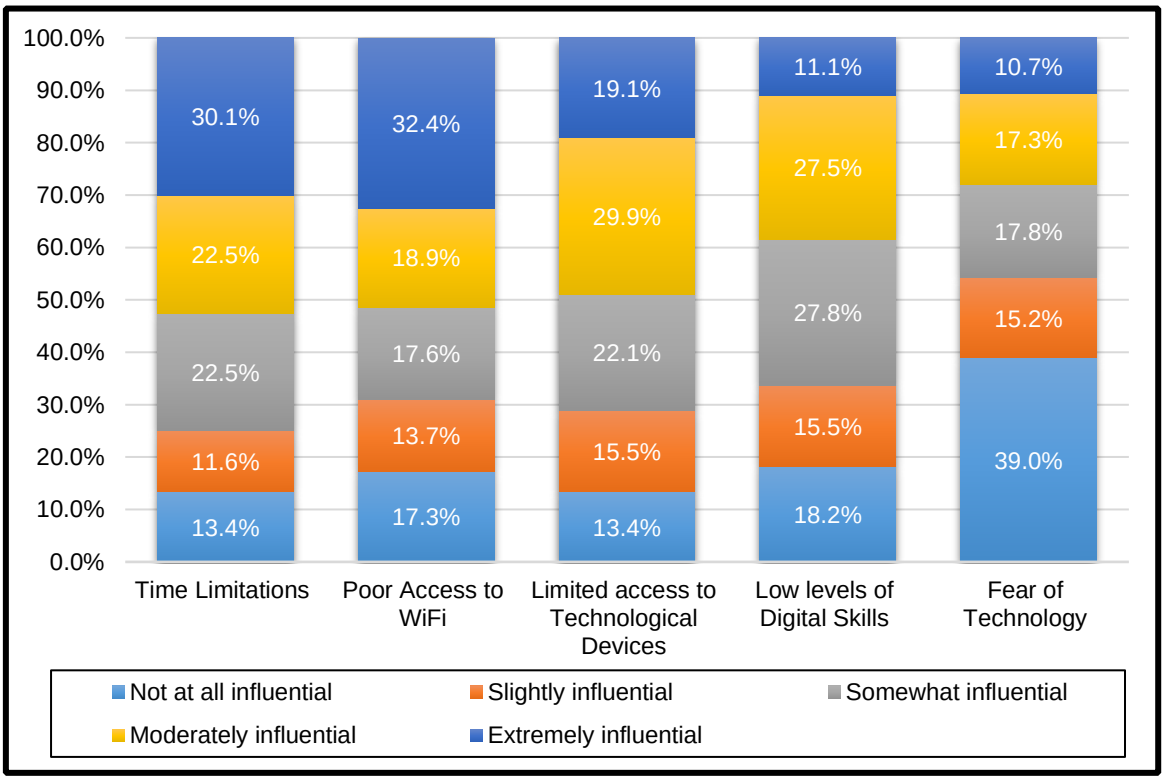


Figure 4.16: How do the following factors influence your participation in your blended learning course? (*n* = 561)

4.5.2 Group Differences for Socio-structural Factors

Kruskal-Wallis H and Mann-Whitney *U* Tests were conducted to see if there were any statistically significant differences between groups regarding the five impediments and respondents perceived ideas with regard to their participation in BL programmes. Two statistically significant differences were found.

4.5.2.1 Year of Study versus Limited Access to Technological Devices

A Kruskal-Wallis H Test revealed a statistically significant difference in the level of influence that the impediment, limited access to technological devices, has on the years of study (Gp1, n = 353: first years, Gp2 , n = 79: second years, Gp3, n = 129: third/fourth years), χ^2 (2, n = 561) = 6.29, p = 0.043, r = 0.04. Although there was a statistical significance between the two variables, the effect size is too small to be considered.

4.5.2.2 Gender versus Fear of Technology

A Mann-Whitney *U* Test revealed a significant difference in the level of influence the impediment fear of technology has on the gender of the respondents. Male respondents scored (Md = 2.00, n = 342) and female respondents (Md = 3.00, n = 213), U = 31 070.0, z = –3.029, p = 0.002, with a small effect size (r = 0.12). This result signifies that female respondents' engagement in their BL programme is more influenced by their fear of technology than their male counterparts.

4.5.3 Spearman's Rho Correlation on Socio-structural Facilitator and Student Engagement

A Spearman's rho correlation was run to determine the relationship between the socio-structural facilitator and SE. A weak, positive correlation was found between the socio-structural facilitator and SE (rho = 0.15, n = 567, p = 0.001). The provision of enough learning spaces for respondents on campus has a positive relationship with the respondents' engagement in the BL programme.

4.5.4 Spearman's Rho Correlation on Socio-structural Impediment Factors

A Spearman's rho correlation coefficient was computed to evaluate the relationship between the socio-structural impediment factors impeding SE in their BL programme. Table 4.23 provides an overview of *rho* correlation values.

Table 4.23: Spearman's rho correlation values for Socio-structural Impediment Factors

Impediment variables		**Low levels of digital skills**	**Fear of technology**	**Poor access to Wifi**	**Time limita-tions**
Limited access to technological devices	Correlation Coefficient	0.459	0.315	0.369	0.404
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	n =	561	561	561	561
Low levels of digital skill	Correlation Coefficient	-	0.479	0.339	0.374
	Sig. (2-tailed)		0.000	0.000	0.000
	n =		561	561	561
Fear of technology	Correlation Coefficient		-	0.344	0.338
	Sig. (2-tailed)			0.000	0.000
	n =			561	561
Poor access to Wifi	Correlation Coefficient			-	0.594
	Sig. (2-tailed)				0.000
	n =				561

The results showed that there was a strong, positive correlation between the two variables poor access to Wifi and time limitations (*rho* = 0.59, *n* = 561, *p* = 0.000), while a moderate, positive correlation between poor access to Wifi and three items, namely: limited access to technology (*rho* = 0.37, *n* = 561, *p* = 0.000), low levels of digital skill (*rho* = 0.34, *n* = 561, *p* = 0.000), and fear of technology (*rho* = 0.34, *n* = 561, *p* = 0.000). Respondents perceive that the poor access to Wifi on campus: (1) limited their time spent on the LMS, (2) limited their access to technology, (3) contributed to their low levels of digital skill, and (4) increased their fear of

technology. There were also moderate, positive correlations between fear of technology and low levels of digital skills (*rho* = 0.48, *n* = 561, *p* = 0.000) including the two variables limited access to technological devices and low level of digital skills (*rho* = 0.46, *n* = 561, *p* = 0.000). It therefore appears that respondents perceive that their fear of technology and limited access to technological devices affects them in having low levels of digital skills. Lastly, there is a moderate, positive correlation between time limitations and limited access to technology (*rho* = 0.40, *n* = 561, *p* = 0.000), with limited access to technology respondents perceiving that they have limited time to engage in their BL programme.

4.6 Students' Goal Orientations and Their Learning Engagement in Blended Learning Programmes

The fourth secondary research question that this study aims to measure, as part of Bandura's SCT, is the construct goals. The construct of goals is used to answer the secondary research question (4) (Figure 4.17).

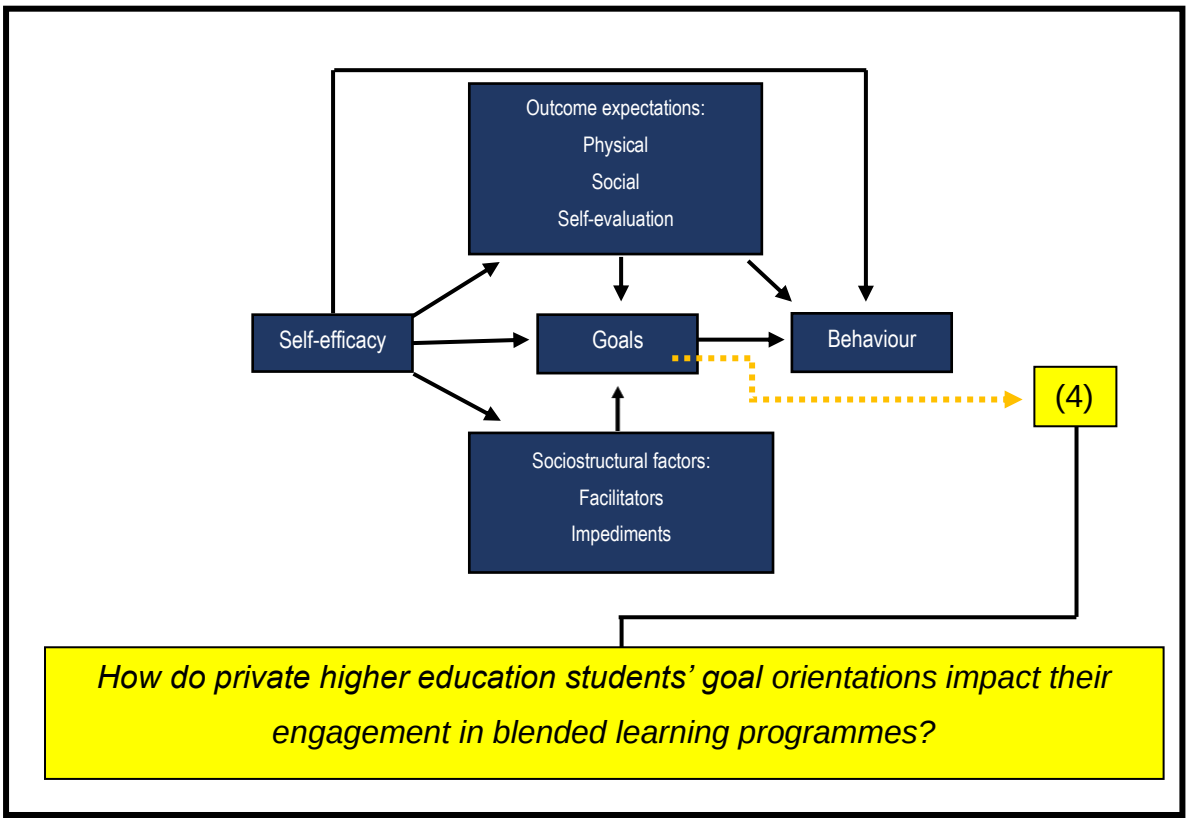


Figure 4.17: Secondary research question (4): How do private higher education students' goal orientations impact their engagement in blended learning programmes?

Goals serve as self-incentives, are plans to act, and can be perceived as intentions to perform a behaviour or engage. In order to obtain an indicator measure for goals, one question was asked to respondents in a 5-point Likert scale question, ranging from *never* (1) to *always* (5), on the frequency of thinking about goals in order to perform the behaviour or to engage in their BL programme.

4.6.1 Results per Question on Goals

The results on the frequency in which respondents think about their goals, are reported for question 29.

Survey question 29: Rate your frequency of thinking about the following goals.

Question 29 consisted of five items as listed in Table 4.24. The responses from respondents were placed in rank order from highest to lowest *Mn*. The goals that received the highest *Mn* (*Mn* = 4.15, SD = 0.920) were goals that were aligned with what respondents were studying. The lowest *Mn* (*Mn* = 3.91, SD = 0.990) goals that respondents thought about, were specific well-defined clear goals.

Table 4.24: Descriptive statistics: Rate your frequency of thinking about the following goals (*n* = 551)

Goals	***Mn*** 1 = *never to 5 = always*	**SD**
Goals relevant to what you are studying	4.15	0.920
Attainable goals	3.97	0.912
Placing goals within a time-frame (long-term and short-term)	3.97	1.040
Measurable goals	3.94	0.916
Specific well-defined clear goals	3.91	0.990

The results showed that respondents *often* thought about goals that were relevant to what they were currently studying. Both attainable goals and placing goals within a time-frame were thought of by respondents *occasionally* with an equally scored *Mn* of 3.97 but placing goals within a time-frame's SD was larger than the two with a SD of 1.040. Therefore, although they both received the same *Mn*, attainable goals' score distribution was closer to the *Mn* than the latter goal. The last two goals were closely scored to the previous two goals with measurable goals achieving a *Mn* of 3.94 (SD = 0.916) and specific well-defined clear goals a *Mn* of 3.91 (SD = 0.990).

The five items as shown in Table 4.24 achieved a Cronbach's α value of 0.778 (above 0.7) and it can therefore be reasoned that the reliability of all five items representing goals impacting respondents engagement is considered acceptable (Pallant, 2016:100).

Figure 4.18 illustrates the overall *Mn* score of 3.99 (*often*), of a possible five, for goals with a SD of 0.696 for *n* = 551. The histogram shows the normal distribution of scores skewed to the left (skewness = -0.456) indicating that the data is moderately skewed (McNeese, 2016:4) with a kurtosis of -0.405 indicating a distribution that is relatively flat (Pallant, 2016:57). A large number of respondents indicated, within a range of 3.30 and 4.60, who *often* thought about goals that would have an impact on their behaviour or engagement in their BL programme. However, there are some respondents who *rarely* thought about goals, indicated by the extreme outliners to the left of the histogram, as shown in Figure 4.18. There were also respondents who scored an extremely high score of around five, who *always* thought about their goals.

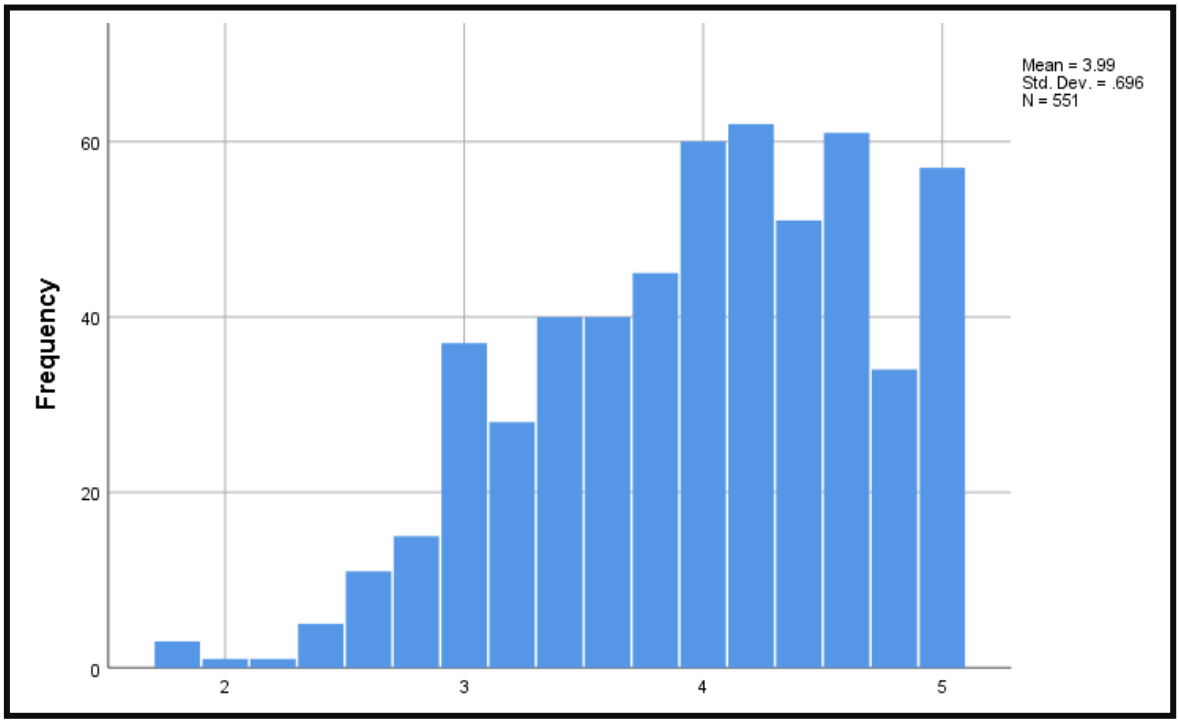


Figure 4.18: Histogram displaying frequency distribution on goals

4.6.2 Group Differences on Goals

A Mann-Whitney *U* Test was used to test the group differences between goals and gender.

4.6.2.1 Gender versus Goals

A Mann-Whitney *U* Test revealed a significant difference in the frequency that respondents think about their goals in relation to their gender. Male respondents scored (*Md* = 4.20, *n* = 336) and female respondents (*Md* = 4.00, *n* = 210), *U* = 31 734.0, *z* = –1.985, *p* = 0.047, with a very small effect size of *r* = 0.08.

4.7 Student Engagement Results

The aim of this study was to investigate the nature and extent of PHE students' social cognitive learning engagement in BL programmes at a PHE provider. To answer the research question *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?* it was important to investigate students' learning engagement (or SE) in BL. Bandura's SCT framework provides for an understanding of student learning behaviour with particular reference to the required changes in behaviour necessary when using BL. In the case of this study, student behaviour and SE were similarly construed. The results of the analysis per survey question for SE are provided in Section 4.7.1. This will then be followed by Section 4.7.2 to provide group differences for SE and Sections 4.7.3 and 4.7.4 for correlation analysis.

4.7.1 Result per Question on Students Engagement

This section begins with the analysing of SE data for survey questions 10 and 11. The question looks at whether respondents attended orientation at the PHE provider and whether they found orientation, especially with emphasis on the LMS, helpful. The section then proceeds to investigate SE by first individually analysing survey questions 12, 13, 14 and 18 and then formulating a weighted sum for a formative scale for SE from these five indicators including survey question 10, as previously discussed.

Respondents were then presented with a statement relating to SE, using a 5-point Likert scale question, in survey questions 15, 16, 19 and 20, with answers ranging from *strongly disagree* (1) to *strongly agree* (5). Respondents needed to rate the degree to which they perceived to disagree or agree with the statement provided.

Section 4.7.1 will conclude with survey question 30 which will provide the results of respondents' perception of their overall experience of BL at the PHE provider.

4.7.1.1 Student Orientation in Using a Learning Management System

At the beginning of each academic year, students at the PHE provider are required to attend a week of orientation that informs them on campus staff; campus facilities; campus policies (especially those concerning students i.e. code of conduct); processes and procedures on campus (i.e. library) as well as the student portal, student email system and the LMS. Survey questions 10 and 11 were asked of students to ascertain whether respondents had attended orientation and whether they perceived the orientation as helpful.

Survey question 10: Did you receive training/orientation in using the learning management system?

Respondents were asked whether they had attended an orientation about using the LMS, which is normally scheduled at the beginning of the academic year. Table 4.25 indicates that more than three-quarters of respondents (86.6%) attended orientation, while 13.4% of respondents did not attend.

Table 4.25: Did you receive training/orientation in using the learning management system?

Orientation Attendance	**Frequency**	% **(*n* = 567)**
Yes	491	86.6%
No	76	13.4%

Survey question 11: Did you find the training/orientation in using the learning management system helpful?

If respondents answered "yes" for survey question 10, they were then required to indicate the level of helpfulness of orientation in understanding and using the LMS. The results are presented in Table 4.26. The majority of respondents (97.6%) who attended orientation found it helpful. However, although a small portion of respondents (2.4%) did not find the orientation helpful, it would be good practise to ascertain the reason why they found the orientation *not helpful at all* which could assist in future orientation planning.

Table 4.26: Did you find the training/orientation in using the learning management system helpful?

Helpfulness of orientation	**Frequency**	**% (*n* = 491)**
Not at all helpful	12	2.4%
Slightly helpful	45	9.2%
Somewhat helpful	69	14.1%
Moderately helpful	177	36.0%
Extremely helpful	188	38.3%

4.7.1.2 Student Engagement in Using a Learning Management System

Survey question 12: How long have you been using the learning management system?

Respondents need to indicate the length of time that they have been using the PHE provider's LMS. Table 4.27 shows that the majority of respondents used the LMS for less than one year (56.1%) which is synonymous with first-year students followed by 2 to 3 years (21.5%) and then 1 to 2 years at 19.9%. A small number of respondents (2.5%) had four years and longer use of the LMS. The different lengths of time in using the LMS will provide different perspectives from the respondents' point of view regarding their self-efficacy and engagement with the LMS.

Table 4.27: How long have you been using the learning management system?

Time period for using the LMS	**Frequency**	**% (*n* = 567)**
Less than 1 year	318	56.1%
1-2 years	113	19.9%
2-3 years	122	21.5%
4-5 years	11	1.9%
5-6 years	1	0.2%
Longer than 6 years	2	0.4%

Survey question 13: How many hours a day do you spend studying content on the learning management system?

Table 4.28 shows the number of hours respondents spend studying content on the LMS. With some concern, respondents have indicated that 6.9% *never* spend time studying content on the LMS while 36.9% *spend less than 1 hour*. Access to electronic devices (i.e. computers, laptops or smartphones) and/or data could be the contributing factor to the high percentage of respondents who have indicated a low hourly access to content on the LMS. 37.6% spend between 1 and 2 hours while 18.7% spend 2 hours or longer studying content on the LMS.

Table 4.28: How many hours a day do you spend studying content on the learning management system?

Hours per day studying content on the LMS	**Frequency**	**% (*n* = 567)**
Never	39	6.9%
Less than 1 hour	209	36.9%
1-2 hours	213	37.6%
2-3 hours	73	12.9%
3-4 hours	20	3.5%
More than 4 hours	13	2.3%

Survey question 14: How many hours a day do you spend communicating with your fellow students using the learning management system?

Table 4.29 presents the percentage of respondents who spend time communicating with their fellow peers on the LMS. The majority of respondents (69.8%) indicated that they *never* communicate with their fellow peers, while a large percentage (22.4%) state that they communicate for *less than 1 hour*. Only 7.9% of respondents spend longer than an hour communicating with their peers on the LMS. This is an indicator that respondents don't use the LMS for communicating or collaborating with fellow peers, but rather communicate or collaborate during F2F classroom interaction. It should be investigated how this aspect, using the LMS, could be improved to benefit both students and lecturers for group discussions and/or activities.

Table 4.29: How many hours a day do you spend communicating with your fellow students using the learning management system?

Hours per day communicating on the LMS	**Frequency**	**% (*n* = 567)**
Never	396	69.8%
Less than 1 hour	127	22.4%
1-2 hours	23	4.1%
2-3 hours	10	1.8%
3-4 hours	9	1.6%
More than 4 hours	2	0.4%

Survey question 18: How many activities and/or tasks have you completed on the learning management system for the current college year (2019 only)?

Seven respondents (1.2%) indicated in question 17 that they have not completed any activities/tasks on the LMS. The reasons provided by the seven respondents (survey question 21) can be viewed in Section 4.10, Table 4.40.

Table 4.30 shows the number of activities/tasks completed by respondents during the 2019 academic year. When looking at the percentages for completion of

activities and/or tasks, one should take into consideration the time period when the survey was conducted (8 July 2019 to 5 August 2019). In descending order from highest to lowest percentages, the largest amount of activities and/or tasks completed were more than 14 (39.9%), followed by 10 to 13 (19.0%), 7 to 9 (13.9%), 1 to 3 (14.6%), and lastly 4 to 6 activities and/or tasks. This indicates a good participation rate in completing activities and/or tasks on the LMS.

Table 4.30: How many activities and/or tasks have you completed on the learning management system for the current college year (2019 only)?

Number of activities and/or tasks completed on the LMS	**Frequency**	**% (*n* = 567)**
None	7	1.2%
1-3 activities and/or tasks	83	14.6%
4-6 activities and/or tasks	64	11.3%
7-9 activities and/or tasks	79	13.9%
10-13 activities and/or tasks	108	19.0%
More than 14 activities and/or tasks	226	39.9%

Following the individual analysis of survey questions 10, 12, 13, 14 and 18 a weighted sum of the indicators was used to construct a formative scale for SE. Using a histogram, Figure 4.19 illustrates the overall *Mn* score of 3.16, of a possible score of five, for SE with a SD of 0.597 for *n* = 567. The histogram shows the normal distribution of scores skewed to the left (skewness = -0.528) indicating that the data is moderately skewed (McNeese, 2016:4) with a kurtosis of 1.163 indicating a distribution that is rather peaked with long thin tails (Pallant, 2016:57). A large number of respondents indicated between a range of 2.56 and 3.76 which showed moderate engagement using the LMS. However, there are some respondents who showed levels of disengagement while others showed high levels of engagement as indicated by the extreme outliners to the left and right of the graph, as shown in Figure 4.19.

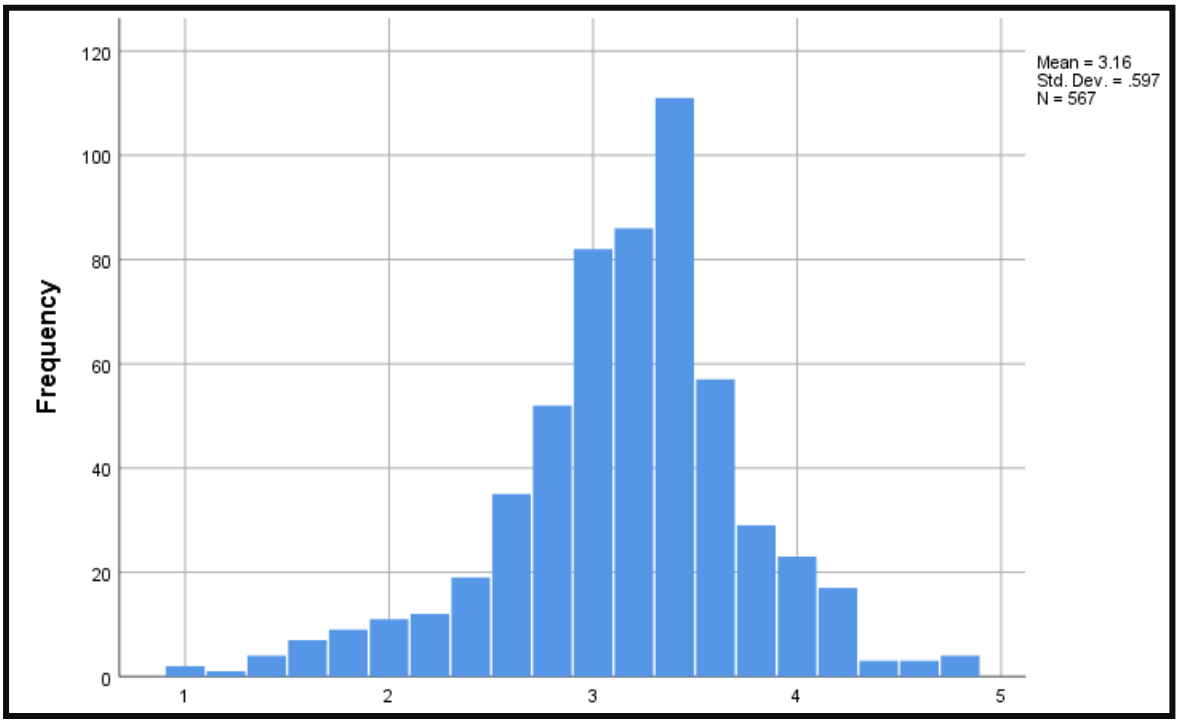


Figure 4.19: Histogram displaying frequency distribution on student engagement

Table 4.31 to Table 4.35 present the frequency with percentages of respondents who rated on a 5-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (5) for survey questions 15, 16, 19 and 20.

Survey question 15: Please rate the extent to which you agree/disagree with the following statement: "My lecturer(s) discuss the content, activities and/or tasks on the learning management system during my classroom periods."

The majority of respondents (58.2%) agreed that the lecturer(s) discuss the content, activities and/or tasks on the LMS during F2F class periods, while 15.5% of respondents disagreed with the statement (Table 4.31). A large number of respondents (26.3%) were undecided about whether lecturer(s) discussed content, activities and/or tasks on the LMS during class period. This undecided rating could stem from respondents perceiving that while some lecturer(s) discuss content, others don't.

Table 4.31: Lecturer(s) discussion of content, activities and/or tasks on the learning management system

Lecturer(s) discussion of content, activities and/or tasks	**Frequency**	**% (*n* = 567)**
Strongly disagree	31	5.5%
Disagree	57	10.1%
Neither agree nor disagree	149	26.3%
Agree	261	46.0%
Strongly agree	69	12.2%

Survey question 16: Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks are compulsory to complete on the learning management system."

Table 4.32 shows that 63.1% of respondents agreed that the activities and/or tasks are compulsory to complete on the LMS, while 13.1% of respondents disagreed with this statement. 23.6% of respondents were undecided, which could indicate that respondents were uncertain regarding activities and/or tasks which were compulsory to complete.

Table 4.32: The activities and/or tasks are compulsory to complete on the learning management system

Activities and/or tasks are compulsory	**Frequency**	**% (*n* = 567)**
Strongly disagree	23	4.1%
Disagree	52	9.2%
Neither agree nor disagree	134	23.6%
Agree	278	49.0%
Strongly agree	80	14.1%

Survey question 19: Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks on the learning management system are graded by my lecturer(s)."

Table 4.33 presents the results when respondents were asked whether the activities and/or tasks on the LMS are graded. The majority of respondents (58.2%) agreed that the activities and/or tasks on the LMS were graded, while 15.6% disagreed with the statement. 26.3% of respondents were undecided and this could be attributed to respondents not completing activities/or tasks on the LMS therefore not knowing whether the activities and/or tasks are graded, or that only some lecturers grade while others don't, lastly that some activities (i.e. games) don't need to be graded.

Table 4.33: The activities and/or tasks on the learning management system are graded by my lecturer(s)

Activities and/or tasks are graded	**Frequency**	**%** **(*n* = 567)**
Strongly disagree	14	5.5%
Disagree	27	10.1%
Neither agree nor disagree	131	26.3%
Agree	301	46.0%
Strongly agree	94	12.2%

Survey question 20: Please rate the extent to which you agree/disagree with the following statement: "The lecturer(s) provide(s) feedback on the activities and/or tasks completed on the learning management system."

Table 4.34 shows that the majority of respondents (60.8%) agreed that lecturer(s) provide feedback on the activities and/or tasks completed on the LMS. However, nearly a quarter (21.3%) of respondents indicated that the lecturer(s) do not provide feedback and 17.8% of respondents were undecided.

Table 4.34: The activities and/or tasks on the learning management system are graded by my lecturer(s)

Feedback of activities and/or tasks on the LMS	**Frequency**	**% (*n* = 567)**
Strongly disagree	30	5.3%
Disagree	91	16.0%
Neither agree nor disagree	101	17.8%
Agree	275	48.5%
Strongly agree	70	12.3%

The percentages obtained in Table 4.31 to Table 4.34 for respondents who disagreed with the four statements of questions 15, 16, 19 and 20 should be investigated to determine the reasons why respondents disagreed with the statements so that feedback can be given to lecturers. The result of not finding out the reasons for the disagreement can lead to students becoming disengaged and therefore losing interest in completing activities/or tasks that could assist them in their studies.

Survey question 30: How would you rate your overall experience with blended learning at the private higher education provider?

Table 4.35 presents the overall experience of respondents with BL at the PHE provider. The majority of respondents were satisfied with the overall experience with BL (84.5%) while 15.4% of respondents were less satisfied with the overall experience with BL.

Table 4.35: How would you rate your overall experience with blended learning at the private higher education provider?

Overall experience	**Frequency**	**% (*n* = 551)**
Poor	10	1.8%
Fair	75	13.6%
Good	182	33.0%
Very good	176	31.9%
Excellent	108	19.6%

Figure 4.20 provides a graphical presentation of Table 4.35.

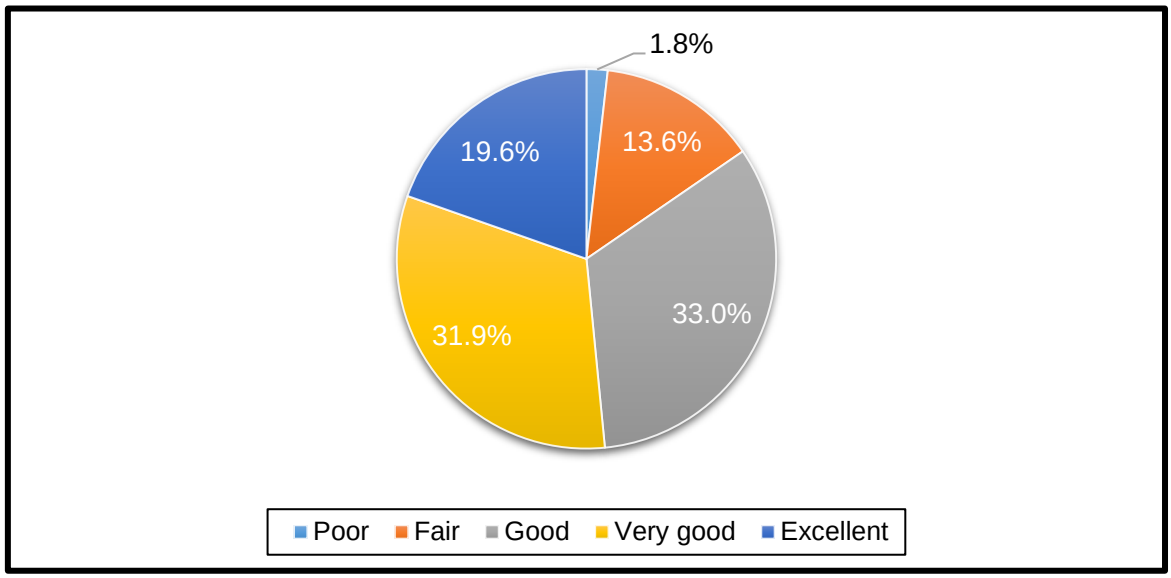


Figure 4.20: How would you rate your overall experience with blended learning at the private higher education provider?

4.7.2 Group Differences for Student Engagement

A chi-square test and Mann-Whitney *U* Test were conducted to see if there were any significant differences between groups and is reported in Section 4.7.2.1 to Section 4.7.2.7.

4.7.2.1 Student Orientation versus Year of Study

A chi-square test of independence was performed to examine the differences between respondents attending the orientation and their year of study. The relation between these variables was statistically significant, χ^2 (2, n = 567) = 10.12, p = 0.006, *phi* = 0.13. Respondents in their first year (89.4%) had a higher percentage of attendance than second- (87.5%) or third/fourth-year (78.3%) respondents. This result was expected as first-year students are more likely to attend the orientation than a student of any other year due to their recent exposure to the HE environment.

4.7.2.2 Length of Time Using the Learning Management System versus Four Demographic Variables

A chi-square test was conducted to determine if statistical differences exist between the four demographic variables, namely: age group, gender, name of programme and year of study (Table 4.36), and the length of time that respondents were using the LMS.

Table 4.36: Length of time using the learning management system and four demographic variables: age group, gender, name of course and year of study

		Age group	Gender	Name of course	Year of study
How long have you been using the LMS?	Chi-square	73.71	13.27	176.16	695.13
	df	5	5	25	10
	Sig. (2-tailed)	0.000	0.021	0.000	0.000
	phi	0.36	0.15	0.56	1.11

The results of Table 4.36 indicate that statistically significant differences were identified between the four demographic variables and the length of time that respondents used the LMS. There is a strong statistically significant difference, at the level 1.0% of significance, with regards to the programme which respondents were completing χ^2 (25, n = 564) = 176.16, p = 0.000, *phi* = 0.56, and year of study χ^2 (10, n = 567) = 695.13, p = 0.000, *phi* = 1.11, while there was a moderate statistically significant difference with age group χ^2 (5, n = 567) = 73.71, p = 0.000, *phi* = 0.36. Respondents in the age group 22 years and older (62.7%) had used the LMS longer than respondents in the age group 17 to 21 years (35.7%). Respondents completing their BBA programme (95.5%) had used the LMS the longest of all the other programmes offered at the PHE provider. Lastly the third/fourth-year (98.4%) respondents had the most experience in using the LMS than the second-year (96.3%) and first-year respondents (12.0%), which should have been expected due to the length of time that they had been studying at the PHE provider.

A small statistically significant difference exists, at a 5.0% level of significance, for gender χ^2 (5, n = 561) = 13.27, p = 0.021, *phi* = 0.15. Female respondents had used the LMS longer than their male counterparts.

4.7.2.3 Activities and/or Tasks Are Compulsory versus Year of Study

A chi-square test of independence was performed to examine the differences between levels of agreement with the activities and/or tasks on the LMS which are compulsory to complete and respondents' year of study. The relation between these variables was statistically significant, χ^2 (8, n = 567) = 28.81, p = 0.000, *phi* = 0.23. Respondents in their first year (67.6%) had the highest level of agreement with the statement that the activities and/or tasks on the LMS are compulsory to complete followed by second-year (62.5%) respondents and lastly by third/fourth-year (51.2%) respondents.

4.7.2.4 Compulsory Activities and/or Tasks versus Age Group

A chi-square test of independence was performed to examine the differences between the activities and/or tasks that are compulsory on the LMS and respondents' age group. There was no statistical significance between these two variables, χ^2 (4, n = 567) = 6.56, p = 0.161.

4.7.2.5 Number of Activities and/or Tasks Completed versus Year of Study

A chi-square test of independence was performed to examine the differences between the number of activities and/or tasks completed on the LMS and respondents' year of study. The relation between these variables was statistically significant, χ^2 (10, n = 567) = 62.26, p = 0.000, *phi* = 0.33. First-year (80.2%) respondents completed more activities and/or tasks on the LMS than the third/fourth-year (65.1%) and second-year (52.5%) respondents.

4.7.2.6 Student Engagement versus Year of Study

A Kruskal-Wallis H Test revealed a statistically significant difference in SE in relation to the respondents' year of study (Gp1, n = 358: first years, Gp2 , n = 80: second years, Gp3, n = 129: third/fourth years), χ^2 (2, n = 561) = 15.41, p = 0.000, with a small effect size (r = 0.15). The third/fourth-year respondents recorded a higher *Md* score (*Md* = 3.40) than first-year respondents who recorded a *Md* score (*Md* = 3.20) and lastly the second-year respondents who recorded a *Md* score (*M*d = 3.00).

4.7.2.7 Student Engagement and Age Group

A Mann-Whitney *U* Test revealed no significant difference in SE in relation to age group of pedagogy (*Md* = 3.20, n = 401), and andragogy (*Md* = 3.20, n = 166, *U* = 30728.0, z = -1.45, p = 0.147. Therefore, both respondents in the pedagogy and andragogy age groups showed the same engagement in their BL programmes.

4.7.3 Spearman's Rho Correlation Analysis for Self-efficacy and Student Engagement in Using Technology

A Spearman's correlation was run to determine the relationship between the length of time respondents use an LMS and the efficacy in using technology and SE as indicated in Table 4.37. A moderate, positive correlation was found between the length of time respondents use an LMS and the computer skills of respondents (*rho* = 0.33, n = 567, p = 0.000), and respondents' skill in using the LMS (*rho* = 0.31, n = 567, p = 0.000). There was a weak, positive correlation between the length of time respondents use an LMS and the confidence respondents had in using a computer (*rho* = 0.28, n = 567, p = 0.000).

A weak, negative correlation showed between the length of time respondents use an LMS and the amount of activities and/or tasks completed (*rho* = -0.21, n = 567, p = 0.000). Therefore, the longer the respondent uses the LMS (i.e. first-, second- or third/fourth-year respondent) the smaller number of activities they completed.

Table 4.37: Spearman's rho correlation analysis for self-efficacy and student engagement in using technology

		Confidence in using a computer	Computer skills level	LMS skill level	Activities and/or tasks completed
How long have you been using the LMS?	Correlation Coefficient	0.275	0.311	0.328	-0.210
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	n =	567	567	567	567

4.7.4 Spearman's Rho Correlation Analysis for Lecturer and Student Engagement

A Spearman's correlation was run to determine the relationship between lecturer and student engagement Table 4.38. A weak, positive correlation was found between SE and discussion by the lecturer on content, activities on the LMS during classroom periods (*rho* = 0.17, *n* = 567, p = 0.000), whether the activities are graded by the lecturer (*rho* = 0.18, *n* = 567, p = 0.000), and whether the lecturer provides feedback to students (*rho* = 0.14, *n* = 567, p = 0.000). There was a weak, positive correlation between the length of time respondents use an LMS and the confidence respondents had in using a computer (*rho* = 0.28, *n* = 567, p = 0.000). The correlation indicates that respondents are more engaged in learning when lecturers discuss content and activities on the LMS during F2F interaction, grade the activities and provide feedback to respondents.

Table 4.38**:** Spearman's rho correlation analysis for lecturer and student engagement

		Lecturer discusses content and activities	Activities are graded by lecturer	Lecturer provides feedback
Student engagement	Correlation Coefficient	0.171	0.181	0.144
	Sig. (2-tailed)	0.000	0.000	0.000
	n =	567	567	567

4.8 Relationship Analysis

A chi-square test of independence was employed to test the relationships of variables as discussed in Sections 4.8.1 to 4.8.4. This was followed by a Mann-Whitney *U* Test to reveal significant differences between groups.

4.8.1 Decision to Register in a Blended Learning Programme and Previous Attendance in a Blended Learning Programme

A chi-square test of independence was performed to examine the relation between a respondent's decision to register in their BL programme being influenced by its BL mode and whether they had previously attended a BL programme. The relation between these two variables was statistically significant, χ^2 (4, n = 567) = 10.91, p = 0.028, *phi* = 0.14.

A Mann-Whitney *U* Test revealed a significant difference between a respondent's decision to register in their BL programme being influenced by its BL mode and whether they had previously attended a BL programme. Those who replied "yes" (*Md* = 3.00, *n* =154) and those who replied "no" (*Md* = 2.00, *n* = 413), *U* = 28 056.0, *z* = –2.250, *p* = 0.024, showed a very small effect size of (*r* = 0.09). Respondents who had attended a BL programme previously were influenced in registering for their current BL programme due to it being offered in BL mode.

4.8.2 Orientation Attendance and Studying Content on the Learning Management System

A chi-square test of independence was performed to examine the relation between respondents receiving orientation in using the LMS and how many hours a day that those respondents spend studying content on the LMS. The relation between these two variables was statistically significant, χ^2 (5, n = 567) = 14.03, p = 0.015, *phi* = 0.16.

A Mann-Whitney *U* Test revealed a significant difference in respondents receiving orientation in using the LMS and how many hours a day those respondents spend studying content on the LMS. Those who replied “yes” (*Md* = 3.00, *n* = 491) and those who replied “no” (*Md* = 2.00, *n* = 76), *U* = 15 508.0, *z* = –2.506, *p* = 0.012, showed a small effect size of (*r* = 0.10). Respondents who had attended the orientation spent more time studying content on the LMS than respondents who had not attended the training. It was also found that respondents who did not attend orientation attained the highest percentage of respondents who indicated that they had *never* spent time studying content on the LMS.

4.8.3 Orientation Attendance and Number of Activities and/or Tasks Completed on the Learning Management System

A chi-square test of independence was performed to examine the relation between respondents receiving orientation in using the LMS and how many activities and/or tasks respondents completed in the current year (2019) of study on the LMS. The relation between these two variables was statistically significant, χ^2 (5, *n* = 567) = 14.28, *p* = 0.015, *phi* = 0.16.

A Mann-Whitney *U* Test revealed a significant difference in respondents receiving orientation in using the LMS and how many activities and/or tasks respondents completed in the current year (2019) of study on the LMS. Those that replied “yes” (*Md* = 5.00, *n* = 491) and those who replied “no” (*Md* = 4.00, *n* = 76), *U* = 15 143.5, *z* = –2.753, *p* = 0.006, showed a small effect size of (*r* = 0.11). Respondents who had attended the orientation completed more activities on the LMS than respondents who had not attended the training. It was also found, as with the previous analysis, that respondents who did not attend orientation attained the highest percentage of respondents who indicated that they had not completed any activities on the LMS.

4.8.4 Activities and/or Tasks Completed on the Learning Management System and Lecturer(s) Discussing the Content on the Learning Management System in Class

A chi-square test of independence was performed to examine the relation between respondents completing tasks and/or activities on the LMS and whether respondents agreed that the lecturer(s) discuss the content, activities and/or tasks on the LMS during classroom periods. The relation between these two variables was statistically significant, χ^2 (4, n = 567) = 11.77, p = 0.019, *phi* = 0.14.

A Mann-Whitney *U* Test revealed a significant difference between respondents completing tasks and/or activities on the LMS and whether respondents perceived the degree to which the activities and/or tasks are compulsory. Those who replied "yes" (*Md* = 4.00, n = 560) and those who replied "no" (*Md* = 2.00, n = 7), U = 818.0, z = –2.824, p = 0.005, showed a small effect size of (r = 0.11). Respondents who stated that they had completed activities and/or tasks on the LMS also agreed that the lecturer(s) discussed the content, activities and/or tasks on the LMS during their classroom periods. However, respondents who disagreed with the statement that their lecturer(s) discussed content, activities and/or tasks during their F2F sessions showed disengagement by not completing any of the activities on the LMS.

4.9 Spearman's Rho Correlation Analysis Between Constructs of Social Cognitive Theory

Spearman's rho correlation was used to determine the strength of the direction and degree of the relationship between two constructs. The correlations were analysed between the constructs of the Bandura's SCT framework, namely: self-efficacy, outcome expectations, goals, socio-structural facilitators and impediments and SE (Table 4.39).

In Table 4.39 the relationships (correlations) between self-efficacy and the four constructs, namely, outcome expectations, goals, socio-structural facilitators and impediments and SE were analysed. The results showed that there were significant

moderate, positive correlations between self-efficacy and outcome expectations (*rho* = 0.33, *n* = 567, *p* = 0.000) and self-efficacy and goals (*rho* = 0.35, *n* = 551, *p* = 0.000), with high levels of perceived self-efficacy associated with high levels of outcome expectations and goals. There was a significant weak, positive correlation between self-efficacy and SE (*rho* = 0.15, *n* = 567, *p* = 0.000). If respondents displayed high self-efficacy, they would then be more engaged on the LMS. There was no statistical significance between the constructs self-efficacy and socio-structural facilitators (*rho* = 0.08, *n* = 567, *p* = 0.063) and the socio-structural impediments of low levels of digital skills and fear of technology, however there was a statistical significance found between the socio-structural impediments of limited access to technological devices, poor access to Wifi and time limitations. Respondents who reported high levels of social structural impediments was associated with high levels of self-efficacy.

Thereafter, the relationships between outcome expectations and the three constructs goals, socio-structural facilitators and impediments were analysed. The size of the value of the correlation between outcome expectations and SE was too low at 0.09 to report.

The results indicate that there were significantly moderate, positive correlations between outcome expectations and goals (*rho* = 0.42, *n* = 551, *p* = 0.000). Increased beliefs of high outcome expectations are associated with increased reflection on goals. A weak, positive statistical significance correlation exists between outcome expectations and socio-structural facilitators (*rho* = 0.17, *n* = 561, *p* = 0.000). Respondents perceived an increase in social-structural factors: facilitators would increase their beliefs of positive outcomes in their engagement in BL. All listed socio-structural impediments received a weak positive correlation, except for fear of technology as presented in Table 4.39.

Statistical significance was achieved with a weak, positive correlation with the constructs of goals and social-structural factors: facilitators (*rho* = 0.11, *n* = 551, *p* = 0.013); and social-structural factors: impediments (Table 4.39), and also between goals and SE (*rho* = 0.17, *n* = 551, *p* = 0.000), therefore an increase in socio-structural facilitators provided by the PHE provider is associated with an

increase in the respondents' reflection on their goal setting and respondents who become more engaged in attaining their goals. The more impediments respondents reported the higher their level of reflection on goal setting.

Finally, a statistical significance was achieved with a weak, positive correlation with the socio-structural facilitators and SE (*rho* = 0.15, *n* = 561, *p* = 0.001); this ties in with the previous, i.e. an increase in socio-structural facilitators on campus will result in an increase in the engagement in their BL programme. Whereas, there was no statistical significance found between socio-structural impediments and SE within this study.

Table 4.39: Spearman's rho correlation values between constructs of Social Cognitive Theory

		Outcome expecta-tions	**Goals**	**Socio-structural facilitators**	**Socio-structural impediments**					**Student engage-ment**
					Limited access to techno-logical devices	Low levels of digital skills	Fear of technology	Poor access to Wifi	Time limita-tions	
Self-efficacy	Correlation Coefficient	0.326	0.346	0.079	0.142	0.024	0.018	0.086	0.104	0.150
	Sig. (2-tailed)	0.000	0.000	0.063	0.001	0.570	0.666	0.042	0.013	0.000
	n =	567	551	561	561	561	561	561	561	567
Outcome expectations	Correlation Coefficient	-	0.419	0.171	0.174	0.129	0.098	0.150	0.190	0.090
	Sig. (2-tailed)		0.000	0.000	0.000	0.002	0.020	0.000	0.000	0.032
	n =		551	561	561	561	561	561	561	567
Goals	Correlation Coefficient		-	0.106	0.223	0.101	0.134	0.144	0.176	0.173
	Sig. (2-tailed)			0.013	0.000	0.018	0.002	0.001	0.000	0.000
	n =			551	551	551	551	551	551	551
Socio-structural facilitators	Correlation Coefficient			-	0.071	0.044	-0.013	-0.078	0.034	0.146
	Sig. (2-tailed)				0.092	0.299	0.757	0.065	0.427	0.001
	n =				561	561	561	561	561	561
Student engagement	Correlation Coefficient				0.060	0.012	0.030	0.000	0.024	-
	Sig. (2-tailed)				0.156	0.784	0.483	0.993	0.569	
	n =				561	561	561	561	561	

4.10 Results of Qualitative Open-ended Questions

Thematic analysis was used to identify patterns or themes within the qualitative data collected from the open-ended questions 21, 31 and 32. The patterns or themes are tabulated in Table 4.40 to Table 4.42.

Survey question 21: Why have you not completed any activities and/or tasks on the learning management system?

Table 4.40 provides the main themes, themes and sub-themes identified from survey question 21.

Table 4.40: Main themes, themes and sub-themes with quotations from data for question 21

Main Themes	Themes	Sub-themes	Verbatim responses from the respondents
Disengagement	**Preparation for study and academic capacity**	**Academic Difficulty**	*Because those activities are on [redacted] are too difficult compare to textbook work.*
	Psychological Factor	**Workload**	*I've been provided with a lot of assignments which are needed in short period of time.*
		Balancing Study Time	*I prefer doing textbook work or work that will or I think will help me for my exams.*
	Low Motivation	**Lack of Interest**	*I just do not like doing them.*
		Absent Reasoning	*Never saw the reason why.*
	Institutional Structures and Process (ISP)	**LMS Inaccessibility**	*Still haven't gotten my account registered.*

Survey question 31: What do you think the private higher education provider needs to do (or keep doing) to make blended learning successful for students?

Table 4.41 provides the main themes, themes and sub-themes identified from survey question 31.

Table 4.41: Main themes, themes and sub-themes with quotations from data for question 31

Main Theme	Themes	Sub-themes	Verbatim responses from the respondents
Marketing	**Student Marketing**		*They should not only smooth talk whilst marketing but they should also deliver.*
Lecturers	**Communication**	**SE**	*- The lecturers need to engage with us a lot better using* [redacted] *other than handing out slides and making announcements. The platform has a lot more resources that can be really critical to the development of skills of students. They should encourage more engagement between not only students but the lecturers themselves. They must make sure that communication is easy and frequent and they must structure the ICE tasks through* [redacted] *to encourage better use of the platform.* *- They should let students engage more in the blended learning skills, allowing them to be exposed to both sides of learning.* *-They need do create discussion groups for students, give students more activities and advice time to*

			work hard and ask questions if they do not understand.
		Notifications	*Must send notifications when there is new activities the lecture wants us to do.*
		Talking/sound	*They need to offer lecturers a mic because some lecturers' voices are low and its hard to hear nor pay attention because you hardly hear anything.*
		Tasks	*Lectures need to explain more of the task to be done on* [redacted].
		Feedback	*- Some Lecturers in class should try and give feedback for the tasks done and activities.* *- Set the* [redacted] *activities and encourage lecturers to be as engaged to the portal as students are, supply feedback even if it is the form of one documentation with correct answers.*
	BL	**Approach**	*Lecturers must be active on* [redacted] *and encourage students to use this form of blended learning effectively, by always giving feedback and posting more activities or tasks to do on* [redacted]*. Student must also dedicate their time to complete all the task required from them, ensuring that the learning environment is productive and provides quality outcomes on student progress.*
		Collaboration	*- Accessing the blackboard and discussion forums.* *- Think it would help a lot if there communication between students and lecturers were more active outside the lecture room.*
		Peer Evaluation	*Allowing peers to give feedback.*

		Tasks	*Do more ice tasks after every lesson, instead of 4 ice tasks a semester.*
		Advantage	*Just remind us that* [redacted] *is here to help us its not extra work.*
		Uninformed	*- Tells students more about it because some don't even know of its existence* *- Ensure that students are highly informed about the use of online services and platforms the school offers to engage with school work and information update.* [redacted] *should offer guidelines on how to access their platforms for different student concerns such as complaints etc.*
	Qualified		*- They need to hire more experienced lecturers.* *- Higher lecturers with greater insight in the technology field.*
	Student Support	**Student Attendance**	*Make sure all students attend the blended learning sessions.*
		Low Skill Level	*Lecturers should be patient with students with poor computer skills.*
		Activities/resources	*- Do more ice tasks after every lesson, instead of 4 ice tasks a semester.* *- Give us class works after finishing a chapter so that we are able to see what we understand and what we should study more on.*
		Practical	*Offer more practicals to the students.*
		Time Management	*- Give students time to complete* [redacted] *activities during class hours.* *- They have to provide regular, consistent days and times for the*

			online work, not to have tasks on an unevenly distributed intervals.
		Information	*Always keep on informing us about the changes.*
		Interaction	*- Allow students to interact with lectures out of class using* [redacted]*.* *- Lecturer(s) must interact more with students to enhance better understanding and achievement.*
		Resources	*- Lectures should upload materials in the relevant titles given.* *- The lectures have to make sure they upload slides that contain enough information.*
		Motivation	*- Encourage students.*
		BL Orientation	*They need to inform students more about blended learning. Give more definition about what is blended learning and what is required in it.*
	Teaching Pedagogy	**Lecturer Characteristics**	*- Lectures must understand some students that they have low understanding skill so they must stop their attitude and be patient.* *- Lecturers should be patient with students with poor computer skills.*
		Teaching Pace	*- Be more patient in helping us get used to* [redacted]*.*
		Positive	*- Keep on teaching the way they teach.* *- The lecturers are good, the way they lecture is fair and I benefit from the way they lecture.*
		Teaching	*- They need to give more clear instructions.* *- Lecturers should put more effort in class. Ask whenever the*

			students understand what they have taught.
		Marking	*- Our PoEs needs to be marked properly so that we cannot repeat modules that we've actually passed.*
		Practical	*- Provide with more practical because some student understand with visual and when teaching provide with more examples.*
		Invest	*- Lectures must invest lots of their time to help us as students, in modules that have a lot of theory and that are very complex.*
		Participation	*- To encourage more learners to take part on it.*
		Module Outcomes	*- The lecturers should prioritize on explaining each module in detail.*
	Classroom Management	**Attendance**	*- The lecturers must come to class everyday and lecturer every class.*
Private Higher Education Provider	**BL**	**Students -Positive**	[redacted] *needs to keep making blended learning available 24/7 to students as it helps them access* [redacted] *at any time of the day, this helps them access anything important that they need and it also helps them save time and money as there will be no need for them to physically be in campus to access* [redacted]. *-* [redacted] *should keeping the blended learning because it will make students understand more about the course their doing.*
		Students -Negative	*- I do not like blended learning.*

		LMS – Positive	*The platform has a lot more resources that can be really critical to the development of skill of students.*
		LMS – Negative	*- Make it more relevant. There is almost no need to go to [redacted] apart from ice tasks.*
		Activities	*- [redacted] needs to post more activities often for learners to compete on [redacted]* *- Give us class works after finishing a chapter so that we are able to see what we understand and what we should study more on.* *- Make all activities compulsory.*
		Assessments Submission/digital	*- Make more thing's digital. It makes no sense that we still have paper submissions in this day and age while the [redacted] says that it's forward thinking and looking at the future.* *- Furthermore , there need to be more online platforms to submit assignments et cetera.*
		Free Connectivity	*- Blended leaning must be free and accessible because we do most activities on [redacted] no data must be required.*
		Online -Positive	*- Make more resources accessible online.* *-I think that [redacted] should do more online class with the lecture in class.*
		Online – Negative	*Reduce online learning.*
		Flexibility	*- Make learning more flexible in every field.*

			- It enable student to learn on their own pace and time so that they enlarge of their knowledge capacity.
		Compulsory	*Make it compulsory.*
		Programme Content Relevancy	*- Some of the content could be more straightforward for student's understanding.* *- Ensure that enough content is available and relevant.*
		F2F Instruction	*- With some modules, I think we need to do more in the classroom.* *- More contact sessions with lecturers are needed.*
		Manual	*- They need to provide the students with more information and more learning guides on line for them to get the understanding of what is required to be done.*
		Practical	[redacted] *has to keep students interested in the technology by actually giving us platforms to fix certain hardware or by presenting the work while showing some physical evidence of technology in their hands.*
		User-friendly	*- They must keep* [redacted] *updated and make everything available to the students as easily as possible.* *- Make the interface more user friendly, e.g. the feature to talk to other students is not very user.*
		Visually Appealing	*- Make it more visually appealing.*
	Client Service	**Positive**	*- Everything is fine on my point of view.* *-They are doing well and should not change anything.*

			-They should keep doing what they are doing because we are having a great learning experience with them.
		Complaints	*- Take action to the students concerns and complaints.*
		Lecturer Evaluation	*- Always ask students what they think about their lecturers and how they feel about the space.*
	Communication	**Notifications/system**	*- Their notification systems need to be improved.*
	Student Support	**Data/data usage**	*- Do not limit the amount of data that should be used monthly.* *- Provide data to every student so we can be able to access blended learning even at our comfort zones.*
		Accessibility to the Internet	*The [redacted] should have their campus working 24/7 for students who don't have access to internet at their home, so that they can be able to do their school work on time.*
		Time Management	*Give students more time to do their work and rearrange timetables.*
		Financial/affordability	*Because some students can not afford to buy text books and they mostly rely on slides when they do not have accesses to the library.*
		Extension of Operating Hours	*Extend the library hours, because the library closes at 17:00 and there are some students who want to make use of the library after hours, especially during the time of assignments, tests weeks and exam week.*
		Resources	*- Have the access of about plus of software available in our access to further our learning.*

			- I think they should offer free laptops to the learners who have financial problems at home so that it can be easier for them to do activities at home. *- Provide F*ree *Tablets.*
	Tutors	**Extra Classes**	*- Provide more tutors if most of the students do not understand in class, it may be of help to pass all of the modules. And also the institution should hear our needs as we request for tutors, some learners may not always understand in class* *- If any case a tutor is needed, especially for modules deemed challenging or hard, then q tutor should be provided by the college.*
	Academic Planning	**Timetabling**	*- Set a clear time table which is convenient for the students early classes since other students travel from school to home.* *-* [redacted] *should try to include students in academics planning.*
		Workload	*- They must stop overworking us.*
	Facilities	**Computers Accessibility**	*- Make sure every student has access to a computer and also make sure each student s pc is functioning well.*
		Wifi Connectivity	*- To improve their Wi-Fi network because sometimes the network is poor or those not connect.*
		Library/cyber room	*- It must increase the space in the library and make sure the WIFI connection is always strong because we use it for educational purposes.* *- Larger library so that it can accommodate all students instead*

			of waiting for other to finish what they are doing.
		Security	*- Improving more on what the students have to learn and trying by all and making sure that the students are in a secure safe position well ready for them to write the exam.*
		Campus Accessibility	*- [redacted] should have their campus working 24/7 for students who don't have access to internet at their home, so that they can be able to do their school work on time.*
		Campus Relocation	*- [redacted] campus should not move.*
	Lecturers	**Staffing**	*- Sort the issue of lecture shortage and at least appoint two lectures for each module* *- There aren't enough lecturers so it slightly becomes a problem with other modules.*
		Experience	*- They need to hire more experienced lecturers.* *- Hire professional and passionate lecturers.*
		Professional Development	*- spend more time with students and give the teachers communications skills.*
		Training	*- They need to implement it without friction because currently, there is a lot of misunderstanding between the lecturers and the students regarding the content that is offered online. It is almost like the lecturers did not receive sufficient training.*

Survey question 32: What activities, tasks and/or assignments would you like to be added on the learning management system to assist you with your blended learning programme?

Table 4.42 provides the main themes, themes and sub-themes identified from survey question 32.

Table 4.42: Main themes, themes and sub-themes with quotations from data for question 32

Main Themes	Themes	Sub-themes	Verbatim responses from the respondents
Technical Aspect	**Connectivity**	**Fast Internet**	*Help on how we access fast internet.*
	User-friendly		*They must be user friendly.*
	Graphics/videos		*Some videos on [redacted] seem to be done a long time ago and the pixilation of the pictured videos is blurry.*
LMS Features	**Communication**	**No Additional Features**	*- Nothing at all, it is fine just the way it is.* *- The tasks or assignments that are already provided are very effective and helpful.*
		Beginners Guide Video	*The beginners guideline videos.*
		Feedback	*Less ICE, give us more feedback on ICE activities.*
		Language Literacy	*Presentational work for students, as they will be training them to speak fluently during their working environment.*
	Orientation	**Computer Literacy**	*- I think activities that will improve my computer skills in general should be added.*
	LMS Tools and Media	**Games**	*- Activities which are similar to games, that help us understand computers better.*

			- A way for students to learn while playing. they can create a way for students to answer questions that goes with their modules and offer rewards for those who participate and get them correct the most. (more like the solo learn app).
		YouTube© Video	*They should add more visuals e.g. (videos, audio) to better understand the content which we are learning.*
		Effective Plagiarism Tool	*Should improve anti-plagiarism tool to make it efficient.*
		Podcasts	*A podcast for extra classes for student who are unable to make it to class.*
		Tutorial Video	*They should try to add on videos for each module's activity so that they can accommodate other students.*
		Practical/simulation Activities	*- More practical activities instead of more theoretical activities.* *- We need video tutorials of certain modules because the videos are more practical.*
		Video-conferencing	*Video conferences with lecturers.*
		Surveys	*Just simple minor tasks, such a surveys, to help us easily grasp the information required from us and to understand any topic at hand.*
		Grading	*Make it easy for me to view my grades.*

	Formal and Informal assessments	**Tasks**	*There could be tasks that are tailored based on the lecture sessions that were had so that they can help reinforce the information learned. There should also be discussion forums which are compulsory to encourage student and lecture engagement. This will help students to know that the lecturers are always available to aid students.*
		Quiz	*Chapter based quizzes for each and every module, so that students can know which areas they're lacking in upon completion of the quizzes.*
		Test/mock test	*- I think some online class test should be added on [redacted] so that students can more familiar with the system blended learning* *- Practice tests or Mock exams.*
		ICE Tasks	*More ICE tasks that will help students to engage with the particular module the ICE tasks are adhered to. Because i think most students fail because of having a lower set of ICE tasks provided. In this case, by doing so this will develop more understanding within the module and if this could happen throughout the entire coarse, more student will pass. I have hope in that.*
		Interactive Task	*Interactive tasks which would offer more insight or feedback on the questions which a*

			student might have not got correct.
		Electronic Portfolio of Evidence	*The POE's*
		Electronic Assignment and Exam	*I think it will be great for us to submit all our assignments online* [redacted].
	Collaborative Learning Tools	**Discussion Board**	*- There should also be discussion forums which are compulsory to encourage student and lecture engagement. This will help students to know that the lecturers are always available to aid students.*
		Peer Review	*Helping other learners with the course i understand the most.*
		Group Work	*Practical activities as well as more group works.*
	Content-related Downloads/uploads	**Articles**	*The should more resources like articles and videos added that can help us with our assignments.*
		Summary	*- A summery of all the information we do.*
		EBooks	*Extra study guides or and textbook can be added on the* [redacted] *for students to save money.*
		Notes/slides	*- Any additional notes relevant to the module can make the blended learning course easy.* *- More slides please.*
		Past Assessment and Memorandum	*- Memorandum of past papers.*
		Research	*- Research activities.*

4.11 Conclusion

Chapter 4 presented the results of the study. The results were based on data collected at a PHE provider using an online cross-sectional survey, with SurveyMonkey®, during the period 8 July 2019 to 5 August 2019 to gather quantitative descriptive data from 567 PHE respondents. The results for the 29 closed-ended questions were presented to answer the primary and secondary research questions using the constructs from Bandura's SCT framework. The main parts of the chapter were presented in order of demographics of respondents and then in order of the four secondary questions ending with SE results. Various analysis techniques were used to analyse the quantitative descriptive data, namely: bivariate analysis included cross tabulations to investigate group differences using Mann-Whitney *U* Test and Kruskal-Wallis H Test, the chi-square test, Spearman's rho test for correlations and EFA for scale construction.

The qualitative data, for the three open-ended questions were analysed and divided into themes, main themes, and sub-themes using thematic analysis. The qualitative data was used to supplement the quantitative data to understand why respondents did not complete activities and/or tasks on the LMS, respondents' opinions on making BL successful at the PHE provider and which activities, tasks and/or assignments respondents would like added to the LMS to assist them in their BL programme.

The final chapter of this dissertation, Chapter 5, discusses the results of the study in relation to the aim, objectives and research questions of the study.

CHAPTER 5

DISCUSSION, RECOMMENDATIONS, AND CONCLUSIONS

5.1 Introduction

The purpose of this study is to investigate the nature and extent of PHE students' social cognitive learning engagement in BL programmes at a PHE provider. The study aims at answering the primary research question:

> *What is the extent of private higher education students' social cognitive learning engagement in blended learning programmes at a private higher education provider?*

The preceding chapter presented the quantitative descriptive data from a sample population of n = 567 respondents using a cross-sectional survey questionnaire. The results from the data were presented under the four secondary questions which were derived from Bandura's SCT constructs: (1) self-efficacy, (2) outcome expectations, (3) socio-structural factors, and (4) goals.

In this chapter, a discussion of the results obtained in Chapter 4 will be presented under each of the four secondary research questions including SE. The four secondary research questions that this study aims to answer are:

(1) How do private higher education students perceive their self-efficacy in relation to blended learning?

(2) How do private higher education students' outcome expectations impact their engagement in blended learning programmes?

(3) How do socio-structural factors impact the private higher education students' engagement in blended learning programmes?

(4) How do private higher education students' goal orientations impact their engagement in blended learning programmes?

Following the presentation and discussion on the results, this chapter discusses the conclusions drawn from the results of this study. Finally, recommendations and suggestions for future research are discussed.

5.2 Discussion

Before embarking on the discussion to answer the four secondary research questions, a discussion of the results of students' prior exposure in a BL programme before starting their current BL programme, and the students' overall experience in BL at the PHE provider will be presented which will inform the reader on the current level of satisfaction experienced by students. Meyer *et al.* (2014:97) argue that to ensure improvement in planning and delivering programmes in BL format, it is important that "student needs, expectations and experiences underscore the need for a through front-end analysis … in order to inform practical decision making as part of the design and development process" of programmes.

5.2.1 Students' Prior Exposure in Blended Learning Programmes

With the rapid increase in using BL in HE, the understanding of students' prior exposure in a BL environment becomes significant (Lam, 2015a:11). The results shown in Table 4.6 reveal that 72.8% of students had never attended a BL programme before commencing with their current BL programme and therefore had no experience in BL, while 27.2% of students indicated that they had previously attended a BL programme prior to starting their current programme. Of the total sample, the majority of students (60.5%) indicated that they were influenced by the fact that their programme was offered in BL mode (Table 4.7). This is a high percentage of students even though the majority had never attended a programme in BL mode. The high indication of interest could be attributed to the types of programmes offered at the PHE providers which specialise in ICT, or the perceived competencies in using technology. More than a quarter of respondents were *not at*

all influenced (39.5%) that the programme of choice was offered in BL mode. This could be attributed to respondents not knowing what the term "BL" meant or that the mode of delivery was of less importance to them than the qualification.

Of the 27.2% of students who had prior exposure in BL, the majority (63.6%) stated that they were influenced in registering for their current BL programme at the PHE provider due to it being offered in BL mode. This affirms that students who had prior exposure in BL will therefore prefer to complete another programme especially if it is offered in BL mode. The students who had attended a previous BL programme had obtained either a grade 12 (23.1%), higher certificate (44.6%) or diploma/bachelor (27.3%) qualification and were mainly from the andragogy age group (22 years and older).

5.2.2 Students' Experience in Blended Learning Programmes

It is important that HEIs need to design and deliver engaging learning experiences for students to succeed in BL (Martin & Bolliger, 2018:218). Green, Whitburn, Zacharias, Byrne and Hughes (2017:472) assert that the use of ICTs in BL creates a rich and engaging experience for students by incorporating the best of both F2F and online learning. Students who have had positive learning experiences with BL are normally more engaged. Vignare (2007:37) and Kiviniemi (2014:1) suggest, in their review of the literature on BL, that it is important to examine how students experience the BL programme and their feedback on its effectiveness. Students at the PHE provider, as presented in Table 4.35, rated their overall experience with BL as being positive, satisfied (84.5%). This high positive experience with BL helps improve retention, reduces dropout rates, and is correlated with improvements in students' attainment of qualifications. Students' feedback on what the PHE provider needs to do, or keep doing, to make BL successful is presented in Table 4.41; and what activities, tasks and/or assignments students want added to the LMS to assist them with their BL programme is presented in Table 4.42. Two students remarked that the PHE provider "*should keeping [sic] the blended learning because it will make students understand more about the course their doing"* and another student commented that *"the platform has a lot more resources that can be really critical to the development of skill [sic] of students".*

Although a high percentage of students were satisfied with the BL experience, there were less satisfied students (15.4%) with BL at the PHE provider. This is of concern as students who are dissatisfied become disengaged. If this is ignored by the HEI and lecturer(s), it will ultimately result in academic failure and possible dropout for these students (Khazanchi & Khazanchi, 2018:190).

5.2.3 Perceived Self-efficacy in Relation to Blended Learning

This section investigates the first secondary research question for this study:

> *How do private higher education students perceive their self-efficacy in relation to blended learning?*

Before the commencement of the academic year, all students, especially those in their first year, are invited to attend orientation as indicated in Section 4.7.1.1. Boelens *et al.* (2017:11) posits that orientation is the key to overcoming obstacles by students on how to use the educational technology (i.e. LMS) which is an imperative part of BL. The results in Table 4.25 illustrate that the majority of students (86.6%) attended the orientation while only 13.4% did not. Of the 13.4% of students who did not attend the orientation 38 were first-year students (10.6%), 10 were second-year students (12.5%) and 28 were third/fourth-year students (21.7%). However, a limitation should be noted. The researcher did not conduct any further enquiries from second- and third/fourth-year students as to whether their absence of attendance to orientation during the research period was because they had attended in previous years or during their first year of study. Therefore, the researcher is under the assumption that the students who did not attend, could possibly have previously attended an orientation. The issue here is primarily concerned with first-year students who did not attend orientation and who would be negatively affected, thereby influencing their self-efficacy and engagement in their BL programme.

The majority of students (97.6%) who attended orientation indicated that they found the orientation to be helpful in using the LMS. The results in Section 4.3.4.2 show a

positive correlation (1.2% shared variance) between students who attended orientation (from first-to-fourth year) and those who found the orientation helpful and reflected an increase in self-efficacy. The results would agree with the research from Cassidy (2018:68) who found that the data of her research revealed very high levels of satisfaction with the orientation and a feeling among students that it had assisted them in preparation for their programme. It is evident from both the literature review and this study that the initial reason for F2F meetings being implemented is to provide students with organisational information, to clarify expectations and to explain the used technologies (Boelens *et al.*, 2017:11). This use of F2F meetings is also stressed in previous research findings where students state the value of an initial orientation session to introduce the course and familiarise themselves with the technology used (Boelens *et al.*, 2017:11; Meyer *et al.*, 2014:96; Rovai, 2003:11). A further discussion on the influence of attendance at the student orientation related to SE will be discussed in Section 5.2.6.

The results further show in Table 4.9, that the majority of students (74.6%) studying at the PHE provider were confident to very confident, while 24.5% were somewhat to moderately confident and five (0.9%) students were not at all confident in using a computer. The analysis showed a statistically significant difference between the andragogy and pedagogy age group. The andragogy group was more confident than the pedagogy group in using a computer (Section 4.3.3.1.1) and the third/fourth-year students indicated higher confidence levels than the second- and first-year students in using a computer (Section 4.3.3.3.1).

The largest percentage of students, as shown in Table 4.10, indicated that their computer proficiency skills level was on an intermediate (48.7%) level, followed by competent (40.4%), beginner (10.8%) and only one student (0.2%) indicated that they had never used a computer before. Although the majority of students (74.6%) indicated that they were confident in using a computer, 59.7% lacked the skills to operate computer programmes efficiently and effectively for their studies. The 59.7% comprised of the majority of first-year students with 70.4%, followed by 47.5% second-year students, and 37.2% third/fourth-year students. This confirms, as presented in Section 4.3.3.3.2, that the group difference in students' year of study correlates with their computer proficiency skills level of which third/fourth-year

students together with second-year students received a much higher level of self-efficacy than first-year students. The results further show that most students' perceived their confidence level in using the PHE provider's LMS as indicated in Table 4.11, as medium skills level (58.7%) while 36.9% of students perceived themselves to have high skills level, and 4.4% lacked the skills to use the LMS. A statistical significance was found between the year of study of the students and the skills level in the use of the LMS (Section 4.3.3.3.3). The third/fourth-year respondents recorded a higher level of self-efficacy than the other year of study groups. These results are aligned with Gutteridge's (2009:110) research findings, that the primary inhibiting factor was the hesitation or lack of confidence of students due to the unfamiliarity with unknown technologies. Students entering into the HE environment, specifically first-year students, lack familiarity with, or possess a shortfall in skills to operate the technology/educational technology utilised by the HEI, especially when coming from different secondary educational schooling and socio-economic backgrounds. It can be seen by this study that as students progress through their years of study so too do their skills and confidence in the LMS increase.

The statistical significance in group differences found in age groups and year of study, as discussed above, is in contradiction to Şahin and Kurban (2016:10) who state that Generation Y and Z students were born into a world where they were immediately acquainted with technology. Parker and Van Belle (2017:5) agree that students of the iGeneration (or Generation Z), have grown up with digital technology and are seen as a distinct new generation of technologically-enhanced learners who have an information-aged mindset. This study agrees with Roodt and Peier (2013:475) who argue that "skill and comfort level with technology differs within the generation" and one must be cautious when defining and labelling groups of people into generation year ranges as this may lead to problems of "misrepresentation and generalisation" or that these generations may not necessarily be homogenous in the use of technology (Parker & Van Belle, 2017:5). Therefore, one can't presume that students from the pedagogy age group (iGeneration/Generation Z), are comfortable and skilled in using a computer when entering HEIs, or that students from the iGeneration/Generation Z may not necessarily be homogenous in their use of technology. This was also confirmed by the year of study of students. It could

rather be argued that the prior experience in using technology, and the more students are exposed to technology/educational technology through their years of study, will help to increase their self-efficacy in using technology, such as computers and the LMS.

The above was further confirmed in Section 4.3.4 with a significant strong, positive correlation found between the confidence in using a computer, the computer proficiency skills level and the LMS skills level of students with the level of self-efficacy as shown in Table 4.17. In Section 4.3.4.1 a significant moderate, positive correlation was found between the students' year of study and the level of self-efficacy in BL as was previously discussed. Therefore, as students' progress in their year of study, from first year till third year (i.e. a three-year programme), the more experienced they become in using technology, and the greater their display of self-efficacy. This is confirmed by the literature review by Alqurashi (2016:48) who reported on a study by Jan (2015) that found "a positive and significant relationship between computer self-efficacy and prior experience with online learning, and between academic self-efficacy and prior experience with online learning, and between academic self-efficacy and student satisfaction". The student satisfaction depicted in this study is related to the positive outcome of the students' experience at the PHE provider as discussed in Section 5.2.2.

Based on the results presented in Chapter 4, the tools and applications that are normally found in LMSs were grouped together into three groups, namely applications/devices, media and LMS tools as presented in Table 4.15. Students were the most *confident* in using applications/devices that they used often or which were required for making a success of their studies. This was followed by *moderately confident* in media (i.e. YouTube© and podcasts), then *somewhat confident* in LMS tools. Bandura (2000:206, 2009:184) and Salanova *et al.* (2012:152) state that people's belief in their efficacy could develop from four major sources of influence, which vary in strength and importance: mastery experiences, vicarious experiences, social persuasion and somatic/emotional states. Salanova *et al.* (2012:152-153) state that "mastery experience" is the most influential source of self-efficacy and includes: (1) the perceptions of students' capabilities, (2) the amount of effort students make while doing the task, (3) the perceived difficulty

involved in the task, and (4) the circumstances under which they perform. Students therefore master the use of applications/devices by continually using these applications/devices for personal or academic use (i.e. mobile phones) as well as through vicarious experiences (i.e. assignment submission tools, SafeAssign or online quizzes) by observing their lecturers and fellow students who have already mastered the task.

Media platforms, especially YouTube©, are used by students for personal or academic purposes. Genota (2018) argues that the iGeneration/Generation Z have a "specific brand relationship" with YouTube© and when students are looking for answers, they gravitate towards a familiar source, namely YouTube©. But, the use of YouTube© today is not only confined to the iGeneration/Generation Z, but also to Generation Y/Millennials, as the results indicate. The influence of using media platforms, especially YouTube©, is becoming ever more increased, through both vicarious experiences and social persuasion, as media inspires learning, elicits emotions, assists with engagement and creates excitement in BL classrooms (Roodt, De Villiers, Johnston, Ophoff & Peier, 2014:392). Media can therefore have a strong effect on a person's mind and senses.

A study by Gutteridge (2009:110) concluded that inhibiting factors in BL are the lack of confidence due to unfamiliarity with technology. The reluctance and lack of confidence in using new technology such as the LMS tools available on the LMS platform (i.e. blogs, discussion forms, wikis, ePortfolios, video-conferencing, glossary tools and Turnitin) is understandable, and the students' attitude can affect the success of using these in learning (Aitken, 2010), especially when these tools are not used during teaching and/or learning, or when they are not used often by lecturers in the BL environment.

When analysing the data concerned with the group difference between the students' programme of study and self-efficacy in BL, in Section 4.3.3.4, it was found that the programme that received the highest self-efficacy in BL was the BBA programme, and not a programme that specialised in ICT. Although BL makes use of an educational technology such as an LMS, its role is that of a supportive nature to F2F instruction which can provide opportunities for students to learn more

effectively (Mirabolghasemi & Iahad, 2016; Unwin, 2005:116). It should however be noted that 95.5% of all the students on the BBA programme were in their third/fourth year of study, which was the highest percentage of third/fourth-year students of all the programmes. The programme that received the lowest score was the HIS programme which had the majority (95.9%) of first-year students. This may confirm that the level of self-efficacy in BL is not confined to the specialisation of the programme (here business studies or ICT), but may rather be, as confirmed by the results of this study, due to the period of study and the level of engagement within the BL programme. This result was however obtained with a sample size of n = 22 BBA students which only represents 4.0% of the total sample population of n = 567. It is acknowledged that further investigation is required to determine whether there is a correlation between the type of BL programme and the level of self-efficacy with a larger sample size than what was obtained in this study.

Overall, the results, as illustrated in Figure 4.11, show that the students' perceived their self-efficacy, at the PHE provider, in relation to BL as being *confident* (*Mn* = 3.76). However, there were group differences found in age groups (Section 4.3.3.1) and years of study (Section 4.3.3.3) with self-efficacy in BL, but there were no difference shown by gender (Section 4.3.3.2) in self-efficacy, except for male students having more confidence in using media (Table 4.13) than their female counterparts (Section 4.3.3.2.1). The results of this study concur with the study by Hoskins and van Hooff (2005:188) which shows that age plays a significant role in determining students' use of online learning, and that gender can't predict online usage. This is in contrast with Tembo and Ngwira (2016), as cited in Beri and Stanikzai (2018:219), who concluded in their study that there is considerable disparity between male and female self-efficacy which was not the case in this study except in the use of LMS tools.

5.2.4 Students' Perceived Outcome Expectations and Student Engagement in Blended Learning Programmes

This section discusses the results from the second secondary research question:

> *How do private higher education students' outcome expectations impact their engagement in blended learning programmes?*

The literature in Chapter 2, on outcome expectations, states that efficacy beliefs affect people's goals and aspirations and also shape their outcome expectations (Bandura, 2008:4). Those with a high efficacy level expect to gain favourable outcomes through good performance, whereas those who expect poor performances of themselves conjure up negative outcomes. In this study, as shown in Table 4.39, a positive correlation (10.9% shared variance) was found between self-efficacy and students' outcome expectations. This confirms the statement by Bandura (2008:4) that self-efficacy beliefs have a positive relationship with students' outcome expectations. The results further indicate that students showed *confidence* with a high efficacy level (*Mn* = 3.76) while showing importance (*Mn* = 4.11) in achieving their expectations.

Of the three variables presented in Table 4.19, students highlighted self-evaluation to be the most important variable followed by physical and then social outcome expectations. Although the three outcome expectations variables received the above ranking order it should be noted that the *Mn* scores achieved were all *important* expectations for students. This may well be caused by relevant expectations of students who attend and engage in a BL programme, especially where technology is concerned. Their interactivity with the LMS in BL builds an expectation from students that the continuous use of the LMS and its tools, applications and media may assist them to become more comfortable and efficient in using technology and help them understand concepts related to their studies through completing activities and/or tasks on the LMS.

Psychological factors are one of the reasons why some students withdraw from their studies, such as balancing study time, managing workload and financial worries (Chipchase *et al.*, 2017:35). In a study by Universities South Africa (2018:10) the top two reasons why students felt like dropping out from their HEI, as illustrated in , were because of financial reasons (tuition fees and living costs). The physical expectations of students' engagement in BL were that it would allow them to work from multiple settings and would save them time and costs/money. Lastly, the students' social expectation of allowing them to communicate with other students, although attaining an importance rating, scored the lowest of all the expectations. The reason for attaining a lower score could be attributed to the low confidence level of students in using LMS communication tools such as discussion forums (Table 4.12).

A group difference analysis was conducted with regard to age, gender, type of programme studying and year of study with outcome expectations. There was no statistical significance found in relation to the outcome expectations of students (Section 4.4.2). All students perceived their expectations similarly to each other.

The correlation analysis presented in Table 4.39 indicates a positive correlation (17.6% shared variance) between outcome expectations and students' goals. Students found their outcome expectations to be important in attaining their goals. This supports the Luszczynska and Schwarzer (2005:131) argument that both outcome expectancies and self-efficacy beliefs play an influential role as direct predictors of behaviour and operate as indirect pathways affecting goal setting.

The correlation coefficient (only 0.8% of the variance of the data) between outcome expectations and SE reflected a very weak positive correlation and did not bear enough significance for consideration. Therefore, although the results found a very weak relationship between outcome expectations and SE, this should not be viewed as student disengagement - unless the students have disengaged emotionally and behaviourally from their academic studies. Priority is held in reminding the reader (as discussed in the literature review) about the difference between SE and student participation. As discussed in Section 2.14.6, Harper and Quaye, as cited in Chipchase *et al.* (2017:34) state that "engagement is more than involvement or

participation, it requires feelings and sense-making as well as activity". Therefore, although the results found a very weak relationship between outcome expectations and SE, this does not reflect the students' participation in the BL programme.

5.2.5 Students' Perceived Socio-structural Factors and Their Learning Engagement in Blended Learning Programmes

This section discusses the results from the third secondary research question:

> *How do socio-structural factors impact the private higher education students' engagement in blended learning programmes?*

The two socio-structural factors, facilitators and impediments, are assumed to facilitate or inhibit the performance of a behaviour and affect behaviour via changing goals (Conner, 2010:24). The results portrayed in Table 4.39 indicate that there was no statistical significance in the relationship between self-efficacy and socio-structural facilitators, but there were two impediments (i.e. limited access to technological devices and time limitations) that had a weak correlation with self-efficacy. In support of this, Beauchamp *et al.* (2019:113) postulate that there are various socio-structural factors that are antecedents of self-efficacy beliefs. From this study the impediments; limited access to technology devices and time limitations, which both showed the largest prevalence (86.6% equally) that is considered influential, may have an adverse effect on the self-efficacy beliefs of students in engaging in their BL programme. In Figure 4.16, the impediment that received the highest level of influence percentage was poor access to Wifi (32.4%). However, although there was a statistical significance found, the correlation coefficient (only 0.7% of the variance of the data) between poor access to Wifi and self-efficacy was too low to bear enough significance for consideration.

The majority of students (74.2%) agreed that the PHE provider made enough learning spaces available for them to study on campus (Figure 4.15). This study found that there was a positive correlation between socio-structural facilitators and SE (2.1% shared variance). Therefore, the provision of enough learning spaces for

students to study on campus has a positive correlation on SE within their BL programme (Section 4.5.3). However, the 25.9% of students who perceived that there were not enough learning spaces provided for them on campus were in danger of becoming disengaged as learning spaces provide students with space to collaborate with other students, while also encouraging active learning, and learning supported by technologies that students prefer to use (Riddle & Souter, 2012:5). Learning spaces also contribute to connecting students to technologies in support of learning theories (i.e. constructivism) as described in Section 2.11. If disengagement is ignored by the HEI and/or lecturer, ultimately the result will be academic failure and possible dropout (Khazanchi & Khazanchi, 2018:190).

An analysis was conducted to determine if there were differences relating to gender and any of the five impediments that students perceived inhibited their participation in their BL programme. The study found a statistical significance in the level of influence the impediment, fear of technology, had on gender. The results show that female students are more inhibited by their fear of technology than their male counterparts (Section 4.5.2.2). This concurs with researchers who reported that males tend to be more confident than females in using technology (Schunk & Pajares, 2002:22).

Students indicated that the impediments listed in Table 4.21 had a high level of influence on their participation in their BL programme. When analysing the correlation between socio-structural impediments and SE (Table 4.39), no statistical significance was found. This indicates that although the impediments influenced the students' participation in their BL programme they had no relation to the students' engagement within the programme. Bandura (2009:181) posits that beliefs of personal efficacy shape whether people attend to the impediments that they are faced with and how "formidable the obstacles appear". The students' with high efficacy, as shown in this study, regarded the impediments as surmountable despite finding the impediments to be influential while participating in their BL programme (Bandura, 2009:181).

Lastly, a positive correlation (1.1% shared variance), as indicated in Table 4.39, was found between socio-structural facilitators and goals, and a positive correlation was

shown between the five impediments and goals. It is expected that socio-structural facilitators are positively correlated with goal reflection, but negative impediments could have been expected to negatively impact it.

5.2.6 Students' Perceived Goal Orientations and Their Learning Engagement in Blended Learning Programmes

This section discusses the results from the fourth secondary research question:

> *How do private higher education students' goal orientations impact their engagement in blended learning programmes?*

Bandura's research shows that high perceived self-efficacy leads students to set higher goals and increases the likelihood that they will dedicate themselves to those goals (Devi *et al.*, 2017:723; Locke & Latham, 2002:714). This study showed that students, overall, indicated that they often (*Mn* = 3.99) thought of their goals. Students perceived goals that were relevant to their studies to be the most important and often thought of, followed by attainable goals, placing goals within timeframes, measurable goals and specific well-defined goals. Within education, learning goals that are specific, short-termed, and viewed as attainable enhance students' self-efficacy more than goals that are general, long-termed or are viewed by students as not achievable. The results in the study indicate that students believe that they can attain the former goals, which offer clear standards against which to measure their progress, and in which they can compare their progress (i.e. grades attained, LMS activity and/or task completion) (Schunk & Pajares, 2002).

In a previous study, Zimmerman and Bandura (1994) as cited in Schunk and Pajares (2002:25), obtained evidence showing that self-efficacy for writing, correlated positively with college students' goals for course achievement, self-evaluation standards (i.e. attainable goals such as potential grades), and actual achievements. Furthermore, as stated and supported in Section 2.15.1.4, all major theories suggest that goals should be as specific as possible in order to facilitate action. In this study, as presented in Table 4.39, a positive correlation was found

between students' self-efficacy beliefs and their self-set goals (12.0% shared variance), which emphasises the important relationship between self-efficacy, goal setting and achievement (Zimmerman *et al.*, 1992:663). Bandura's research shows that high perceived self-efficacy leads students to set higher goals and increases the likelihood that they will dedicate themselves to those goals (Devi *et al.*, 2017:723; c, 2002:714).This is in support of the results that goal setting and self-efficacy are powerful influences on academic attainment.

A positive correlation was also found between goals and SE (Table 4.39). Students who had set goals, and often thought about their goals were assumed to be more engaged in their BL programme. Locke and Latham (2002) posit that goals motivate students to expend the effort necessary and persist at the relevant activities and/or tasks, therefore resulting in better performance and enhanced engagement (Schunk & Mullen, 2012:224). The results discovered in this study indicate that the students at the PHE provider often thought of their goals which had a positive impact on their engagement in their BL programme.

5.2.7 Student Engagement Results

This study investigated the extent of PHE students' social cognitive learning engagement in BL programmes at the PHE provider. The study revealed that the majority of students were moderately engaged (*Mn* = 3.16) in their BL programme at the PHE provider, however, there were some students who showed signs of low levels of engagement or disengagement, while others showed high levels of engagement. When analysing the data, students who had attended the orientation programme not only showed higher self-efficacy in their BL programme (Section 5.2.3) but were also more engaged in completing activities/tasks (Section 4.8.3) and spent longer time studying content on the LMS (Section 4.8.2). This is supported by Cassidy (2018:56) who states that orientation programmes encompass good practice that nurtures engagement.

A positive correlation was found (Table 4.39) between students' self-efficacy and SE (2.3% shared variance). This meant that students who had a high self-efficacy were more engaged within their programme and those who had low self-efficacy

showed low levels of engagement or even disengagement. Linnenbrink and Pintrich (2003:119) confirmed this by stating that although there are many motivational constructs, self-efficacy is one of the pivotal factors in promoting SE and learning. Other research studies revealed that self-efficacy has a substantial role in predicting SE (Beri & Stanikzai, 2018; Chang & Chien, 2015; Linnenbrink & Pintrich, 2003; Papa, 2015; Schunk & Mullen, 2012; Spedding *et al.*, 2017).

The majority of students (56.1%) had less than one year of experience in using the LMS, while 19.9% had between one and two years' experience and 24.0% had longer than two years' experience. Albeit that students held an increase in experience and utilised the LMS over a wider period (i.e. third/fourth years), this did not manifest in an elevated engagement in task and activity completion (Sections 4.7.2.4 and 4.7.2.5). The results showed that first-year students completed the most activities and/or tasks followed by third/fourth years and then second years. However, the length of time in using an LMS relates to an increase in the self-efficacy in the students' skills levels in using an LMS (Table 4.37). This result aligns with the result on whether students perceived the activities and/or tasks to be compulsory, as first-year students had the highest level of agreement that they perceived the activities and/or tasks to be compulsory, followed by second years and then third/fourth years (Section 4.7.2.3). Meyer *et al.* (2014:94), suggest in their study that a question be asked on whether the activities were perceived to be compulsory in determining students' responsibility for their own learning. The results indicate that the amount of activities and/or tasks students completed were influenced by their perception that the activities and/or tasks were compulsory therefore showing that the students lack the responsibility in taking ownership of their own learning. There was no statistically significant difference found between the pedagogy and andragogy age groups in relation to whether they agreed/disagreed that the activities and/or tasks were compulsory to complete on the LMS (Section 4.7.2.4). Therefore, one can't conclude whether the andragogy age group takes more responsibility for their learning than the pedagogy group. Conrad and Donaldson (2012:13) postulate that a key factor to effective SE is for the lecturer and programme activities and/or tasks to encourage students to take responsibility for their learning.

According to Rahayu and Malang (2018:16), if lecturers expect students to be engaged and participate in the teaching and learning process actively, the lecturers need to modify their approach to enhance the students' learning engagement in BL activities and/or tasks so that the students can interact deeply with activities and/or tasks and meaningful learning can be attained. The importance of the lecturer's approach to teaching and learning is shown by the correlation in Table 4.38 to SE. Students who perceive that lecturers discuss content and activities and/or tasks from the LMS during classroom periods and whose activities and/or tasks are graded and feedback is provided are more engaged in their BL programme. This is in support of Lear *et al*. (2010) who state in their study that interactions with the content, peers and instructors are crucial as students become active and engaged learners.

Section 4.7.2.6 shows that, although the results previously showed that first-year students were more engaged in completing activities and/or tasks on the LMS, third/fourth-year students were more engaged in their BL programme with a *Mn* of 3.40, followed by first-year students (*Mn* = 3.20) and lastly second-year students (*Mn* = 3.00). Evidence from increased student attendance and consistently high levels of usage of online resources supports the argument from Aycock *et al*. (2002) that BL programme "increases student engagement".

5.3 Recommendations for the use of the Social Cognitive Student Engagement in Blended Learning Framework

Bandura's (2000:121, 2009:180) SCT framework presents the structure of the causal framework of structural paths of influence whereby perceived self-efficacy affects motivation and performance realisations both directly and through its impact on goals, outcome expectations, and perception of socio-structural factors as discussed in Section 2.15. The framework has been extensively used by various authors in their research on human behaviour and development in the fields of media studies, health, nutrition, psychology and sports. However, a scarcity of research exists within the educational field, particularly research focusing on SE within a BL environment. The framework consists of four constructs, namely self-

efficacy, outcome expectations, goals and socio-structural factors that influence behaviour. The framework was used to investigate SE in BL programmes within the South African PHE context. Based on the results of this study, a framework derived from Bandura's (2000:121, 2009:180) SCT for the SE in BL was developed for use within South African PHE context.

In this study, it was found how important student orientation programmes are on the self-efficacy of students within a technologically driven environment, using educational technology such as a LMS in BL for positive engagement. In addition, self-efficacy in this study was only correlated with certain socio-structural impediments, (i.e. limited access to technological devices and time limitations) therefore the level of students' self-efficacy does not have a correlation with all impediments found within the BL environment. This study found no correlation between self-efficacy and socio-structural facilitators. Consequently, in the proposed framework in Figure 5.1, socio-structural factors have been separated into two constructs. Socio-structural factors that impacted SE were limited to facilitators. Lastly, although there was a statistical significance between outcome expectations and SE, the correlation was considered too low to indicate a correlation in Figure 5.1.

It is therefore recommended that a new framework be introduced (Figure 5.1), whereby the framework is to incorporate two novel constructs, namely student orientation and SE. The correlation framework ***Social Cognitive Student Engagement in Blended Learning***, or abbreviated ***SCSEBL***, has been designed taking the correlation results as presented in Chapter 4 and discussed herein into consideration.

The framework begins with the construct *student orientation*. Student orientation was found to be an important contributor to the efficacy in students who attend a BL programme. Students showed higher efficacy in using the educational technology LMS, when they had received orientation in the use and functioning of the LMS. The higher level of self-efficacy was associated with students being more engaged in studying content and completing activities and/or tasks on the LMS. It is therefore recommended that HEIs incorporate or place more emphasis on student orientation

if they wish to increase students' efficacy in BL, encourage SE, and create a positive learning experience in which students can thrive. Not only would students benefit from the orientation programme, but lecturers would experience a more engaged and active student in their respective module(s). It also creates a lasting impression for new students of what to expect in the coming year(s) and should relieve anxieties and prepare the new student for success.

A second student orientation should be held for students who missed the first orientation due to circumstances beyond their control or even late registration which is common within the PHE environment. This study found that nearly a quarter of the students did not attend student orientation which may have contributed to them becoming disengaged. The second orientation should not only be for students who missed the first orientation but could also be applied as reinforcement for students who attended the first, but who would like to improve on their current knowledge.

When designing an orientation programme the HEI's culture and type of student should be taken into consideration. A good orientation programme should fulfil all the needs of students entering a new academic community and hence the design of a programme may not be conducive to a prescriptive design template (i.e. an orientation programme developed for a specific HEI will not necessarily fit or be used at another institution). The feedback provided by students will form an integral part of the orientation programme design. Feedback could be in the form of a survey and a focus group. This feedback will be used as a base in the design or redesign of the orientation programme to suit students' needs. The results of students' comments from this study may also serve as a commencement point for the development of an orientation programme.

The second construct is *self-efficacy*. Students' perceived self-efficacy beliefs are the key cognitive construct influencing students' outcome expectations, goal setting and achievement, SE within the BL programme, and have an influence in overcoming socio-structural impediments. Perceived self-efficacy in this study was seen as pivotal on the level in which students engaged in their BL programme. The higher the level of self-efficacy students had; the more engaged students became. The study also showed that self-efficacy was associated with the length of period

students used the educational technology (i.e. LMS) and how active lecturers were in using and encouraging students to use the technology during F2F sessions (i.e. lecturers that gave feedback to students on activities and/or tasks completed on the LMS showed higher levels of engagement) or during students' own time. Students also mentioned in their survey comments that some lecturers were not knowledgeable enough in using the PHE provider's LMS and that the LMS was not user-friendly. It is hereby recommended that to increase students' self-efficacy in BL, lecturers need to be trained extensively in the use and functioning of the PHE providers' LMS and how the educational technology can be used in BL, to enhance teaching and learning. If lecturers feel comfortable in using the LMS, they will become natural ambassadors.

All activities and/or tasks (even quizzes) on the LMS, must serve a purpose (i.e. assess student knowledge) to promote metacognitive skills and encourage student-to-student and lecturer-to-student interaction. The use of LMS tools that encourage collaboration online, such as discussion forums, should be emphasised among academic staff so that students can become active learners in constructing and creating knowledge and meaning from their experiences through interactive exchange with peers and lecturers and also the studying of content on the LMS. The marking and feedback provided to students by lecturers is imperative for SE and self-efficacy. All activities and/or tasks completed, whether formal or informal, must be returned together with feedback which is essential for effective learning. This academic feedback (whether marked or not) assists students to understand the subject taught and provides them with clear guidance on how they should improve their learning. Academic feedback is associated with achievement and can improve students' self-efficacy, self-awareness, engagement and enthusiasm for learning. This goes in conjunction with the managing and monitoring of students' participation and progress on the LMS as results can be monitored and tracked by lecturers. This will permit lecturers to ascertain whether students understood and have grasped concepts, to identify students at risk, to improve and adapt teaching instruction, and to ensure student success.

The study found that the correlation between students' *outcome expectations* and *goals* was similarly construed to Bandura's SCT. The correlation found between goals and SE showed that students who often thought of their goals had a positive impact on their engagement within their BL programme as discussed in Section 5.2.6. It is therefore recommended that lecturers should assist students in setting short- and long-term academic and non-academic goals. Students should be shown the possibilities ahead of what they can achieve while at the same time teaching them to be self-driven and motivated. Lecturers should also assist students in setting realistic milestones for all activities, tasks and/or assignments and remind them regularly to complete activities, tasks and/or assignments timeously. Having goals will prompt students' self-judgement and self-monitoring of their performance and goal fulfilment. Lastly, the attainment of their short-term goals will encourage them to become more engaged thereby increasing their level of self-efficacy.

The constructs *socio-structural impediments* and *socio-structural facilitators* were both found to be associated with goals as described in Bandura's SCT, but the difference in relation to Bandura's SCT is that only socio-structural facilitators contribute to positive engagement. The study found that the provision of learning spaces provided an environment that is conducive to positive SE. It is therefore recommended that PHEIs provide enough learning spaces on campus, with access to technology (i.e. computer with Internet access) or high-speed Internet/Wifi for students who may want and/or need to access the LMS outside of classroom time. Students should also be made aware of course content types (i.e. items, attachments in content items, etc) that may be downloaded for offline viewing as well as an LMS App that is viewable on mobile devices (i.e. mobile phones). Both socio-structural factors, namely facilitators and impediments are assumed to be associated with students' outcome expectations. However, only certain impediments (i.e. limited access to technological devices and time limitations) are related to whether students can overcome the impediments by the level of self-efficacy which students' possess. The recommendation for PHEIs is that they need to continuously monitor perceived impediments that may hinder students in attaining their goals and thereby affect their expectations. This may either be monitored through a feedback questionnaire to students, through lecturer monitoring of students who are at risk, or via student focus groups.

Lastly, the level of *SE,* within a BL programme is correlated by the level of the students' perceived self-efficacy beliefs. Beliefs in one's efficacy and efficient employment of time, effort and emotion, enhance the acquisition of knowledge and skills for managing the demands from student academic life. A key factor to effective SE is for the BL programme designer to relook at the design of the BL programme. As discussed extensively in Chapter 2, for BL to be successful it requires the careful planning of the blended approach from institutional, technological, strategic, pedagogical, interface design, management, evaluation, resource support, and ethical perspectives for quality teaching and learning to transpire. The content, activities and/or tasks must be current, relevant and applicable to the programme of study, fun, interactive or user-friendly, and must encourage engagement from both the lecturer and student's side. Lastly, academic staff, especially lecturers, must be wholly committed in the use of educational technology as part of their pedagogy strategy and must continuously encourage students to engage on the LMS platform.

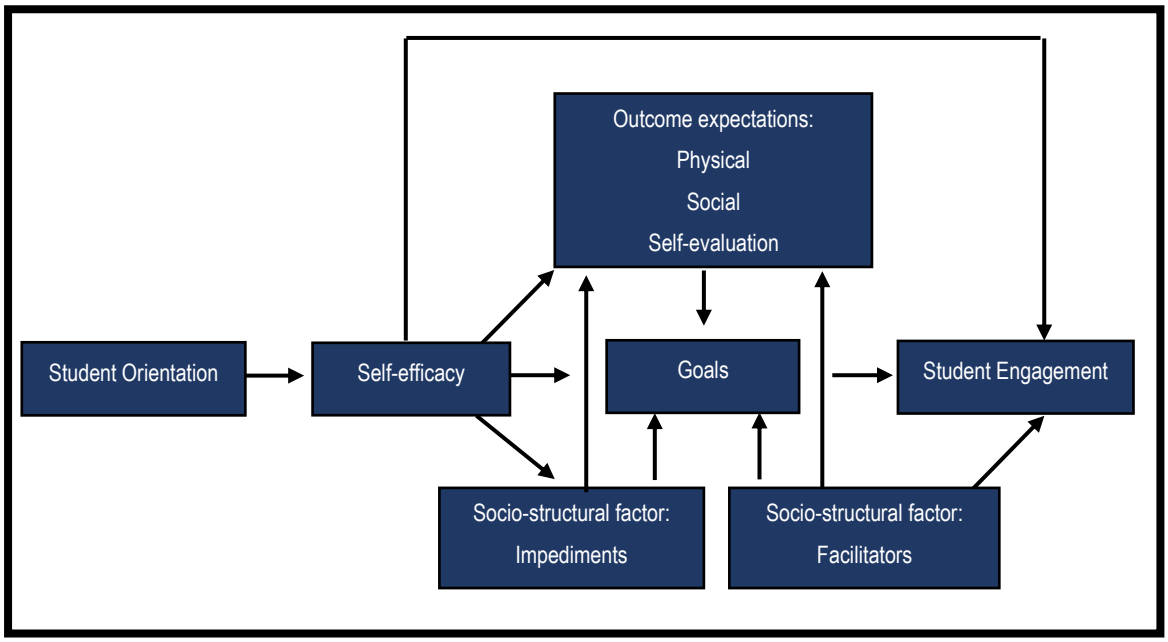


Figure 5.1: Social Cognitive Student Engagement in Blended Learning

5.4 Recommendations for Further Research

The aim of this study was to investigate the nature and extent of PHE students' social cognitive learning engagement in BL programmes at a PHE provider. A

descriptive quantitative research design was used for this study using a positivist paradigm of inquiry. Data was collected by using a cross-sectional survey.

The following recommendations for further research are offered based on the results and limitations of this study:

(1) As this study was only conducted within the FITC at a PHEI, it is suggested that the survey be used to conduct a similar study within other faculties. This could help to validate the results of this study and might possibly determine a universal framework that can be used within all faculties for SE within a BL environment. Furthermore, the study may identify different correlations wherein students' perceived self-efficacy affects their engagement both directly and through its impact on outcome expectations, goals and socio-structural impediments.

(2) In a future study, researchers can investigate the extent to which student orientation has an affect on the self-efficacy of students by investigating a group of participants who attend orientation and those who don't. This could determine if student orientation has different impacts on students' perceived self-efficacy in engaging in a BL programme.

(3) This study could be repeated in two years' time with the same participants who were first-year students during this study, to see if the students' perceived self-efficacy has increased over time as the results in this study showed that students in their third/fourth years of study had higher perceived self-efficacy than first-year students.

(4) A study on SE from an interpretivist paradigm should be undertaken to understand subjective meanings and experiences of SE in BL contexts.

(5) Lastly, a deeper inquiry in SE in BL using the newly designed SCSEBL framework and by incorporating qualitative research methods could be considered.

5.5 Conclusions Relating to the Results

The following conclusions were drawn based on the results as they related to perceptions of undergraduate students registered at the PHE provider in the FITC. Overall, the study found that student orientation was associated with students' perceived self-efficacy which in turn affects their engagement in a BL programme both directly and through its impact on outcome expectations, goals and socio-structural impediments. In addition, socio-structural facilitators were found to impact outcome expectations and SE. Bandura's SCT framework was adapted from the results of this study to formulate a new framework, namely the SCSEBL framework.

Students who attended the student orientation programme indicated that they found the orientation helpful in using the LMS. The results indicate that students who attended orientation showed higher levels of perceived self-efficacy in their engagement within a BL programme. Students had also completed more activities and/or tasks and spent longer time in studying content on the LMS.

The results further indicated that students in the andragogy age group and those in their third/fourth year of study showed higher levels of confidence in perceived self-efficacy in using a computer, having higher computer proficiency skills, and more confidence in using the LMS. This showed that the longer students use technology the more comfortable they become in using technology and their perceived self-efficacy increases. The study also found that one can't presume that all students are homogenous in the use of technology, but rather that prior experience in using technology and the more students are exposed to technology, the more their self-efficacy in using technology will increase.

The study further found a correlation between outcome expectations and goals. The students found their outcome expectations to be important in attaining their goals, but their expectations had no relation to the level of engagement within BL. The results showed that socio-structural factors, facilitators and impediments were directly related to students' setting and attainment of goals, as well as students' expectations. The provision of enough learning spaces for students on campus to

study has a positive relation to the SE in a BL programme, while it was found that the impediments had no relationship with SE.

Students who perceived the activities and/or tasks to be compulsory completed more activities and/or tasks than students who perceived the activities and/or tasks as not being compulsory. This showed that students lacked the responsibility in taking ownership of their own learning. The importance in the role of the lecturer in encouraging students to engage in activities and/or tasks must therefore be emphasised. The importance of the role of lecturer is further shown in the level of engagement of students in BL by the marking and feedback provided by lecturers. Students showed higher levels of engagement where lecturers marked and provided feedback of the activities and/or tasks completed and with lecturers who discussed content from the LMS in class.

5.6 Conclusion

Blended learning has been referred to as the "*best of both worlds*" (Snart, 2010: xvi), namely the integration of F2F instruction with online learning. As the interest in incorporating BL within the HE curricula continues to expand, many PHEIs seek to understand how they can use educational technology more effectively in BL to enhance the undergraduate students' learning engagement.

The purpose of this study was to investigate the nature and extent of private higher education students' learning engagement in BL programmes at a PHE provider. Through the lens of Bandura's (2000:121, 2009:180) SCT, the study investigated PHE students' learning engagement in BL during the completion of their qualifications and how BL had impacted teaching and learning. A descriptive quantitative research design was used for this study using a positivist paradigm of inquiry. A cross-sectional survey was used to obtain descriptive data from a sample population of n = 567 respondents of a total population of N = 1380 to answer the primary and secondary research questions. The online survey, using SurveyMonkey ®, was employed for the period 8 July 2019 to 5 August 2019 to gather data from PHE respondents.

The study found that student orientation programmes are associated with students' perceived self-efficacy which in turn affects their engagement in a BL programme both directly and through its impact on outcome expectations, goals and socio-structural impediments. In addition, the results showed that socio-structural factors, facilitators and impediments, were directly related to students' setting and attainment of goals, as well as students' expectations. The provision of enough learning spaces for students to study on campus has a positive relation on the SE in a BL programme, while it was found that the impediments had no relationship with SE. From the results of this study, Bandura's (2000:121, 2009:180) SCT was adapted to reflect a framework that incorporated two new constructs, namely student orientation and SE. The framework presented in Figure 5.1 is named the SCSEBL framework.

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APPENDIX A: ETHICAL CLEARANCE CERTIFICATE

UNISA university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2019/03/13

Ref: **2019/03/13/59273763/14/MC**
Name: Mr SL Green
Student: 59273763

Dear Mr Green

Decision: Ethics Approval from 2019/03/13 to 2022/03/13

Researcher(s): Name: Mr SL Green
E-mail address: [redacted]
Telephone: [redacted]

Supervisor(s): Name: Dr L Mbati
E-mail address: [redacted]
Telephone: [redacted]

Title of research:

A social Cognitive Perspective on Student Learning Engagement in Blended Learning Programmes in Private Higher Education

Qualification: M. Ed in Curriculum Studies

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 2019/03/13 to 2022/03/13.

*The **low risk** application was reviewed by the Ethics Review Committee on 2019/03/13 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.
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 **2022/03/13**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2019/03/13/59273763/14/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 V McKay
EXECUTIVE DEAN
Mckayvi@unisa.ac.za

APPENDIX B: PERMISSION LETTER TO USE QUESTIONNAIRE

Hallo Shawn,

Dis lekker om 'n briefie met 'n bietjie Afrikaans in te kry ☺
Aangesien ek meestal in Engels in die akademie kommunikeer, sal ek ook nou maar so doen.

I am really honoured that you found the paper of value and will gladly share the questionnaire with you. I have destroyed and deleted most unnecessary copies, but have the results from the Survey Monkey printout that I can share with you. It also contains the responses of the students, so it will be useful to compare those.

We use Moodle here and renamed it EITOnline. This information just to inform your interpretation.

It is difficult to really make any suggestions at this stage as I think I need to know a bit more about your objectives with the study. Please feel free to communicate again and ask questions if you like.

[redacted]

Goed gaan en ek hoor graag weer van jou.

Salomé

edc educational development centre
collaborative • proactive • supportive • empowering

EIT
EASTERN INSTITUTE OF TECHNOLOGY

Salomé Meyer Dr
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APPENDIX C: LETTER TO CONDUCT RESEARCH

Dear Mr S Green,

The committee considered your request and have granted permission to conduct research on [redacted] condition that you strictly adhere to the conditions stipulated below. This approval is based on the assumption that the information you have provided is true and factually correct and that ethics clearance has been granted.

[redacted] "a Private Higher Education provider" and that you either refer to "the college" or a "a brand of a Private Higher Education provider" when you refer to [redacted]. Please check that the brand names do not appear in any of your documents, including questionnaires and consent forms. Also take note that [redacted] earning model may be published without written permission from the [redacted]

[redacted] v

Approval is granted for:

Initial(s) and Surname:	S Green
Student number:	N/A
Institution where registered:	UNISA
Qualification/ Output:	M.Ed. (Curriculum Studies)
Year in which research will be conducted:	2019
Title of study/ paper:	A Social Cognitive Perspective on Student Learning Engagement in Blended Learning Programmes in Private Higher Education

APPENDIX D: INVITATION EMAIL

A Social Cognitive Perspective on Student Learning Engagement in Blended Learning Programmes in Private Higher Education

Dear Prospective participant,

My name is Shawn Green and I am doing research under the supervision of Dr Lydia Mbati, Acting Manager: Student Success Projects, Directorate Instructional Support Services towards a Master of Education at the University of South Africa. We are inviting you to participate in a study entitled 'A social cognitive perspective on student learning engagement in blended learning programmes in private higher education'.

This study is expected to collect important information that could assist [redacted] identify any challenges that students may experience or highlight successes when attending a blended learning programme. The study may help improve the design of pedagogical strategies and educational effectiveness of blended learning programmes within private higher education.

For any queries related to the survey, you can contact Shawn Green during office hours at [redacted] or email [redacted]. You may also contact the study supervisor, Dr Lydia Mbati during office hours at [redacted].

Ethical clearance number: 2019/03/13/59273763/14/MC for this study.

Please click on the link below to participate in the survey.

Begin Survey

APPENDIX E: PARTICIPANT INFORMATION SHEET

Title: **A social cognitive perspective on student learning engagement in blended learning programmes in private higher education**

DEAR PROSPECTIVE PARTICIPANT

My name is Shawn Green and I am doing research under the supervision of Dr Lydia Mbati an Acting Manager Student Success Project in the Directorate Instructional Support Services towards a MEd at the University of South Africa. We are inviting you to participate in a study entitled **'A social cognitive perspective on student learning engagement in blended learning programmes in private higher education'.**

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could assist [redacted] identify any challenges that students may experience or highlight successes when attending a blended learning programme. The study may help improve the design of pedagogical strategies and educational effectiveness of blended learning programmes within private higher education.

WHY AM I BEING INVITED TO PARTICIPATE?

You are invited because you are currently enrolled at [redacted] using a blended learning approach to teaching and learning and have made use of the learning management system, namely [redacted].

I obtained your contact details from [redacted] after applying to them to conduct research at the [redacted]. You have therefore been selected by a systematic sampling strategy from a population of 1380 students.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves you completing a survey on SurveyMonkey ® that comprises out of the six sections:

- Section A: Demographic Data.
- Section B: Student Engagement.
- Section C: Self-efficacy.
- Section D: Outcome expectations.
- Section E: Socio-stuctural.
- Section F: Goal.

The online survey contains 29 closed and three open-ended questions that should take you approximately 20 minutes to complete.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to stop at any time without fully completing the survey and you have the right to omit any question if so desired, or to withdraw from answering this survey without penalty at any stage. Take note that once the survey has been submitted it will not be possible to withdraw from the study as the survey will be completed anonymously and therefore it will be impossible to identify your submission.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

The contribution made by yourself in participating in the study and the recommendations made by the researcher may assist [redacted] and other private higher education institutions understand the student learning experience while attending a blended learning programme. This may benefit both yourself as well as future private higher education students in improving the delivery of blended teaching and learning. It will also inform private higher education institutions,

programme designers and academic staff on what motivates students to become more engaged in using a learning management system, (such as Blackboard) as a learning tool in constructing effective teaching and learning.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE STUDY?

There will be no negative consequences to you in participating in this study.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

Your name will not be recorded anywhere, and no one will be able to connect you to the answers you give. Your answers will be given a code number, or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings. The answers provided through the questionnaire may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee.

A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Your answers will be stored by the researcher for a period of five years in digital format under password protection. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. The data will after five years be permanently deleted from the hard drive of the computer through the use of a relevant software program.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written ethical approval for the Research Ethics Review Committee of the College of Education, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE RESULTS OF THE RESEARCH?

If you would like to be informed of the final research results, please contact Shawn Green on [redacted] or email: [redacted]. The results will be accessible from the research output.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact Shawn Green on [redacted].

Should you have concerns about the way in which the research has been conducted, you may contact Dr Lydia Mbati on [redacted] or email: [redacted].

Thank you for taking time to read this information sheet and for participating in this study.

Shawn Green
Master of Education student
University of South Africa

APPENDIX F: CONSENT TO PARTICIPATE IN THIS STUDY

1. I confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

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 without penalty. Take note that once the survey has been submitted it will not be possible to withdraw from the study as the survey will be completed anonymously and therefore it will be impossible to identify your submission.

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 unless otherwise specified.

I hereby agree to participate in the survey

◯ **Yes** ◯ **No**

APPENDIX G: COVER LETTER FOR QUESTIONNAIRE

Title: A social cognitive perspective on student learning engagement in blended learning programmes in private higher education

Dear Prospective participant,

You are invited to participate in a survey conducted by Shawn Green under the supervision of Dr Lydia Mbati, Acting Manager Student Success Project, Directorate Instructional Support Services towards a Master of Education at the University of South Africa. Ethical clearance number: 2019/03/13/59273763/14/MC.

The survey you have received has been designed to investigate how students, from various educational backgrounds, engage in blended learning during the completion of their qualification and how blended learning has impacted teaching and learning at [redacted]. You were selected to participate in this survey because you have enrolled in a blended learning programme and therefore have the necessary knowledge and experience to contribute to this study. By completing this survey, you agree that the information you provide may be used for research purposes, including dissemination through peer-reviewed publications and conference proceedings. It is anticipated that the information we gain from this survey will help us make recommendations to [redacted] and other private higher education institutions, that offer blended learning programmes. This study will contribute towards understanding the students' learning experience while attending a blended learning programme.

You are, however, under no obligation to complete the survey and you can withdraw from the study prior to submitting the survey. The survey is developed to be anonymous, meaning that we will have no way of connecting the information that you provide to you personally. Consequently, you will not be able to withdraw from the study once you have clicked the send button based on the anonymous nature of the survey. If you choose to participate in this survey it will take up no more than 20 minutes of your time. You will not benefit from your participation as an individual, however, it is envisioned that the results of this study may in future assist

programme managers and educators improving the delivery of blended teaching and learning. It will also inform private higher education institutions, programme designers and academic staff on what motivates students to become more engaged in using a learning management system, (such as Blackboard) as a learning tool in constructing effective teaching and learning. We do not foresee that you will experience any negative consequences by completing the survey. The researcher undertakes to keep any information provided herein confidential, not to let it out of our possession and to report on the results from the perspective of the participating group and not from the perspective of an individual.

The records will be kept for five years for audit purposes where after it will be permanently destroyed. Hard copies will be shredded, and electronic versions will be permanently deleted from the hard drive of the computer. You will not be reimbursed or receive any incentives for your participation in the survey.

The research was reviewed and approved by the Ethics Committee of the College of Education, Unisa. The primary researcher, Shawn Green, can be contacted during office hours at [redacted]. The study leader, Dr Lydia Mbati, can be contacted during office hours at [redacted]. Should you have any questions regarding the ethical aspects of the study, you can contact the chairperson of the Ethics Committee of the College of Education, [redacted]. Alternatively, you can report any serious unethical behaviour at the University's Toll Free Hotline [redacted].

You are making a decision whether or not to participate by continuing to the next page. You are free to withdraw from the study at any time prior to clicking the send button.

APPENDIX H: STUDENT QUESTIONNAIRE

Confirmation Page

I hereby agree to participate in the survey

☐ **Yes** ☐ **No**

Section A: Demographic Data

1. What is your age? (Choose your age from the dropdown box)

2. What is your gender? (please tick one option)
   - ☐ Male
   - ☐ Female
   - ☐ Prefer not to say
   - ☐ Other (please specify)

3. What is your highest level of education (or qualification) completed? (please tick one option)
   - ☐ Grade 12
   - ☐ Higher Certificate
   - ☐ Diploma
   - ☐ Other (please specify)
   - ☐ Bachelor
   - ☐ Honours

4. Please select the name of the course that you are studying in 2019. (please tick one option)
   - ☐ Higher Certificate in IT in Support Service
   - ☐ Diploma in IT in Software Development
   - ☐ Diploma in IT Management
   - ☐ Diploma in IT in Network Management
   - ☐ Bachelor of IT in Business Systems
   - ☐ Other (please specify)

5. You are currently a … year student. (please tick one option)

   ◯ first

   ◯ second

   ◯ third

   ◯ forth

   ◯ fifth

6. Have you taken any blended learning course(s) before starting your current course at the private higher education provider? (please tick one option)

   ◯ Yes ◯ No

7. Was your decision to enrol in the course at the private higher education provider influenced by the fact that it is offered in a blended learning mode? (please tick one option)

   ◯ Not at all influential

   ◯ Slightly influential

   ◯ Somewhat influential

   ◯ Very influential

   ◯ Extremely influential

8. Have you been diagnosed with any disability or impairment? (please tick one option)

   ◯ Yes ◯ No

   ◯ I prefer not to say

9. Which of the following impairment have you been diagnosed with? (please tick one option)

   ◯ A mobility impairment

   ◯ A sensory impairment (vision or hearing)

   ◯ A learning disability

   ◯ A mental health disorder

   ◯ A disability or impairment not listed above

Section B: Student Engagement

10. Did you receive training/orientation in using the learning management system? (please tick one option)

    ◯ Yes ◯ No

11. Did you find the training/orientation in using the learning management system helpful? (please tick one option)

- ◯ Not at all helpful
- ◯ Slightly helpful
- ◯ Somewhat helpful
- ◯ Moderately helpful
- ◯ Extremely helpful

12. How long have you been using the learning management system? (please tick one option)

- ◯ Less than 1 year
- ◯ 1-2 years
- ◯ 2-3 years
- ◯ 4-5 years
- ◯ 5-6 years
- ◯ Longer than 6 years

13. How many hours a day do you spend studying content on the learning management system? (please tick one option)

- ◯ Never
- ◯ Less than 1 hour
- ◯ 1-2 hours
- ◯ 2-3 hours
- ◯ 3-4 hours
- ◯ More than 4 hours

14. How many hours a day do you spend communicating with your fellow students using the learning management system? (please tick one option)

- ◯ Never
- ◯ Less than 1 hour
- ◯ 1-2 hours
- ◯ 2-3 hours
- ◯ 3-4 hours
- ◯ More than 4 hours

15. Please rate the extent to which you agree/disagree with the following statement: "My lecturer(s) discuss the content, activities and/or tasks on the learning management system during my classroom periods." (please tick one option)

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither Agree nor Disagree
- ◯ Agree
- ◯ Strongly agree

16. Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks are compulsory to complete on the learning management system." (please tick one option)

    ◯ Strongly disagree

    ◯ Disagree

    ◯ Neither agree or disagree

    ◯ Agree

    ◯ Strongly agree

17. Have you completed any of the activities and/or tasks on the learning management system? (please tick one option)

    ◯ Yes ◯ No

18. How many activities and/or tasks have you completed on the learning management system for the current college year (2019 only)? (please tick one option)

    ◯ 1-3 activities and or tasks

    ◯ 4-6 activities and or tasks

    ◯ 7-9 activities and/or tasks

    ◯ 10-13 activities and/or tasks

    ◯ More than 14 activities and/or tasks

19. Please rate the extent to which you agree/disagree with the following statement: "The activities and/or tasks on the learning management system are graded by my lecturer(s)." (please tick one option)

    ◯ Strongly disagree

    ◯ Disagree

    ◯ Neither agree or disagree

    ◯ Agree

    ◯ Strongly agree

20. Please rate the extent to which you agree/disagree with the following statement: "The lecturer(s) provide(s) feedback on the activities and/or tasks completed on the learning management system." (please tick one option)

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree or disagree
- ◯ Agree
- ◯ Strongly agree

21. Why have you not completed any activities and/or tasks on the learning management system? (Please place your comment in the comment box below)

Section C: Self-Efficacy

22. How would you rate your computer skills level? (please tick one option)

- ◯ Never used a computer
- ◯ Beginner
- ◯ Intermediate
- ◯ Competent

23. How confident are you with using a computer? (please tick one option)

- ◯ Not confident at all
- ◯ Somewhat confident
- ◯ Moderately confident
- ◯ Confident
- ◯ Very confident

24. How would you describe your current level of skills in using the learning management system? (please tick one option)

- ◯ No skills
- ◯ Low level skill
- ◯ Moderate level skill
- ◯ High level skill

25. How would you rate your confidence level in using the following tools and applications?

(Please make a selection at each tool)

	Not confident at all	Somewhat confident	Moderately confident	Confident	Very confident
Turnitin	○	○	○	○	○
SafeAssign	○	○	○	○	○
Video-conferencing	○	○	○	○	○
WIKIS	○	○	○	○	○
Weblogs (Blogs)	○	○	○	○	○
Discussion forums	○	○	○	○	○
Online quizzes/ Surveys	○	○	○	○	○
Glossary tools	○	○	○	○	○
Assignment submission tools	○	○	○	○	○
Video recordings (including Youtube)	○	○	○	○	○
Audio recordings (including podcasts)	○	○	○	○	○
Mobile/ cellphone devices (including tablets, smartphones)	○	○	○	○	○
ePortfolios	○	○	○	○	○

Section D: Outcome Expectations

26. To what extent are the following goals important to you in relation to your participation in the blended learning course that you are attending? (Please make a selection at each goal)

	Not at all important	Low importance	Neutral	Important	Very important
Improve my understanding of concepts related to my course	○	○	○	○	○
Make me more comfortable in using technology	○	○	○	○	○
Allow me to collaborate with other students	○	○	○	○	○
Improve the efficiency of my course work	○	○	○	○	○
Allow me to work from multiple settings	○	○	○	○	○
It will help me save time	○	○	○	○	○
It will help me save costs/money	○	○	○	○	○

Section E: Socio-Structural

27. The college provides learning spaces that gives me flexibility to decide where I want to study on campus (this includes spaces outside the classroom, such as the library, computer labs, rooms available for individual and group work/breakout sessions). (please tick one option)

○ Strongly disagree

○ Disagree

○ Neither agree nor disagree

○ Agree

○ Strongly agree

28. How do the following factors influence your participation in your blended learning course? (Please make a selection at each factor)

	Not at all influential	Slightly influential	Somewhat influential	Moderately influential	Extremely influential
Limited access to technological devices	○	○	○	○	○
Low levels of digital skills	○	○	○	○	○
Fear of technology	○	○	○	○	○
Poor access to Wifi	○	○	○	○	○
Time limitations	○	○	○	○	○

Section F: Goals

29. Rate your frequency of thinking about the following goals. (Please make a selection at each goal)

	Never	Rarely	Occasionally	Often	Always
Specific well-defined clear goals	○	○	○	○	○
Measurable goals	○	○	○	○	○
Attainable goals	○	○	○	○	○
Goals relevant to what you are studying	○	○	○	○	○
Placing goals within a time-frame (long-term and short-term)	○	○	○	○	○

30. How would you rate your overall experience with blended learning at the private higher education provider? (please tick one option)

○ Poor

○ Fair

○ Good

○ Very good

○ Excellent

31. What do you think the private higher education provider needs to do (or keep doing) to make blended learning successful for students? (Please place your comment in the comment box below)

32. What activities, tasks and/or assignments would you like to be added on the learning management system to assist you with your blended learning course? (Please place your comment in the comment box below)

Please click on the DONE button to send the survey.

Thank you for taking the time to complete the survey.