

**LEARNER AUTONOMY THROUGH PROJECT-BASED TEACHING AND  
LEARNING IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING  
HOSPITALITY EDUCATION**

by

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PROMOTOR: PROF E.C. DU PLESSIS

DATE: 21 February 2023

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## DECLARATION

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### DECLARATION BY STUDENT

I, Shawn Lourens Green, hereby declare that this study titled *learner autonomy through project-based teaching and learning in technical and vocational education and training hospitality 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.



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21 February 2023  
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### DECLARATION BY PROMOTER

I, Prof. E.C. du Plessis, declare that the thesis has been submitted to originality checking software.



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**SIGNATURE**

21 February 2023  
**DATE**

## ACKNOWLEDGEMENTS

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I would like to start my acknowledgements with the following quote that is the motto from the Scottish Clan Fergusson (Scotclans 2022):

*Dulcius ex asperis*  
“Sweeter after difficulties”

This Latin phrase perfectly expresses how I feel after finishing such a challenging, yet enlightening and uplifting experience. Without the following people's support, encouragement and aid, this journey would not have been possible.

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***It is finally over ...***

## ABSTRACT

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Project-Based Learning (PjBL) is a teaching and learning approach that involves students actively working on real-world projects to develop knowledge and skills. This method has been shown to be effective in promoting Learner Autonomy (LA) and skills development in language learning studies. However, a dearth of research has been done on the use of PjBL in hospitality education, especially in a Technical and Vocational Education and Training (TVET) environment. Using a case study research strategy, this study aimed to investigate whether PjBL could be used to promote LA and develop employable skills in hospitality education.

Kolb's Experiential Learning Theory (ELT) serves as the theoretical framework for this study. PjBL aligns with this theory as it allows students to experience a problem or challenge, reflect on their learning, think about possible solutions, and take action to complete the project.

A convergent Mixed Methods (MM) approach, informed by a pragmatic paradigm, was used to develop a framework for PjBL in promoting LA in a TVET environment. The study included a closed-structured questionnaire with responses from 144 ( $n=144$ ) students from two hospitality programmes, as well as a semi-structured interview with 18 student participants. Students' self-reflection reports were used as the third data collection instrument to assess the level of reflection.

The findings indicate that PjBL is an effective teaching and learning approach in hospitality education that can promote LA, lead to a deeper understanding of the subject matter, and facilitate the development of a variety of important skills and competencies. Students can apply their knowledge and skills in meaningful ways through hands-on, real-world activities, which can foster a greater sense of autonomy and responsibility for their own learning. Moreover, this study emphasises the significance of incorporating PjBL into hospitality education programmes to prepare students for success in a rapidly changing world. Furthermore, PjBL is recognised as a valuable alternative to traditional Experiential Learning (EL) methods and has the potential to promote deeper learning outcomes.

**Key terms:** *Project-based learning, Experiential learning, Kolb's experiential learning theory, Learner autonomy, Hospitality education, Technical and vocational education and training, Skills, Competencies*



## OPSOMMING

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Projekgebaseerde leer (“PjBL”) is ’n onderrig- en leerbenadering wat behels dat studente aktief aan werklike projekte werk om hul kennis en vaardighede te ontwikkel. Hierdie metode is as doeltreffend bewys in die bevordering van leerderoutonomie (“LA”) en vaardigheidontwikkeling in taalleerstudies. Daar is egter ’n gebrek aan navorsing oor die gebruik van projekgebaseerde leer in gasvryheidsonderrig, veral in ’n omgewing van tegniese en beroepsgerigte onderrig en -opleiding (“TVET”). Die doel van hierdie studie was om, met behulp van ’n gevallestudie-navorsingstrategie, vas te stel of projekgebaseerde leer ingespan kan word om leerderoutonomie te bevorder en indiensneembaarheidsvaardighede in gasvryheidsonderrig te ontwikkel.

Kolb se Ervaringsleerteorie (“ELT”) dien as die teoretiese raamwerk vir hierdie studie. In ooreenstemming met hierdie teorie, stel projekgebaseerde leer studente in staat om ’n probleem of uitdaging te ervaar, oor hul leer te besin, aan moontlike oplossings te dink, en handelend op te tree om die projek te voltooi.

’n Konvergerende gemengdemetode-benadering (“MM”-benadering), geïnspireer deur ’n pragmatiese paradigma, is gebruik om ’n raamwerk vir projekgebaseerde leer te ontwikkel om leerderoutonomie in ’n omgewing van tegniese en beroepsgerigte onderrig en -opleiding te bevorder. Die studie het ’n geslote-struktuur-vraelys ingesluit, met response van 144 ( $n=144$ ) studente van twee gasvryheidsprogramme, sowel as ’n halfgestruktureerde onderhoud met 18 studentedeelnemers. Studente se selfbesinningsverslae is gebruik as die derde data-insameling-instrument om die vlak van nadenke te assesser.

Die resultate toon dat projekgebaseerde leer ’n doeltreffende benadering tot onderrig en leer in gasvryheidsonderrig is, wat leerderoutonomie kan versterk, ’n dieper begrip van die vakinhoud kan bewerkstellig, en die ontwikkeling van ’n verskeidenheid van belangrike vaardighede en bevoegdhede kan aanhelp. Studente kan hul kennis en vaardighede sinvol aanwend deur praktiese aktiwiteite wat in pas is met die werklikheid en wat ’n sterker sin van outonomie en

verantwoordelikheid vir hul eie leer kan aanwakker. Hierdie studie lê ook klem op die belangrikheid dat projekgebaseerde leer in gasvryheidsonderrig-programme ingebou moet word – om studente voor te berei om suksesvol te wees in 'n wêreld wat vinnig kan verander. Verder word projekgebaseerde leer erken as 'n waardevolle alternatief vir tradisionele metodes van ervaringsleer (“EL”); dit het boonop die potensiaal om dieper leeruitkomst te bevorder.

**Sleuteltermes:** *Projekgebaseerde leer, Ervaringsleer, Kolb se Ervaringsleerteorie, Leerderoutonomie, Gasvryheidsonderrig, Tegniese en beroepsgerigte onderrig en -opleiding, Vaardighede, Bevoegdhede*



## KAKAREŠO

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Thuto ye e Theilwego godimo ga Diprotšeke (PjBL) ke mokgwa wa go ruta le go ithuta wo o akaretšago baithuti bao ba šomago ka mafolofolo diprotšekeng tša lefase la kgonthe go hlabolla tsebo le mabokgoni. Mokgwa wo o bontšhitšwe o šoma gabotse go tšwetša pele Boikemo bja Baithuti (LA) le tlabollo ya mabokgoni dithutong tša go ithuta polelo. Le ge go le bjalo, go dirilwe tlahelelo ya dinyakišišo ka ga tšhomišo ya PjBL thutong ya kamogelabaeng, kudukudu tikologong ya Thuto le Tlhahlo ya Bothekniki le ya Mešomo ya diatla (TVET). Ka go šomiša leano la dinyakišišo la tshekatsheko ya maemo, nyakišišo ye e be e ikemišeditše go nyakišiša ge eba PjBL e ka šomišwa go tšwetša pele LA le go hlabolla mabokgoni ao a kgontšhago go hwetša mošomo thutong ya kamogelabaeng.

Teori ya Kolb ya go lthuta ka Maitemogelo (ELT) e šoma bjalo ka tlhako ya teori ya dinyakišišong tše. PjBL e sepelelana le teori ye ka ge e dumelela baithuti go itemogela bothata goba tlhohlo, go naganišiša ka dithuto tša bona, go nagana ka ditharollo tše di kgonegago, le go tšea magato a go phetha protšeke.

Mokgwa wo o nepišitšwego wa Mekgwa ye e Hlakantšwego (MM), wo o tsebišwago ke mokgwatirišo wa go kgontšha, o šomišitšwe go hlama tlhako ya PjBL go tšwetša pele LA tikologong ya TVET. Dinyakišišo di be e akaretša lenaneopotšišo leo le leo le sa nyakego ditshwayotshwayo leo le nago le dikarabo go tšwa go baithuti ba 144 ( $n=144$ ) go tšwa mananeong a mabedi a kamogelabaeng, gammogo le poledišano ya go se latele lenaneo la dipotšišo ka bakgathatema ba baithuti ba 18. Dipego tša baithuti tša go itlhabiša di šomišitšwe bjalo ka sedirišwa sa boraro sa kgoboketšo ya datha go sekaseka maemo a go naganišiša.

Dikutollo di laetša gore PjBL ke mokgwa wo o šomago gabotse wa go ruta le go ithuta thutong ya kamogelabaeng wo o ka tšwetšago pele LA, wa lebiša kwešišong ye e tseneletšego ya taba ye, le go nolofatša tlabollo ya mabokgoni le bokgoni bjo bo fapafapanego bja bohlokwa. Baithuti ba ka diriša tsebo le mabokgoni a bona ka ditsela tše di nago le mohola ka mediro ya diatla, ya lefase la kgonthe, yeo e ka godišago maikutlo a magolo a go ikemela le maikarabelo a go ithuta ga bona ka



noši. Go feta fao, nyakišišo ye e gatelela bohlokwa bja go tsenya PjBL mananeong a thuto ya kamogelabaeng go lokišetša baithuti katlego lefaseng leo le fetogago ka lebelo. Go feta fao, PjBL e lemogwa bjalo ka mokgwa wo mongwe wa bohlokwa go feta mekgwa ye e tlwaelegilego ya Thuto ya Maitemogelo (EL) gomme e na le bokgoni bja go tšwetša pele dipoelo tša go ithuta tše di tseneletšego.

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## LIST OF ABBREVIATIONS

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<b>Acronym</b>	<b>Expanded version</b>
AC	Abstract Conceptualisation
AE	Active Experimentation
AMT	Academic Management Team
CTP N6	Catering Theory and Practical N6
CHE	Council on Higher Education
CE	Concrete Experience
EL	Experiential Learning
ELS	Experiential Learning Survey
ELT	Experiential Learning Theory
ICT	Information and Communication Technology
ICASS	Internal Continuous Assessment
ISAT	Integrated Summative Assessment
KLSI 4.0	Kolb Learning Style Inventory 4.0
LA	Learner Autonomy
LS	Learning Space
LAS	Learner Autonomy Survey
LSI	Learning Style Inventory
F2F	Face-to-Face
FET	Further Educational and Training
GFET	General and Further Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
HE	Higher Education
HEIs	Higher Education Institutions
HEQF	Higher Education Qualifications Framework
HEQSF	Higher Education Qualifications Sub-Framework
HS L3	Hospitality Services level 3
IBM	International Business Machines
MM	Mixed Method

NATED	National Accredited Technical Education Diploma
NC(V)	National Certificate (Vocational)
NQF	National Qualifications Framework
NSC	National Senior Certificate
OQSF	Occupational Qualifications Sub-Framework
OECD	Organisation for Economic Co-operation and Development
PoE	Portfolio of Evidence
PjBL	Project-Based Learning
RO	Reflective Observation
QCTO	Quality Council for Trades and Occupations
SAQA	South African Qualifications Authority
SDG	Sustainable Development Goal
SPSS	Statistical Package for Social Sciences
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organisation
Unisa	University of South Africa
WIL	Work Integrated Learning
WpL	Workplace Learning

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## CHAPTER 1

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### ORIENTATION

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#### 1.1 INTRODUCTION

*A*utonomy is considered both a precondition and a vital learning outcome in the academic success of students (Ding & Yu 2021), and in the ability of students to independently gain knowledge and skills (Bei, Mavroidis & Giossos 2019). Academic success is defined by Goegan, Radil, Brooks and Daniels (2020) as inclusive of academic achievement, attainment of learning objectives, acquisition of desired skills and competencies, persistence in completing one's studies, and career success. Little, Dam and Legenhausen (2017) posit that Learner Autonomy (LA) is not an educational institution option, but a pedagogical imperative. Current trends have shown an expanding recognition of the significance of LA in academic achievement (Melvina & Julia 2021; Ginting, Djiwandono, Woods & Lee 2020; Firat 2016) and in the role of students in directing their own learning process (Saeed 2021; Tomasouw & Marantika 2020; Yu 2020; Alonazi 2017; Reinders 2010). Furthermore, the successful transition of students to the Technical and Vocational Education and Training (TVET) environment is not only about academic competence (i.e. the skills, attitudes and behaviours that contribute to a student's academic success), but also about adjusting to a learning environment that requires greater autonomy and individual responsibility. Mayet's (2016) study finds that students in their first year of study, and proceeding years, need the support and scaffolding to navigate and move efficiently through the content and context of TVET. One of the approaches used in promoting LA is by integrating Project-Based Learning (PjBL) into the curriculum.

Scholars believe that PjBL, as an Experiential Learning (EL) teaching and learning pedagogy, is a crucial instructional approach that enables students to develop content knowledge and academic skills (Indrawan, Jalinus & Syahril 2020; Danko 2019; Martin & Devenish 2007), develop and improve skills for future success (ESEI 2021; Stehling & Munzert 2018; Stefanou, Stolk, Prince, Chen & Lord 2013), develop LA (Zaidi, Khan & Oad 2020; Boggu & Sundarsingh 2019; Yuliani &

Lengkanawati 2017; Stefanou et al. 2013), and build the personal agency to meet the challenges of life and the wider world (ESEI 2021; High Quality Project Based Learning 2018; Stehling & Munzert 2018). Stehling and Munzert (2018) assert that PjBL is an approach that allows the full use of students' potential to raise motivation and develop independent learning, analytical, problem-solving and critical thinking skills and teamwork. All of these are largely regarded as essential skills for the contemporary job markets (Stehling & Munzert 2018).

Although implementing PjBL in curricula may prove to be advantageous, there are challenges that educators experience in its implementation and application (Juliet 2020; Aldabbus 2018; Bogler 2016), especially in a TVET context (Mustapha, Sadrina, Nashir, Azman & Hasnan 2020; Liu 2019). Martin and Devenish (2007) posit that the challenge that TVET institutions face is to provide programmes of study that will meet the needs of all students. Moreover, research has shown that the use of PjBL in TVET does not always have the desired teaching and learning effects. This may be because vocational educators are not well-versed in PjBL, are unable to adequately supervise students during this process, and encounter difficulties when placing PjBL into practice (Liu 2019). Reinders (2010) further argues that in practice it is not always clear how to support students and how the educator can ensure that students are ready and capable to assume responsibility for their studies.

As a hospitality lecturer with an interest in EL, it is important to explore different teaching and learning pedagogies of EL, other than the traditional internship and Workplace Learning (WpL), especially in promoting LA. Although many hospitality programmes recognise the importance of applied work experience, Sebby and Brown (2020) argue that more research is needed within the area of hospitality education that demonstrates various EL approaches. This study investigates how PjBL promotes LA in hospitality education for students at a TVET college. The study is valuable as it addresses the gap in the current literature by taking both PjBL and LA into account within the hospitality education curriculum, with a specific focus on TVET. Additionally, the study will voice the perceptions, application and beliefs of hospitality education students which will be valuable as this is almost non-existent in the current literature (Ding & Yu 2021).

Furthermore, the findings of this study can be useful in helping TVET educators gain a better understanding of integrating PjBL into a hospitality education curriculum and creating learning experiences that can promote autonomous learning, help develop skills and understandings and personal attributes, and achieve academic success. According to Azeem and Omar (2019), there is a need for future research on the interest in TVET programmes and the effects of these programmes on students. There have been several studies conducted in the technical and engineering fields in TVET education (Masoabi & Alexander 2021; Mushwana & Chiromo 2020; Sibiya & Nyembezi 2019), but few studies exist within the hospitality education curriculum.

## **1.2 BACKGROUND TO THE RESEARCH**

International and national TVET institutions that provide hospitality education seek to provide students with relevant skills, understandings, and personal attributes needed for employment opportunities and a better future job. In order for students to acquire work-related skills, understandings, personal attributes, and experience in making them employable for the hospitality industry, the TVET curricula throughout the world have incorporated EL, namely Work Integrated Learning (WIL) or practical tasks as part of the hospitality education curriculum (Azar, Albattat & Kamaruddin 2020; Bilisland, Nagy & Smith 2020). Learning by doing and dealing with challenges is a key concept in experiential education that assists students to acquire knowledge, behaviours and abilities through the difficulties they face and this enables students to become proficient by practising and overcoming these obstacles or challenges (Li & Li 2021). Azar et al. (2020) in their study, reveal a wide utilisation of EL activities in hospitality education. The most common types of WIL that have been implemented within the hospitality programmes, internationally and nationally, are WpL and internships (Bilisland et al. 2020; Kay, McRae & Russell 2020; Onyuna 2019; Roeloffze & Kleynhans 2018). These WpL and internships assist students to obtain an accurate and authentic understanding of the career they will pursue and a competitive edge in the job market when applying for work (Bilisland et al. 2020).



However, Olowoyo, Ramaila and Mavuru (2020) and Alhelalat (2015) argue that there is still a gap between TVET outcomes and the hospitality industry expectations and requirements in relation to the skills that graduates should possess and the extent to which these match what the industry needs. A study by recruiters identified three themes related to hospitality and tourism graduates which were: inadequate work experience, a deficiency in soft skills and an overreliance on academic accolades (Kitterlin-Lynch, Williams & Zheng 2015). In addition, the South African Chefs Association (2022: 5) notes that “students are not being adequately prepared to enter the workplace as part of training or in obtaining employment after completing their studies”. Furthermore, Roeloffze and Kleynhans (2018) reported challenges faced by departments of higher education in hospitality, such as placing students in the industry successfully and ensuring that students complete their WIL. Other challenges relate to students’ experiences while completing their WpL and internships, such as the attitude of supervisors and co-workers, working overtime, feedback provided at the end of the WIL programme, working the graveyard shift, insufficient support from the academic institution, and no remuneration (Ndlovu & Nyane 2018; Dwesini 2017). A more recent challenge experienced by hospitality HE departments is the Covid-19 pandemic, which has impacted both the hospitality industry and HE. Through the halting of hospitality-related businesses (Bilsland et al. 2020) and the temporary closure of HEIs (Gonzalez, De la Rubia, Hincz, Comas-Lopez, Subirats, Fort, Sacha 2020), many students’ theoretical and practical components were affected (Hedding, Greve, Breetzke, Nel & Jansen van Vuuren 2020; Kay et al. 2020).

Therefore, as HEIs continue to connect WIL to employability, the time is right for the reconsidering of WIL, especially WpL and internships, and its role in contributing to a “range of outcomes that lead to the sustainability of the individual, their career path and communities” (Kay et al. 2020: 501). Groenewald (2020) argues that many educators cling to WpL while complaining that there are not enough placement opportunities for students. He suggests the use of PjBL as an alternative to WpL but cautions that one can’t just convert the WpL materials and inform students to find their own opportunities to complete a project.

The use of PjBL in the hospitality education curriculum is seen as an alternative teaching and learning pedagogy in which students learn by actively engaging in real-world and personally meaningful projects (O'Scanaill 2020; Danko 2019; Clem, Mennicke & Beasley 2014). Juliet (2020) proposes that PjBL is an approach that can improve the quality of education and competencies of students. Competency is defined as the capacity to apply or utilise the set of related knowledge, skills, dexterities, attitudes, and abilities required to successfully perform work duties or tasks in a specific working environment (Government of Western Australia 2022; Indiafreenotes 2021; UNESCO n.d.). Fini, Awadallah, Parast and Abu-Lebdeh (2018) emphasise that studies show that PjBL is a more effective education methodology compared to traditional pedagogies. PjBL provides students with multiple opportunities to enhance their skills that may be needed in the future (Kwietniewski 2017). Although the benefits of PjBL are well documented in the literature (Balyk, Grod, Vasylenko, Oleksiuk & Rogovchenko 2021; Septaria & Dewanti 2021; Juliet 2020; O'Scanaill 2020; Tran & Tran 2020; Stehling & Munzert 2018), further research is needed to determine how PjBL, as an EL pedagogy, influences hospitality education students' work skills and competencies in TVET.

In their findings, Boggu and Sundarsingh (2019) reveal that EL activities implicitly foster LA and enable the necessary skills for the workplace. Their study found that students shifted from being dependent to being independent which they argue is vital to any work environment where a person has to take the "initiative to solve problems" rather than being dependent on the "person in authority" (Boggu & Sundarsingh 2019: 212–213). Zaidi et al. (2020) conclude that the use of EL based teaching and learning pedagogy enhances LA and is proven to be effective in improving cognitive ability, improving students' use of critical thinking skills, enhancing students' ability to obtain, retain and retrieve the knowledge to increase the achievement of students. This is furthermore supported by studies by Tran and Tran (2020), Ayu Sukerti and Yuliantini (2018), Van Loi (2017), and Yuliani and Lengkanawati (2017) that state that PjBL promotes LA. However, these studies on promoting LA through EL and PjBL were conducted either within elementary and high school educational levels, English language learning, or engineering programmes.

A student-centred approach to learning is currently based on the acceptance that students should be agents of their own learning and emerge from their educational experience as autonomous students. In TVET, students are expected to be autonomous to succeed in their studies. However, the adoption of PjBL does not guarantee that students will become autonomous, nor does it determine that students will possess the necessary skills to become autonomous, especially considering the students' background knowledge and life experiences. Furthermore, Jansen, van Leeuwen, Janssen, Conijn and Kester (2020) assert that students often struggle to successfully regulate their learning processes. Thus, the value of this study is to develop a framework for PjBL in promoting LA in TVET from the viewpoint of students' perceptions of their autonomous learning and learning experiences in a South African context. This framework will assist TVET educators in creating PjBL experiences that will promote autonomous learning, help develop skills and competencies and achieve academic success.

### **1.3 THEORETICAL FRAMEWORK**

A theoretical framework is a foundation upon which to create and support one's research. It is the study's blueprint and appraisal/evaluation tool that helps to interpret the knowledge/data presented in a study. It offers the framework for outlining the researcher's overall research epistemology, philosophy, methodology and analytical approach (Grant & Osanloo 2014). They further state that selecting an appropriate theoretical framework necessitates a thorough comprehension of the problem, its significance, the purpose, and the research questions.

The theoretical framework that will be used to answer the main research question in this study will be David Kolb's Experiential Learning Theory (ELT). Although his ELT was initially published in 1984, the most recent version will serve as the study's framework. The reasons for using Kolb's ELT as the theoretical framework is to have a scholarly foundation for the research and to interpret the empirical research findings. The ELT has 'roots' in educational research (Calderón Carvajal, Ximénez Gómez, Lay-Lisboa & Briceño 2021), curriculum development (Roberts 2018; Arnett, Cannon & Kitchel 2011: 6) and autonomy (Zaidi et al. 2020; Boggu & Sundarsingh 2019; Orakci & Gelişli 2017) that work on two levels namely, the four-

mode cycle of learning and the nine Kolb Learning Style Inventory 4.0 (KLSI 4.0) (Kolb & Kolb 2018) which occurs within Learning Spaces (LSs). In EL, knowledge is acquired through the transformation of experience and the importance is placed on the integration of new experiences with past ones through the process of reflection (Passarelli & Kolb 2020; Kolb & Kolb 2005). Kolb's ELT provides a framework for analysing the experiences of students and transforming new ways of looking at practice, then submitting this new theory of practice to the test of experience (Qurban & Austria 2009). In Chapter 3, Kolb's ELT theoretical framework is expanded upon. The elucidation of key concepts is defined in the next section.

## **1.4 ELUCIDATION OF CONCEPTS**

The basic and related concepts are defined for this study as:

### **1.4.1 Basic concepts**

The basic concepts related to the title of this study are:

***Learner autonomy*** through ***project-based learning*** and teaching in ***technical and vocational education and training hospitality education***.

#### **1.4.1.1 Learner autonomy**

LA is described as a student's willingness and ability to assume responsibility for setting goals, planning, implementing, monitoring and evaluating their own learning (Little 2020; CHE 2014) with tasks that are constructed in negotiation with and support from the educator (Alrabai 2017; Trabelsi 2016; Nguyen 2014).

#### **1.4.1.2 Project-based learning**

PjBL is a form of teaching and learning whereby students gain knowledge and skills by working over an "extended period of time to investigate and respond to an

authentic, engaging and complex question, problem, or challenge” (Vasiliene-Vasiliauskiene, Vasiliauskas, Meidute-Kavaliauskiene & Sabaityte 2020; Washburn & Olbrys 2019: 28; Brunazzi, Poli, Cerri, Papapicco & Romei 2017: 217; Kwietniewski 2017) in order to build a project, and by realising project activities, presenting the project’s final outcomes, and then evaluating the project (Pham 2021).

#### 1.4.1.3 Technical and vocational education and training

TVET is education and training which affords knowledge and skills to students for future employment (Ng 2020; Bala & Singhal 2019).

#### 1.4.1.4 Hospitality

Hospitality, also referred to as the hospitality industry, is a broad field that involves overseeing the daily administrative, operational and commercial activities of businesses in the hospitality industry (Taylor 2019; Zegarra 2019).

#### 1.4.1.5 Education

Education is the process of facilitating learning or the acquisition of knowledge, skills beliefs, values and habits (UNESCO 2021a).

### **1.4.2 Related concepts**

The related concepts that are used in this study are defined as:

#### 1.4.2.1 Autonomous learning

Autonomous learning refers to the learning in which students demonstrate a capacity to control their learning (Benson 2013) and have a choice in what and how they learn (Kwietniewski 2017).

#### 1.4.2.2 Curriculum

The term curriculum, within the field of curriculum studies, refers to the content of subjects, how knowledge within a subject is organised, how educators teach, how students learn and how they are assessed (CHE 2011).

#### 1.4.2.3 Competency

Competency is defined as the capacity to apply or utilise the set of related knowledge, skills, dexterities, attitudes and abilities required to successfully perform work duties or tasks in a specific working environment (Government of Western Australia 2022; Indiafreenotes 2021; UNESCO n.d.).

#### 1.4.2.4 Educator

A term that is broadly used to mean a professional in the field of education such as a lecturer or a tutor involved in the theory and practice of teaching and learning. They are also responsible for designing learning experiences (Mantei, Lipscombe, Cronin & Kervin 2019; Kanga 2017).

#### 1.4.2.5 Experiential learning

EL is the process whereby “knowledge is created through the transformation of experience” and results from the “combination of grasping and transforming experience” (Passarelli & Kolb 2020: 6; Kolb & Kolb 2013: 7; Kolb 1984: 41)

#### 1.4.2.6 National Accredited Technical Education Diploma

National Accredited Technical Education Diploma (NATED) programmes are also referred to as “N” or Report 191 programmes (Bridge 2015). This is an undergraduate qualification delivered under the auspices of the Quality Council for Trades and Occupations (QCTO) and the Department of Higher Education and Training (DHET). These certifications combine theory and practical work, and are registered on the National Qualifications Framework (NQF) (Ayobolu 2021). A

qualification is obtained by completing N4, N5 and N6 in a particular vocational area and an 18 months practical WpL to be awarded a National N Diploma (SAQA 2018; Bridge 2015).

#### 1.4.2.7 National Certificate (Vocational)

National Certificate (Vocational) (NC[V]) is defined as a certificate awarded as a final exit qualification to a candidate who has complied with the exit-level outcomes stipulated in the National Education policy on the NC(V) (Level 4), a qualification at Level 4 on the NQF (Umalusi 2013). The NC(V) programme is accredited by Umalusi and is recognised as a secondary schooling qualification. Students completing their NC(V) are not required to complete WpL at the end of their studies.

#### 1.4.2.8 National Qualifications Framework

The “NQF is a ten-level framework providing for the registration of national qualifications” (Umalusi 2013: 6).

#### 1.4.2.9 Qualification

Qualification is defined as a formal recognition of the achievement of the required number and range of credits and such other requirements at a specific level of the NQF as determined by the relevant bodies registered for such purposes (Republic of South Africa 2008). A qualification is registered by the South African Qualifications Authority (SAQA).

#### 1.4.2.10 Quality education

Quality education specifically involves issues such as appropriate skills development, provision of relevant educational institution infrastructure, gender parity, equipment, educational materials and resources, scholarships and teaching force (UNESCO 2021a).

#### 1.4.2.11 Student

A student is a person that is registered at a HEI (Cambridge dictionary 2021). For the purposes of this study, the person is registered in TVET in both a NATED and in NC(V) programmes and is under learning intending to acquire a qualification.

#### 1.4.2.12 Umalusi

Umalusi is the Council for Quality Assurance in General and Further Education and Training (GFET) that sets and monitors standards for GET and FET in South Africa in accordance with the NQF Act No 67 of 2008 (as amended) and the General and Further Education and Training Quality Assurance Act No 58 of 2001 (as amended) (Umalusi 2013, 2019).

#### 1.4.2.13 UNEVOC

The term UNEVOC combines **UNESCO** (which stands for United Nations Educational, Scientific and Cultural Organisation) and **VOC**ational education. The first time it was employed was in an agreement between UNESCO and the Government of Germany on the former International Project on Technical and Vocational Education (UNEVOC) dated 17 July 1992 (UNESCO n.d.).

#### 1.4.2.14 Work-integrated learning

WIL is defined as an umbrella term to describe pedagogic, curricular and assessment practices, over a range of academic disciplines that integrate formal learning and workplace concerns (Unisa 2015; CHE 2011). The Council on Higher Education (CHE 2011) focuses on four curricular modalities in developing WIL programmes, namely: Problem-Based Learning (PBL), PjBL, Work-Direct Theoretical Learning (WDTL), WpL, and work-based learning (Unisa 2015).



#### 1.4.2.15 Workplace learning

WpL takes place when students are placed in a work environment (CHE 2011) for the acquisition of knowledge, skills (Naim 2021; Ndlovu & Nyane 2018) and competencies (Remtulla 2009).

### 1.5 PROBLEM STATEMENT AND RESEARCH QUESTIONS

Students need to shift from being dependent to becoming autonomous, especially if they want to take charge of their own learning, achieve academic success, acquire relevant experience and skills to enter the hospitality working environment and become lifelong learners. Students need to self-direct themselves and exhibit how their skills can match the requirements of today's employment (Padmadewi, Artini & Agustini 2020). Gather de Otero (2019) states, as part of UNESCO Education 2030, *UNESCO-UNESCO trends mapping: Innovation in TVET* study, that there is a need for LA, self-directed learning as well as employable skills under TVET students. Gather de Otero (2019), as part of his report, has therefore recommended to the international community in TVET, that PjBL be implemented as a student-centred pedagogy within TVET curricula (National Advisory Council on Innovation 2021).

There has been much research completed in recent years related to the implementation of autonomous learning to support students' success in education (Reswari & Kalimanzila 2021). However, most of the research on LA is related to language learning especially English language and English as a foreign language (Bhattarai 2021; Kim & Yoon 2021; Pham 2021; Reswari & Kalimanzila 2021; Yaprak 2021; Barin & Eyerci 2021; lamudom & Tangkiengsirisin 2020; Jose, Cartajena, Decena & Geromo 2020; Yu 2020; Zourez 2019; Yuliani & Lengkanawati 2017), or the studies have been conducted at either primary and secondary schooling level (Wirapatni, Nitiasih & Artini 2021; Zaidi et al. 2020; Yuliani & Lengkanawati 2017) or at university level (Padmadewi et al. 2020; Tran 2020; Yasmin, Naseem & Abas 2020). There is a dearth of research into how PjBL can promote LA, especially within TVET hospitality education in order to acquire employable skills and competencies.

Furthermore, research has shown that traditional, educator-centred styles are still dominant in the practice of PjBL in TVET and that educators occupy an excessive proportion in the implementation of the project and give students less control and less ownership (Liu 2019). Additionally, students lack the sufficient autonomy necessary to plan for, prepare, engage in and/or manage their own learning (Liu 2019; Warren 2016). Moreover, if students are involved in the project, they are not being sufficiently active, which leads to a lack of student interest, motivation and creativity to achieve good learning outcomes (Liu 2019). Previous studies have also shown that students are not aware of the concept of autonomy, that educators and students do not favour autonomous learning (Boggu & Sundarsingh 2019), or that some students need guidance and support from their educators to become autonomous (Reswari & Kalimanzila 2021). Jansen et al. (2020) further posit that students often struggle to successfully regulate their learning processes.

In order for students to develop into autonomous learners, they require ongoing support, guidance and commitment from their educators. Therefore, further research is required in the design, implementation and facilitation of PjBL to promote LA, as well as to create a learning environment so that students can acquire the necessary work-related skills that are needed within the hospitality industry. Moreover, this study explores hospitality students' beliefs and perceptions of LA within the context of a TVET environment. This study aims to contribute insight on how PjBL, as a teaching and learning pedagogy, promotes hospitality students' autonomous learning in gaining work-related skills and competencies. Furthermore, this study addresses the gap in research, that is currently dominated by literature from students' beliefs and perceptions in promoting LA within the context of the English language and English as a foreign language. This study further aims to provide a framework for PjBL in promoting LA in TVET. The outcomes of this study can contribute to educators designing, implementing and facilitating better learning experiences for students using PjBL to promote autonomous learning and achieve academic success.

The following research question and sub-questions will guide this study.

### **1.5.1 Main research question**

The main research question addressed in this empirical research is: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?

### **1.5.2 Sub-questions**

To answer the main research question, the following sub-questions need to be addressed:

- 1.5.2.1 How do students experience autonomy through PjBL in TVET?
- 1.5.2.2 How does PjBL, as an EL pedagogy, influence hospitality students' work skills and competencies?
- 1.5.2.3 How can project-based teaching be improved to promote LA in hospitality students?

## **1.6 AIM AND OBJECTIVES**

To look for a solution/way to address the problem, the aim and objectives are stated next.

### **1.6.1 Aim of the study**

The study aims to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment.

## 1.6.2 Objectives of the study

The following three objectives emanated from the research question:

- 1.6.2.1 To investigate how students experience autonomy through PjBL in TVET.
- 1.6.2.2 To determine how PjBL, as an EL pedagogy, influences hospitality students' work skills and competencies.
- 1.6.2.3 To establish how project-based teaching can be improved to promote LA in hospitality students.

## 1.7 RESEARCH METHODOLOGY

This section outlines the research design and methods used in this study as indicated in Figure 1.1. The research methodology is a strategy of enquiry used to identify, select, process and analyse information to answer the research question. Patel and Patel (2019) state that the research methodology is a systematic way to solve the research problem by logically implementing different steps that help to understand not only the products of scientific inquiry but also the process. In an effort to investigate what is involved in PjBL, in order to promote LA in hospitality students at a TVET college, the researcher will briefly discuss the research design and research methods.

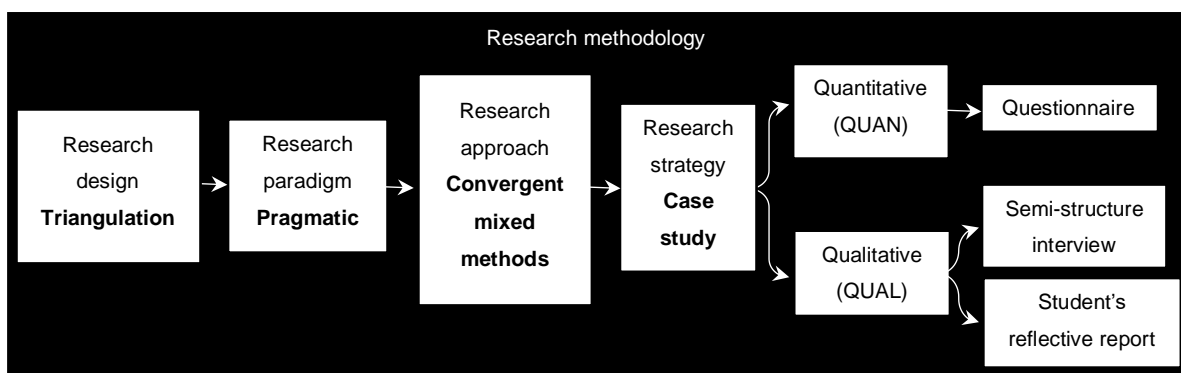


Figure 1.1: The research methodology structure

### 1.7.1 Research design

A research design is a strategy or plan that is drawn up for organising the research and ensuring practicality so that the main research question can be answered, based on evidence and warrants (Cohen, Manion & Morrison 2018). Salkind (2018) states that it is the structure and method of an investigation that is chosen by the researcher to conduct data collection and analysis. The research design chosen for this study will be a triangulation research design as it aims to accurately describe the research problem by integrating multiple databases by collecting both quantitative and qualitative data separately in two phases, so that the data from one source can enhance, elaborate and complement data from the other sources (Creswell & Guetterman 2021). Triangulation is also employed to assist the researcher with a more holistic perspective in answering the research questions (Bhandari 2022). Furthermore, it also assists to enhance the credibility and validity of this study. The following sections will briefly explain the research paradigm and the approach selected for this study.

#### 1.7.1.1 Research paradigm

According to Kivunja and Kuyini (2017), a paradigm is defined as the researcher's set of beliefs or worldview that navigates the research action or an investigation. As an educator and researcher, it is important for me to find out what works, what is practical and what enables solutions to problems that occur within my academic field of hospitality (Kaushik & Walsh 2019; Parvaiz, Mufti & Wahab 2016). Considering the aforementioned, the researcher employed a pragmatist paradigm.

The pragmatist paradigm was best suited for this study as it not only employs a Mixed Methods (MM) approach, but the focus is on the implications of the research and on the research question rather than on the methods that will be used (Kaushik & Walsh 2019). The pragmatic paradigm will cast emphasis on participants' actual behaviours, the beliefs that underlie those behaviours, and the likely effects of different behaviours (Kivunja & Kuyini 2017). Furthermore, pragmatists believe "human actions can never be separated from the past experiences and from the

beliefs that have originated from those experiences” (Kaushik & Walsh 2019: 3) and that human thoughts are intrinsically linked to action. Therefore, humans can mould their experiences through their actions and intelligence. Lastly, the ELT that was used as the theoretical framework for this study is grounded in pragmatism.

### 1.7.1.2 Research approach

A primary belief of pragmatism is that quantitative and qualitative research methods are compatible. Therefore, both text and numerical data collected sequentially or concurrently can elevate an improved understanding of the research problem. De Vos, Strydom, Fouché and Delport (2015) postulate that MM research provides more comprehensive evidence for studying the research problem than either quantitative or qualitative research alone. Thus, from the different types of MM research approaches, this study made use of the convergent or concurrent MM approach (Figure 1.2). This study will use the terminology of the convergent MM approach.

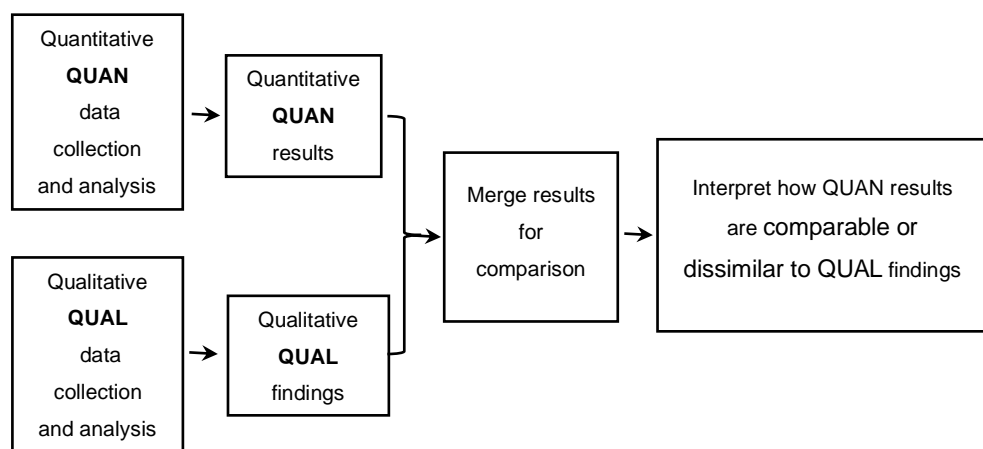


Figure 1.2: Convergent mixed methods approach

Source: Adapted from (Creswell & Guetterman 2021; Edmonds & Kennedy 2019)

According to Creswell and Guetterman (2021: 601) the convergent MM approach, also referred to as a “parallel or concurrent” approach, is when the researcher collects both quantitative and qualitative data simultaneously, then merges the data, compares the results and findings, and explains any discrepancies. The rationale for using this approach was that I am concerned with understanding what is involved

in project-based teaching and learning in order to promote LA in hospitality students. Therefore, the employing of quantitative (QUAN) data and results from the questionnaire provided a general picture of the research problem, while the qualitative (QUAL) data collection through the use of semi-structured interviews and self-reflection reports assisted with detailed information about the personal experiences of participants and a detailed understanding of the setting in which they responded to the research problem (Creswell & Guetterman 2021). Furthermore, the convergent MMs approach assists with a more complete understanding of the research problem by placing equal value on both QUAN and QUAL data (Creswell & Guetterman 2021). As a result, the use of the convergent MMs approach resulted in the completeness of this study in providing an answer to the research question.

## **1.7.2 Research methods**

According to Creswell (2014), research methods consist of the different forms of data collection, analysis and interpretation that are proposed for one's study. This section briefly discusses the research strategy that was used in this study, namely a case study, and informs the reader on the sampling strategy and data collection approach as well as how the data was analysed.

### **1.7.2.1 Research strategy**

The research strategy is the overall plan for conducting research and guides the researcher in "planning, executing and monitoring the study" (Johannesson & Perjons 2014: 39). The research strategy used for this study is a case study as it focused on one TVET college to investigate and answer the research question, making use of a questionnaire, semi-structured interview and student self-reflection reports. Collins and Hussey (2021), and Salkind (2018) define case study research as an empirical inquiry that investigates an individual institution to answer the research question and one where the researcher uses a range of different evidence to obtain in-depth knowledge and get to the best possible answer. Contexts are unique and dynamic, therefore case studies investigate and report on the "real-life, complex, dynamic and unfolding interactions of events, human relationships and

other factors in a unique instance” (Cohen et al. 2018: 376). Maree (2011) posits that case studies offer a multi-perspective analysis of a situation that leads to a deeper understanding of the dynamics of the situation. Furthermore, Ary, Jacobs, Sorensen and Razavieh (2010) and Ary, Jacobs, Irvine and Walker (2014), postulate that a case study can result in data from which generalisations to theory are possible. Although a case study research strategy was used for my empirical data collection, the study will speak to an international audience.

### 1.7.2.2 Selection of participants and respondents, population and sampling

The population size for the study consisted of TVET hospitality students who were registered in the NATED and in NC(V) programmes completing Catering Theory and Practical N6 (CTP N6) and Hospitality Services L3 (HS L3) as subjects at a TVET college during the years 2021 and 2022 (Figure 1.3).

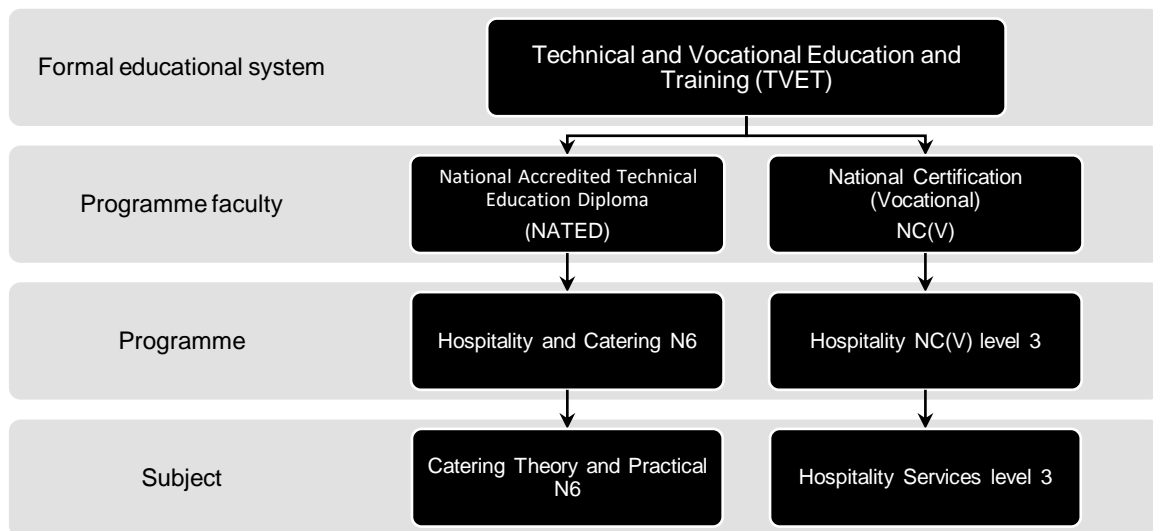


Figure 1.3: Project-based hospitality subjects presented at the TVET college

The size of the population for the CTP N6 subject was 58, and the population size for the HS L3 was 123 which totalled 181 ( $N=181$ ) students for both years. The reason why the TVET college was chosen was that the researcher had access to the college during the Covid-19 pandemic, and he was also familiar with the PjBL subjects that were being offered at the college.



The sampling approach that was used to solicit respondents to complete the survey was simple random sampling. The most common and stringent type of probability sampling is simple random sampling, in which each person's chance of being chosen from the population is equal (Creswell & Guetterman 2021; De Vos et al. 2015; Creswell 2012, 2014a). This will ensure that the individuals to be sampled will be representative of the population (Creswell & Guetterman 2021; De Vos et al. 2015). Furthermore, the randomisation enables generalisation to a population by using a representative sample from the population (Creswell & Guetterman 2021; Creswell 2014a).

#### 1.7.2.3 Data collection

The instruments that were used to collect primary data for this survey were a questionnaire, students' self-reflective reports, and semi-structured interviews. All Covid-19 protocols were followed when collecting data as prescribed by the TVET college policy.

##### (i) Questionnaire

A questionnaire was compiled by the researcher that consisted of five sections, namely: (a) demographic data, (b) personal autonomy, (c) educational autonomy, (d) project-based EL, and (e) interview participation. As an indicator of LA, the researcher used Bei, Mavroidis and Giossos's (2020) questionnaire that was developed to measure LA from the dimensions of personal and educational autonomy. The reason for choosing the mentioned questionnaire was due to its reflection of LA and highlights the correlation between personal and educational autonomy. This questionnaire, although it was not provided with a title in the published article, will be referred to as the Learner Autonomy Survey (LAS). Clem, Mennicke and Beasley's (2014) Experiential Learning Survey (ELS) was developed to measure students' perceptions of experience-based instruction and was used to obtain data from respondents' experience in their PjBL. Closed-ended statements were developed using the 5-point Likert scale for measuring LA and a 7-point Likert scale for measuring PjBL. According to Ary et al. (2010), utilising closed-ended

statements with a Likert scale has the advantage that points can be given to different responses, allowing for the calculation of measures of central trends, variability, correlation and the like. They further state that respondents can easily and swiftly respond to closed-ended questions.

(ii) Semi-structured interviews

Semi-structured interviews are an excellent method of collecting qualitative data in exploring participants' beliefs and experiences (De Vos et al. 2015; Creswell 2014a). It is commonly used to collaborate with data emerging from other data sources (De Vos et al. 2015). The purpose of the semi-structured interview was to confirm and elaborate on information that was collected through the questionnaire. With semi-structured interviews, open-ended-questions are formulated but the interviewer may modify the questions and their format during the interview process (Ary et al. 2010, 2014, 2019; Saunders, Lewis & Thornhill 2015). Saunders et al. (2015: 394) posit that semi-structured interviews also give the researcher the chance to 'probe' answers in order to get the respondent to elaborate or expand on their answers. The questions were designed to reveal what is important to understand about this study and were formulated from the literature review and information provided by scholars Almusharraf (2021), Yuliani and Lengkanawati (2017), Güven and Valais (2014), and Ying (2002). Only respondents who had completed the CTP N6 and HS L3 subjects in 2021 and 2022, and who had participated in the survey were solicited to partake in the semi-structured interviews.

(iii) Students' self-reflection report

Students' self-reflection reports reflect the lives, experiences and motivations of the participants. Through the use of self-reflective reports, the researcher can get an insight into participants' own descriptions of themselves (Turner 2016) and participants can communicate their views and the changes they experience as a result of their learning experience (Bashan & Holsblat 2017). As the study investigates students' perceptions of their autonomous learning and experiences through PjBL, the self-reflective reports provided the researcher with QUAL data to

evaluate the contribution of PjBL to autonomous learning, and students' experiences and self-reflection in completing the PjBL. Furthermore, Mukan et al. (2021) and Saienko and Lavrysh (2020) argue that self-monitoring and assessment skills are fundamental skills for personal and educational autonomy. Self-reflective reports represent a good source for text data as participants, who have usually given thoughtful attention to them, can be ready for analysis without the necessary transcription that is required from interview data (Creswell & Guetterman 2019, 2021; Creswell 2014b).

#### 1.7.2.4 Pilot study

De Vos et al. (2015) argue the importance of piloting both quantitative and qualitative studies. According to Barker's (2003) definition, a pilot study is the process of testing and validating an instrument by distributing it to a small sample of respondents and participants from the intended test population. De Vos et al. (2015) postulate that a questionnaire should be thoroughly pilot tested before being used in the main investigation to ensure that errors of whatever nature can be rectified immediately and inexpensively. However, in qualitative research, it is usually informal, and it allows the researcher to focus on specific areas that may be unclear or to test certain questions. They further state that a pilot study does not statistically play an important role in qualitative as in quantitative research. Both Bei, Mavroidis and Giossos's (2020) scale and Clem, Mennicke and Beasley's (2014) scale used in the questionnaire were piloted for reliability and validity by the developers of the scales. The questionnaire and semi-structured interview statements and questions were piloted on the 29<sup>th</sup> of September 2021 with ten voluntary participants only to ensure that the items on the instruments were unambiguous and clear (Creswell & Guetterman 2019, 2021) and understandable before they were used in the main study. The pilot participants provided written comments on minor concerns they had with both instruments. Furthermore, two students were interviewed to allow the researcher to practise the interviewing techniques and be better prepared for any difficulties that may emerge in the main study (Malmqvist, Hellberg, Möllås, Rose & Shevlin 2019).

#### 1.7.2.5 Data analysis

According to Maree (2011), data analysis in MMs research occurs within both quantitative and qualitative approaches. A convergent MMs approach was used where the researcher analysed both the QUAN and QUAL data concurrently. The descriptive data, obtained from the questionnaire, was coded, and apportioned into various categories in order to assist with the final processing. The researcher sought assistance, from an external coder or statistician, to assist with the precoding of the questionnaire and creating a codebook for the purposes of capturing data within the computer system. Following the analysis of the descriptive data, simple linear and multiple regression analyses were performed to determine whether a statistically significant relationship existed. The QUAN data was captured and analysed using the International Business Machines (IBM) Statistical Package for Social Sciences (SPSS) version 26.

The QUAL data obtained through the semi-structured interviews was analysed using content, thematic and narrative analyses, while the students' reflective reports were analysed using content and document analyses. Content analysis is a systematic approach to qualitative data analysis that identifies and summarises "message content" (Maree 2011: 101). Thematic analysis entails reading through qualitative data to identify themes (Sadaghian & Marandi 2021), whereas narrative analysis entails researchers writing the qualitative findings and then reviewing and analysing them (Harappa 2021). İlin (2020) defines document analysis as the process of interpreting documents to give voice and meaning to an assessment topic. The researcher familiarised himself with the QUAL data and categorised it into code words, themes and concepts within the texts before analysing and drawing inferences and conclusions from the findings to address the research questions.

### 1.8 MEASURES FOR TRUSTWORTHINESS AND VALIDITY

In a MMs research approach, the data collected from both quantitative and qualitative research methods must be trustworthy. Maree (2011) defines trustworthiness as the way in which one can persuade the readers that the findings

in the study are noteworthy and that the research is of high quality. For the QUAN data, the researcher ensured that both the reliability and validity of data were achieved (Babbie 2017; Ary et al. 2010, 2014) and also the credibility, dependability, confirmability, transferability and authenticity of the QUAL data (Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs 2014).

### **1.8.1 Reliability and validity of quantitative data**

Babbie (2017) posits that reliability is the quality of the measurement method that suggests that the same data will be collected every time a repeated observation of the same nature is completed. According to Creswell and Guetterman (2021: 188), reliability means that 'scores from an instrument are stable and consistent'. Validity is defined as the 'extent to which a concept is accurately measured' (Heale & Twycross 2015: 66). The LA scale developed by Bei et al. (2019) was piloted by the developers on a sample of 239 postgraduate students. The two sub-scales' personal autonomy and educational autonomy received a Cronbach's  $\alpha$  co-efficient ranged between .623 and .717. Another study that used Bei et al. (2019) LA scale was Mukan, Lavryysh, Klontsak, Mukan, Horokhivska and Stechkevych (2021).

Clem et al. (2014: 490) developed and tested the ELS for reliability and validity which measures 'students' perceptions of experienced-based educational instruction'. The results from their large sample validation study of 553 students revealed that the ELS is a valid and reliable tool for assessing various characteristics of hands-on learning. Furthermore, an expert panel of six was consulted to rate and provide qualitative feedback on the item clarity, content, and construct-item fit. Their ELS was used in research conducted by Zaidi et al. (2020), Danko (2019) and Hefley and Thouin (2016).

Cronbach's  $\alpha$  is the most commonly used test to determine the internal consistency of an instrument (Heale & Twycross 2015). The researcher approached his supervisor and an educational expert in the field of EL and LA to assess the content of the survey questionnaire and the semi-structured interview questions to attain whether the instruments were appropriate to answer the research questions for this

study. Content validity is the 'degree to which a measure covers the range of meanings included within a concept' (Babbie 2017: 155).

### **1.8.2 Trustworthiness of qualitative data**

According to Collins and Hussey (2021) and Elo et al. (2014), the trustworthiness of qualitative content analysis is presented by four criteria as suggested by Lincoln and Guba (1985) which are: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability. The researcher ensured that through their credibility the participants were identified and described accurately. Transferability relies on the fact that the findings of this study can be generalised or transferred to other settings or groups. Dependability is defined by the stability of data over time and under various conditions. Then, confirmability refers to objectivity between two or more independent persons regarding the 'data's accuracy, relevance, or meaning' (Elo et al. 2014: 2). Confirmability was achieved by using an audit trail of data collection, data analysis interpretation of the data, and the use of verbatim transcripts of participants. Where needed, verbatim transcript material was edited to make the meaning understandable, however, the meaning intended by the participant was not changed (Thorne 2020).

## **1.9 ETHICAL CONSIDERATIONS**

It is imperative that research is conducted professionally and conforms to the ethical standards adopted by the educational institution (Collins & Hussey 2021). Before conducting research, the researcher applied for ethical clearance from the Unisa's College of Education Ethics Review Committee as set out in the Unisa's *Policy on Research Ethics*. Ethical clearance was received on the 8<sup>th</sup> of September 2021 with the reference number 2021/09/0859273763/05/AM see attached Appendix A. The researcher then applied to the TVET college to conduct research using their Hospitality and Catering N6 and NC(V) Hospitality L3 students as human research subjects. Approval to conduct research was granted on 27 September 2021 for the pilot study and the 30<sup>th</sup> of September for the main study (see Appendix B). In all the stages of the research, the researcher ensured that ethical practices were abided

by (Collins & Hussey 2021; Saunders, Lewis & Thornhill 2019; Bell & Waters 2018; Cohen et al. 2018).

A bursary was received from Unisa for the current study. However, the provision of a bursary did not influence how the research was conducted, what results the researcher should look for or what findings should be suppressed, or what should or should not be reported. No financial benefit/incentive was accrued to the researcher, nor any financing or sponsorship received from the TVET college. The researcher's promoter ensured that the data collected was interpreted objectively and that informed conclusions were arrived at. During the study, the researcher strived to be honest, respectful and sympathetic towards all respondents and participants, and to continuously conduct the research according to Unisa's *Policy on Research* (Unisa 2016).

## **1.10 CHAPTERS DIVISION**

The outline for the study is reflected below. This study is divided into six chapters, namely:

### **Chapter 1: Orientation**

Chapter 1 provides an introduction and background to the study with a brief introduction to the theoretical framework. Other sections that are included in Chapter 1 are an explanation of key concepts that were used throughout the study, as well as the problem statement and research questions with the aim and objectives of the study. The Chapter informs the reader briefly on the research methodology, measures for trustworthiness used during the research, as well as the ethical considerations adopted, with a short description of the study chapters. The chapter is then concluded with a chapter summary.

## **Chapter 2: An in-depth literature review, consisting of the contextual and conceptual framework**

The second chapter provides the contextual and conceptual overview for the study from current literature on promoting LA through PjBL teaching and learning in a TVET context. This chapter will provide an overview from both an international and a South African perspective.

## **Chapter 3: Theoretical framework that underpins the study and serves as an appraisal**

The third chapter defines the theoretical framework from various scholars' perspectives on Kolb's ELT that underpins the study and serves as an appraisal. The chapter discusses current trends and applications of ELT in TVET curricula both globally and in South Africa.

## **Chapter 4: Research methodology**

The research methodology section will entail the research paradigm, research approach and strategy for the research which will be followed by the measures taken by the researcher to ensure research trustworthiness and ethical consideration.

## **Chapter 5: Data analysis and interpretation**

A presentation of the empirical QUAN and QUAL research data will be presented in the fifth chapter. This data will be analysed and the findings will be exhibited with references made to the literature reviewed from scholars in the field of PjBL, LA, EL and TVET.



## **Chapter 6: Summary, conclusions and recommendations**

Chapter 6 will include a summary discussion and conclusions will be drawn from the findings. The limitations observed or encountered will be explored and it will provide recommendations and identify areas for future studies.

### **1.11 CHAPTER SUMMARY**

The purpose of Chapter 1 was to orientate the reader to the study. The chapter introduced the research topic by providing a background to the study with an emphasis on EL in hospitality curricula. Current research indicates the significance of LA in academic achievement as well as obtaining the relevant knowledge and skills needed for the workplace. One form of EL pedagogy that can be adopted to achieve this is PjBL. However, the hospitality industry has indicated that there is still a gap between HE outcomes and the hospitality industry expectations and requirements. Furthermore, there is a dearth of literature by taking both PjBL and LA into account within the hospitality curricula with a specific focus on TVET. The theoretical framework, namely Kolb's ELT, was briefly explained including the key concepts used in this study. The research methodology described the research design, research methods and the selection process used in soliciting the respondents and participants for the study. Lastly, the measures taken to ensure the reliability and validity of the QUAN data and the trustworthiness of the QUAL data with the ethical consideration were conveyed.

The following chapter will present the literature review on the contextual and conceptual framework that will place the study in context and elaborate on key concepts.

## CHAPTER 2

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### CONTEXTUAL AND CONCEPTUAL FRAMEWORK: LEARNER AUTONOMY THROUGH PROJECT-BASED LEARNING IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

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#### 2.1 INTRODUCTION

The study investigates what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college. Chapter 1 orientated the reader to the purpose of the study by clarifying the context of the research topic and by providing a background to the research to address the gap in the current literature. As LA is considered both a precondition and a vital learning outcome in education, it is imperative that the TVET educational sector revises its hospitality curricula to promote autonomous learning. One of the pedagogical methods of promoting LA is the use of PjBL. This research, therefore, aims to develop a framework for PjBL in order to promote LA in hospitality education students in a TVET environment. Lastly, Chapter 1 briefly introduced the theoretical framework and the research methodology that guided this research.

Chapter 2 introduces the contextual and conceptual framework underpinning this study and is divided into three sections, namely: Section 2.2 which provides conceptual perspectives on what LA is about from an international to a South African perspective, followed by a discussion on PjBL in Section 2.3, and finally Section 2.4 which elaborates on the TVET sector. The chapter will conclude with a summary of Chapter 2.

#### 2.2 CONCEPTUAL PERSPECTIVES ON WHAT LEARNER AUTONOMY IS ABOUT

Section 2.2 discusses the conceptual perspectives on what LA is about. Therefore, it is important to first view the origin of the term LA before attempting to define and interpret it, followed by a discussion on the different misconceptions on LA, the

approaches to promote and the purposes of promoting LA, and then which factors negatively impact the promotion of LA. Next, the current theoretical perspectives on LA will be reviewed, wherein the section will conclude with a South African HE perspective on LA and a summary of the section.

### **2.2.1 A brief background to the origin of the term learner autonomy**

Autonomy is an old concept that dates back to the fifteenth and sixteenth centuries that originated from politics and moral philosophy (Teng 2019; Alzeebaree & Yavuz 2016; Swaine 2016). It can be traced back to ancient Greece where the word autonomy consists of two parts: “*autos* (self) and *nomos* (rule of law)” (Teng 2019: 2; Fedj & Bouhass 2018: 446). Autonomy was first applied to states and institutions, in terms of the idea of self-governance, and then later to individuals in the philosophy domain (Alzeebaree & Yavuz 2016; Swaine 2016). Autonomy means to be “free, able and responsible” to run one’s own activities that involve being entitled to decide (Alzeebaree & Yavuz 2016: 61).

Liu, Liu and Tu (2020) posit that LA is derived from the concept of lifelong learning which was a significant goal since the early 1960s. The interest in the concept of autonomy, within language learning, was partly in response to the expectations and ideals prompted by the political turmoil in Europe. The Council of Europe’s Modern Languages Project intended to provide adults with opportunities for lifelong learning in order to improve their quality of life (Benson 2013). The approach, that was developed at the Centre de Recherches et d’Applications Pédagogiques en Langues, was influenced by proposals from the emerging field of adult self-directed learning, which insisted on the need to develop the individual’s freedom by developing those abilities which enable them to act more responsibly in running the affairs of the society in which they lived. Benson (2013: 10) further states that the “connection between education, individual freedom and social responsibility also reflected prevailing views of personal autonomy in European and North American political philosophy at the time”.

In the 1970s, the term LA was first introduced into the field of second language teaching and learning. According to Little (1991), the foundation document for any debate on autonomy in language learning stems from the report that Henri Holec compiled under the title *Autonomy and Foreign Language Learning*, which was published by the Council of Europe in 1979 (Liu et al. 2020; Little et al. 2017). Holec's main focus was adult language learning, and he argued for the transition from 'direct teaching' to 'self-directed learning' which was motivated by a combination of political and practical principles (Little et al. 2017: 4). Holec viewed autonomy as:

*The ability to take charge of one's own learning.*

(Ding & Yu 2021; Tomasouw & Marantika 2020: 505; Thanh 2019: 147; Little et al. 2017: 5; Palfreyman 2014: 175; Little 2006: 1; Holec 1981: 3)

For Holec, the concept of LA has consequences for the way in which teaching and learning are organised (Little et al. 2017). This definition is still widely accepted, referred to, and cited by scholars today (Auliya, Ardiyansah & Muhammad 2021: 71; Bhattarai 2021: 17; Fathi & Moummou 2021: 2; Gulyamova & Kadirova 2021: 82; Marsevani 2021: 54; Yaprak 2021: 52) and will be discussed in the next section. Section 2.2.2 will discuss the different definitions and interpretations of LA as defined by scholars of LA.

### **2.2.2 Towards a working definition and interpretation for learner autonomy from international scholars**

Autonomy is not a universal concept that takes the same form all over the world. Teng (2019) argues that the theoretical discussion of LA is far from being coherent, consistent and systematic. Scholars have used the term LA synonymously with autonomous learning (Yu 2020; Zaidi et al. 2020; Thanh 2019; Kyu 2018), learner independence (Zaidi et al. 2020; Firat 2016), independent learning, self-directed learning or self-direction (Gulyamova & Kadirova 2021; Masouleh & Jooneghani 2012), learner-centred (Yu 2020; Kyu 2018; Boyadzhieva 2016), learner self-regulation (Oxana, Aleksandr, Irina & Galina 2020; Hawkins 2018), and self-

managed learning (Marsevani 2021). Furthermore, scholars have found it a difficult and complex concept to define precisely (Gulyamova & Kadirova 2021; Kim & Yoon 2021; Teng 2019; Sereti & Giossos 2018; Smith 2015) because of its broad and abstract nature (Oxana et al. 2020).

Holec (1981) views autonomy as ‘the ability to take charge of one’s own learning’ (Reswari & Kalimanzila 2021: 39). Holec also envisages autonomy as an ‘individual capacity’ (Lewis 2014: 37), whereas Benson describes autonomy as ‘the capacity to take control of one’s learning’ (Intraboonsom, Darasawang & Reinders 2020: 195; Tomasouw & Marantika 2020: 505; Teng 2018). Although both the terms *ability* and *capacity* are used in the two definitions, they are often interchanged by both Holec and Benson and other scholars. Saglam (2018) defines autonomy as the ability of the student to take responsibility for his/her/their own learning and monitor own learning process. Whereas Scharle and Szabó (2000) define autonomy as ‘the freedom and ability to manage one’s own affairs, which entails the right to make decisions as well’ (Iamudom & Tangkiengsirisin 2020: 201). As can be viewed from all four definitions the terms take charge of, or take control of, or take responsibility for, and to manage (Blidi 2017; Benson 2007) are also often replaced or interchanged.

In addition to emphasising ability/capacity and taking charge/control/responsibility, scholars also mention certain affective factors that affect students’ autonomy, namely motivation and willingness (Bhattarai 2021; Ceylan 2021; Orakçı 2021; Iamudom & Tangkiengsirisin 2020; Yu 2020; Little et al. 2017; Gamble et al. 2012). Nguyen (2012, 2014) defines LA as a ‘learner’s willingness and ability to take responsibility to plan, implement, monitor and evaluate his/her learning in tasks that are constructed in negotiation with and support from the teacher’ (Alrabai 2017: 212). This indicates that students should be both positive and active in their learning.

The definition of LA has been adapted numerous times by various scholars over the years, depending on their views, the research context, and the level of debate (Ding & Yu 2021; Sudhakar 2017; Al-Busaidi & Al-Maamari 2014), however, many of them vary only in semantic terms and inevitably appear to be grounded to or tied within

Holec's conceptual core in some way. Therefore, looking at the definitions provided, LA can be interpreted in terms of three factors which will be discussed below. These are: (1) as an ability or capability, (2) taking charge, responsibility, control, or to manage, and (3) the students' willingness and motivation to learn that which will be discussed in the next section.

#### 2.2.2.1 Learner autonomy as an ability or capacity

Since many scholars have recognised Holec's (1981) definition of LA, the term 'ability' becomes an important component to define. The ability, according to Holec, is either acquired through a 'natural' or 'formal learning' means (Oxana et al. 2020; Little et al. 2017: 5; Little 2006: 1), and is not inborn (Wirapatni et al. 2021; Kashefian-Naeeni & Kouhpeyma 2020; Lubis 2020). The latter of the two is how it is often acquired as Holec insists that LA must be developed systematically with expert help (Little 1991), by either the educator, facilitator or tutor. Students do not automatically or suddenly become autonomous, but engage in a process that gradually leads to autonomy (Oxana et al. 2020; Blidi 2017). In the process to become autonomous, students' readiness interacts with skills taught through experience sharing and educational interventions. Therefore Blidi (2017: xxv) argues that LA is a 'partly acquired and partly innate outcome'.

LA necessitates a shift from an educator-centred learning environment where the students are dependent on their educator for learning, to a student-centred learning environment or self-regulated learning. It is therefore seen as imperative that students develop the ability to become autonomous as the educator will not always be available to assist them (Dash 2021; Blidi 2017). Furthermore, LA is not the fundamental intention, however, it is how the educator operates students' agency or capacity to act. The learning process relies upon the ambition and action of students rather than the inputs transferred from the educator or content to the student (Bala & Bala 2020). Moreover, Orakçı (2021) argues that LA is not an easy process that is learned or gained instantly, but rather it requires effort, time, responsibility and support from an autonomous educator. Autonomy is reached when students are guided by their educator to 'learn how to learn' and they gain the

ability to take initiative to learn in and outside the classroom, independent from their educator (Agadzhanova 2020: 4; Kashefian-Naeeni & Kouhpeyma 2020: 190). Ding and Yu (2021) agree and argue that students should rather learn how to learn than what to learn. This will assist students with the ability to adapt to challenging circumstances and to search for alternative solutions in line with their unique personal traits (Bei et al. 2019).

Ability depends on the student possessing both the knowledge about the alternatives from which choices need to be made and the necessary skills for carrying out whatever choices seem most appropriate (Littlewood 1996, as cited in lamudom & Tangkiengsirisin 2020; Teng 2019). Some of the learning skills that students require to become autonomous include the ability to: (1) identify and set learning goals, (2) plan, design and execute learning activities (3) evaluate and reflect on their learning, (4) understand the purpose of their learning, (5) understand their own learning processes, (6) gain knowledge of a range of learning strategies and skills, and (7) acquire the motivation to learn (Dash 2021; Agadzhanova 2020; Smith 2019; Little et al. 2017).

These skills ensure that students have the ability to manage their learning (Gulyamova & Kadirova 2021). However, not only do students need to possess these skills to become autonomous but Agadzhanova (2020) emphasises the importance that the student's attitude plays in promoting the autonomous learning ability.

Teng (2019: 4) argues that Benson (2011) prefers the term *capacity* as it specifies what a person 'has the potential to do', rather than a set of learning behaviours. Gardner (1991, as cited in lamudom & Tangkiengsirisin 2020: 201) explains that ability cannot conduct behaviour; however, it is the 'power or capacity' to do something. A capacity to control learning may imply that a student needs to make learning personally relevant. This personal relevance is linked to the student's agenda and affordance to set goals and take action to manage their own learning (Teng 2019; Clem et al. 2014). Little (1995, as cited in Bhattarai 2021) postulates that autonomy is a capacity for independent action, detachment, decision making,

and critical reflection. It involves that students will develop a psychological relation to the content and process of their learning. The capacity for autonomy is displayed both in the way students learn and in the way they transfer what they have learnt to a wider context.

#### 2.2.2.2 Learner autonomy as taking charge, responsibility, control, or to manage their learning

The second basis of LA is that the students manage and take charge, responsibility or control of their own learning. Benson (2007, as cited in Rohani et al. 2019: 3) describes autonomy as ‘a capacity to take charge of, or take responsibility for, or control over’ one’s learning. It involves abilities and attitudes that students possess and can develop to various degrees (Benson 2006: 1) or differing degrees of autonomy (Swatevacharkul & Boonma 2020; Rohani et al. 2019; Hawkins 2018) whereby students can be guided towards amplified autonomy with the assistance of educators (Hawkins 2018). These various degrees of autonomy will be dependent on different factors i.e. culture, age, how far they have progressed with their learning, learning needs (Benson 2007), intrapersonal factors, and so on. Swatevacharkul and Boonma (2020) add that research indicates that there is a strong relationship between educators’ perceptions of LA and the degree of autonomy of the students. They emphasise that a high degree of LA denotes that students have and make independent choices in their learning, therefore students can control the learning activity and determine its direction. Thus, students at the bottom level of autonomy have some control of the specific performance of the activity. Therefore, the former contains more autonomy than the latter.

Holec (1981) postulates that to take charge of one’s learning is to possess and retain the responsibility for all decisions concerned with all facets of learning i.e. defining the learning objectives, determining the contents and the progression of learning, selecting the methods and techniques to be used, and then monitoring and evaluating what knowledge and skills have been acquired (Dash 2021; Marsevani 2021; Kashefian-Naeeni & Kouhpeyma 2020). Therefore, if students are more involved in the decision-making process regarding their own learning, they will be



more enthusiastic about learning. Dickinson (1987, as cited in Bhattarai 2021) and Orakçı (2021), concur that LA is a situation in which the students are responsible for all decisions related to their learning including the implementation of those decisions. This includes being able to set their own goal(s), identify and develop learning strategies and styles to match their goal(s), select relevant learning sources and assess their learning performance (Auliya et al. 2021; Marsevani 2021; Klimas 2017). Thus, an autonomous student is an independent and active part of the teaching and learning process who assumes responsibility for their learning.

LA theories aim at transferring responsibilities for some aspects of teaching and learning from the educator to the students. Students therefore need to take responsibility for many processes, which are traditionally controlled by their educators (Yu 2020). Student control of learning does not have to be total control as it can be adapted to the condition and needs of the student (Rohani et al. 2019). The term control indicates the 'power to make choices and decisions and act on them' (Teng 2019: 4). Little (1991) emphasises that although students take control over their learning, it does not mean that the educator will relinquish all initiative and control (Marsevani 2021), or that their role as an educator becomes redundant during the teaching and learning process. Moreover, this does not mean that any intervention by the educator will remove any autonomy from the student. Benson (2011, as cited in Teng 2019) suggests three dimensions of control over learning, namely, learning management, cognitive processes and learning content i.e. although some students do not plan their studies, they will still manage their learning.

Students should not be forced into becoming autonomous, but it should be a process in which students are taught learning skills to become autonomous and should voluntarily accept the responsibility of their own learning. This process is often gradual and sometimes a difficult process for the student. Moreover, some students do not automatically accept responsibility for their learning. In such circumstances, educators should assist these students by providing them with appropriate tools and opportunities to train them in fostering autonomous learning. Yu (2020) warns though, that before educators can train students, they should pay

special attention to the conditions for LA as these will influence the degree of students' willingness and ability to take responsibility for their own learning.

### 2.2.2.3 Learner autonomy as a students' motivation and willingness to learn

Students' attitudes play a pivotal role in the cultivation of autonomous learning ability. Students' attitudes denote whether they are willing to take responsibility for their own learning and can be affected by four elements, namely (1) the educator, (2) the educational system, (3) peers, and (4) the society (Agadzhanova 2020). Among the four elements, the educator has the main influence as they introduce, advocate and promote LA and encourage students to learn with autonomy.

Bhattarai (2021), Yu (2020) and Littlewood (1996) argue that LA is based on the principle that learning can only take place if students are willing, motivated and confident to learn, and if they accept responsibility for their learning and the choices necessary for learning. A student may have the ability to be autonomous, but may not have the willingness to do so or to accept the responsibility. Therefore, willingness depends on having both the confidence and motivation to take responsibility for the choices needed in learning (Littlewood 1996). Moreover, lamudom and Tangkiengsirisin (2020) state that two attitudes are needed to promote LA. These are 'willingness to take on responsibility' and 'confidence in their ability' as students (lamudom & Tangkiengsirisin 2020: 1). Therefore, if students are not confident in their ability to learn or they are not willing to take responsibility for their learning, their autonomy will not be developed. Taking responsibility for one's own learning is seen as essential to LA because ultimately only the students themselves can execute the learning. In addition, they need to develop the ability to continue learning after their formal education has ended (Yu 2020; Gamble et al. 2012).

Holec's definition, according to Van Houwelingen et al. (2021) involves motivation and engagement for what the students need to learn, including skill development of self-regulation, and allowing them to take responsibility for their learning. Kyu (2018) notes that to promote LA, educators should encourage students to be more self-

motivated. Ginting, Djiwandono, Woods and Lee (2020) found that motivation plays an important role in shaping LA and posit that educators should strive to create a learning climate that is conducive to motivation. This finding is in line with the results of the studies by Jianfeng, Raj and Ai (2018) and Salehi and Dalili (2017) that showed a positive correlation and a significant relation between learning motivation and autonomy. Furthermore, Ceylan's (2021) study also found that intrinsic motivation makes students more willing to take responsibility. A motivated student will have a greater interest in what is learned and will consequently be more ready and able to take on responsibilities and develop their skills. Therefore, Agadzhanova (2020: 6) claims that “motivation is indispensable for facilitating autonomy” and that educators should inspire students’ motivation because motivation determines students' attitudes towards learning.

#### 2.2.2.4 Summary: Components of learner autonomy derived from the definition and interpretation

Benson (2007) argues that attention has shifted to the range of potential meanings for the concept of LA and to the different ways in which these meanings are represented and interpreted in both research and practice. By analysing the above-mentioned interpretations of LA, within an international context by various scholars, one can agree that there are four general consensuses on the meaning of LA. They are:

- 1) Students should take charge and have the willingness and confidence to accept responsibility for their own learning. Having a positive attitude emanates from the motivation to learn.
- 2) Students must have the freedom to take control over many of the processes that are normally associated with the role of an educator i.e. planning, implementing, monitoring and evaluation.
- 3) Students should have the ability i.e. knowledge and skills to become autonomous.

- 4) There are various degrees of autonomy that are dependent on different factors i.e. age, how far they have progressed with their learning, learning needs, culture and so on.

These factors can be illustrated through a graphical representation of the components of LA as seen in Figure 2.1.

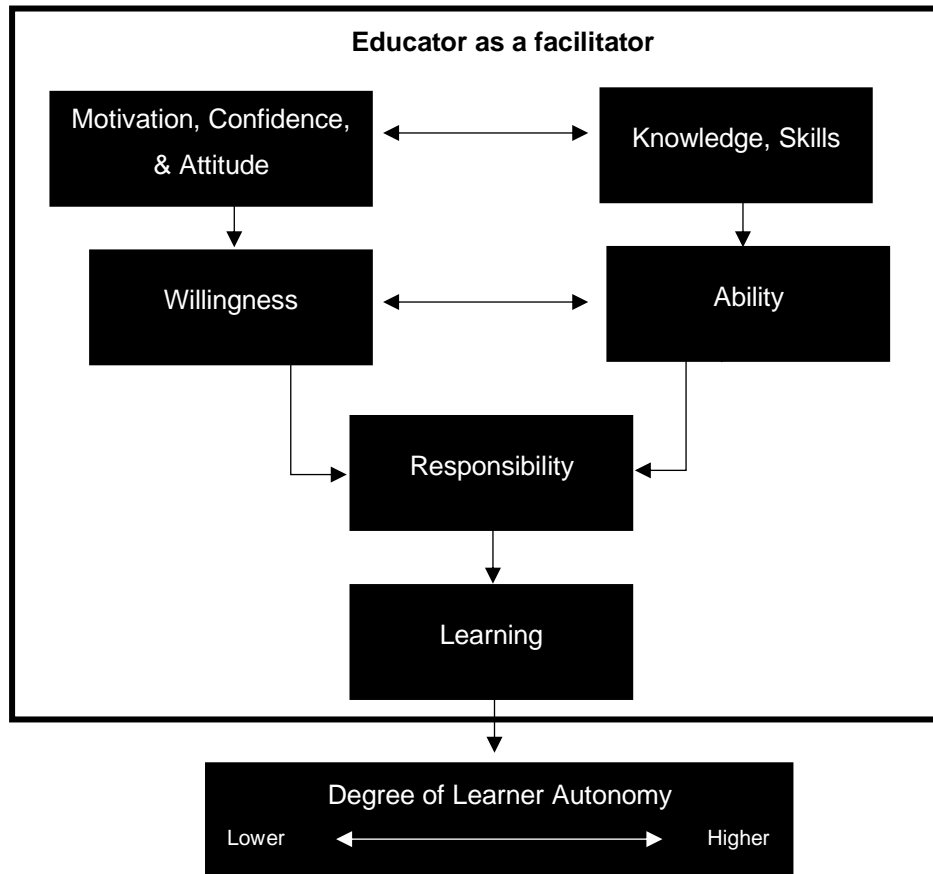


Figure 2.1: Components of learner autonomy

Source: Adapted from (Littlewood 1996)

Therefore considering the aforementioned, LA in this study is defined as a student's willingness and ability to take responsibility, to set goals, plan, implement, monitor and evaluate their own learning (Little 2020; CHE 2014) with tasks that are constructed in negotiation with and support from the educator (Alrabai 2017; Trabelsi 2016; Nguyen 2014).

Moreover, from the above overview from the literature on LA, the following sections will discuss the five-level model of LA, misconceptions on LA, approaches and purposes of promoting LA, and the factors that negatively impact the promotion of LA. Thereafter, current studies on LA will be highlighted including a South African HE policy perspective relating to LA.

### **2.2.3 The five-level model of learner autonomy according to David Nunan**

Nunan (1997, 2013) highlights the different levels of implementing autonomy as shown in Table 2.1 with learning behaviours and processes on each level. These levels include (1) raising awareness, (2) encouraging involvement, (3) intervention, (4) creation, and (5) transcendence. Educators can design or adapt learning materials to assist themselves in creating the required conditions for LA development.

Table 2.1: Five-level model of learner autonomy from Nunan (1997)

Source: Adapted from (Khaerudin & Chik 2021)

Level	Student action	Content	Process
1	Awareness	Students are made aware of the pedagogical goals and content of the materials they are using.	Students identify strategy implications of pedagogical tasks and identify their own preferred learning styles/strategies.
2	Involvement	Students are involved in selecting their own goals from a range of alternatives on offer.	Students make choices from a range of options.
3	Intervention	Students are involved in modifying and adapting the goals and content of the learning programme.	Students modify/adapt tasks.
4	Creation	Students create their own goals and objectives.	Students create their own tasks.
5	Transcendence	Students go beyond the classroom and make links between the content of classroom learning and the world beyond.	Students become educators and researchers.

Khaerudin and Chik (2021) explain that the initial level for promoting LA is making students aware of the objectives and contents of learning and choices of their own learning strategies to complete the tasks at hand. The second level entails involving students in selecting their own goals, materials and tasks from a range of alternatives offered. The following level includes students being allowed to 'intervene or modify and adapt' learning goals or the content of materials and tasks (Khaerudin & Chik 2021: 43). The fourth level allows students to create their own learning goals, materials and tasks. The final level represents the capacity for fully autonomous learning where the students can transcend learning opportunities past

any formal learning programme. Students will go beyond the classroom and will make links from what they have learned to the working world. However, studies by Duarte (2020) and Dang (2012) argue that the order of development of autonomy is a non-linear process i.e. from low-level to a high-level, and is not necessarily true for students in different contexts. As an example, Dang (2012) states that students might favour a flexible space for creating new content and may attempt to design new tasks (level 4 and 5), but they might be confused when selecting from a range of alternatives (level 2). This implies that a student does not necessarily need to achieve level 2 before achieving level 4 of LA.

#### **2.2.4 Misconceptions on what learner autonomy is about**

There are various misconceptions by authors on the meaning and interpretation of LA. It is therefore important to highlight these six misconceptions which are also illustrated from the overview of LA.

Firstly, educators have no purpose and therefore they relinquish their role and responsibility in the teaching and learning process. Swatevacharkul and Boonma (2020) found in their study that the educators mistakenly defined LA as the condition that students learn without assistance and support from educators. Carson (2010) states that there are two misconceptions within this perception of which the first is that LA renders the educator redundant, and the second is that any intervention by the educator may destroy students' autonomy. However, with LA the educator's role is an important part of the teaching and learning process (Masouleh & Jooneghani 2012) as their role should be as a facilitator or counsellor. This is highlighted by other researchers (Auliya et al. 2021; Van Houwelingen et al. 2021; Wirapatni et al. 2021; Yu 2020; Fotiadou, Angelaki & Mavroidis 2017). Lubis (2020) asserts that the educator's role enables students to be more autonomous in initiating, monitoring and evaluating processes. He further claims that constant guidance and feedback from educators are crucial to maintain students' motivation in learning autonomously. Little (1995, as cited in Swatevacharkul & Boonma 2021) argues that LA is dependent on educator autonomy.

The second misconception is that LA is entirely self-access or self-instruction. According to Carson (2010), LA is not self-instruction nor self-access learning. Most authors also agree that LA and autonomy are not synonymous with self-instruction (Little 1991), self-access, self-study, out-of-class learning and self-education (Benson 2006). Carson (2010: 78) further posits that autonomy, from a wider perspective of ontological development, may be realised as ‘self-determination, self-sovereignty, or freedom from the control of others’ to decide one’s actions, while remaining responsible for what we are and what we do.

The third misconception is that autonomous students learn with complete freedom during their learning programme. LA means that students do not have absolute freedom as this freedom always has conditions and constraints attached (Little 1991), therefore students have the responsibility to make informed decisions or choices regarding their own learning. Van Loi (2017) adds that freedom relates to student control of learning such as the participation of students in decisions and choices relating to learning objectives, methods of teaching and learning materials.

The fourth misconception is that autonomy means that a student needs to work in isolation. Swatevacharkul and Boonma (2021) point out that autonomous learning does not imply learning in isolation. With LA the completion of tasks, activities as well as learning can take place either individually or collaboratively. Van Loi (2017) states that autonomy has a social attribute which means skills and attitudes related to social interaction always allow students to work collaboratively.

The fifth misconception is that LA is something that students already have or that it is easily transferred to students by the educator. LA skill is gradually learned by students through scaffolding and is developed through the assistance of the educator. Ding and Yu (2021), Abdulkader (2020), and Masouleh and Jooneghani (2012) confirm that students need to be scaffolded towards independence using a variety of strategies in order for students to develop autonomy and enhance the process of learning. However, this development of LA cannot be programmed in a series of lesson plans (Little 1991) nor is it the latest methodology (Carson 2010).



Lastly, is the misconception that autonomy is a steady state achieved by certain students (Little 1991) or that it is a single, easily described behaviour (Carson 2010). Little (1991: 4) posits that students may display a high degree of autonomy in one area of learning, but may be non-autonomous in another area of study and therefore LA 'can manifest itself in very many different ways'. Carson (2010), Benson (2007) and Little (1991) express that although LA can be recognised and observed, it can take on different forms (Tran & Tran 2020; Tebib 2018; Van Loi 2017; Yuliani & Lengkanawati 2017) depending on the individual student's age, learning needs, how far they have progressed with their learning, their learning environment, culture, and so on.

To explore the literature further regarding LA, one needs to discuss the approaches and reasons for promoting LA, the constraints on LA and current studies on LA, including the South African perspective on LA.

### **2.2.5 Six approaches to promoting learner autonomy**

According to experts in the field of LA, autonomy cannot be taught (Kashefian-Naeeni & Kouhpeyma 2020; Pichugova, Stepura & Pravosudov 2016). Benson (2003) agrees that autonomy can be fostered, but not taught or learned, but it can be developed through educational activities (Wirapatni et al. 2021) and conscious awareness (Zourez 2019) of the learning process. This is further confirmed by Broady and Kenning (1996, as cited in Kashefian-Naeeni & Kouhpeyma 2020: 193) who emphasise that LA cannot be taught in the traditional sense, but can only be 'promoted'. Therefore, educators who understand the concept of LA are significant as being the foundation to assist students in becoming more autonomous (Wirapatni et al. 2021).

Benson (2011a) lists six approaches to the development of autonomy as seen in Figure 2.2. They are resource-based, technology-based, learner-based, classroom-based, curriculum-based, and educator-based approaches (Kashefian-Naeeni & Kouhpeyma 2020; Teng 2018). These approaches are often combined and are arguably interdependent (Farr 2015).

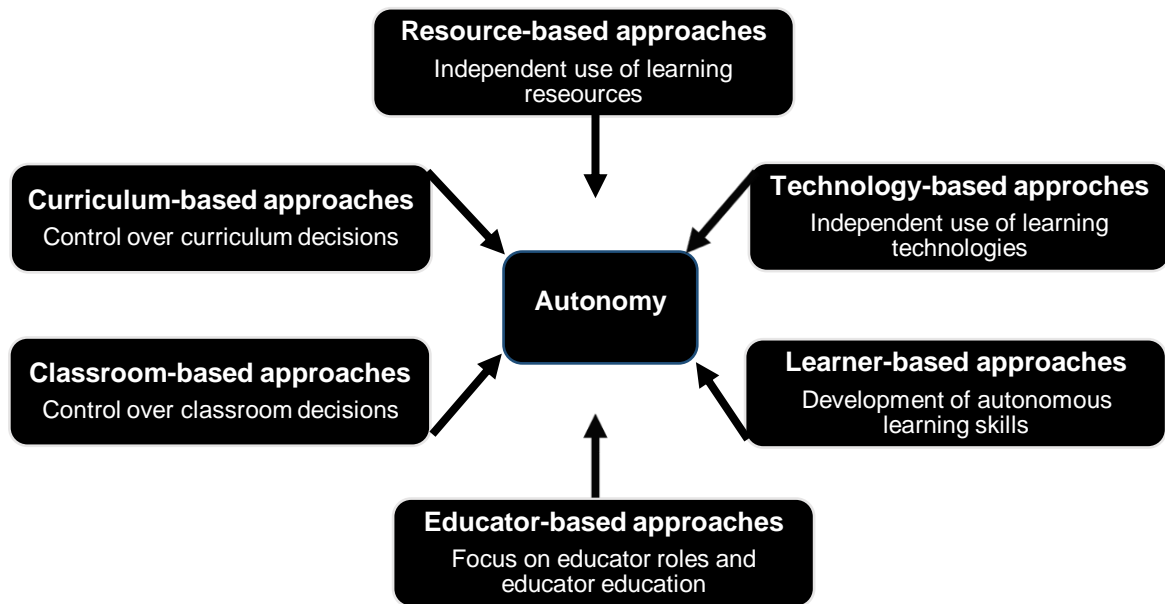


Figure 2.2: Approaches to the development of autonomy

Source: (Benson 2011a: 125)

#### 2.2.5.1 Resource-based approach

The resource-based approach is the independent interaction with learning and resources (Pham 2021; Farr 2015). Resources can either be obtained by students themselves or by using the ones that educators provide or suggest to them (Pham 2021). The types of material include lesson plans, the selection and suggestion on using learning materials, activities for pairs and groups together with checklists and guidelines for self and peer evaluations, and how assessment and evaluation take place (Farr 2015; Smith 2015). Farr (2015) suggests that students at the beginning of the learning process do not know what is best for them and therefore need to be gradually approached to increase their autonomy through the use of resources. Students' needs must be established and they need to be trained to use resources effectively and they need to understand how these resources function and are managed (Smith 2015). Nunan (1997; 2013) posits five levels to promote LA in the classroom, by either designing or adapting learning material, learning content and the process.

#### 2.2.5.2 Technology-based approach

The technology-based approach includes any form of computer-assisted learning or technology-assisted learning to support LA development. This approach emphasises independent interaction with educational technologies (Pham 2021; Smith 2015). Kim and Yoon (2021) emphasise that technology is widely used in the educational world, and various pedagogical models have been introduced to promote technology-assisted learning. Yang (2020: 439), mentions that in this 'era of digital technology, time and place no longer limit access to information, communication, and learning'. Instructional/educational technology can be viewed in terms of resources and media or processes and systems involved in instruction (Zourez 2019). Gonzalez-Vera (2016: 59) states that: Information and Communication Technology (ICTs) are 'adapted in novel ways to enrich the learning environment' and 'their use can foster independent learning'. Furthermore, Abdulkader (2020) postulates that technology not only makes resources available to the student but also provides affordances for autonomous learning such as facilitating interaction with other students, with educators supporting situated learning and encouraging learning wherever the student would like to learn.

However, technology can also limit the development of autonomy as access to authentic materials and other affordances might be unfavourable if students did not receive guidance or feedback from the educator (Abdulkader 2020). Additionally, Benson (2011b) notes that some researchers do not support the link between educational technology and autonomy because educational technologies tend to presuppose autonomy rather than foster it. In her study findings Abdulkader (2020), revealed that autonomous learning and using technology for promoting LA are affected by factors such as institutional policy, educator's guidance and assistance, student's culture and motivation, learning awareness, technological literacy (Kashefian-Naeeni & Kouhpeyma 2020), and how technology is used in the teaching and learning process.

### 2.2.5.3 Learner-based approach

The learner-based approach or student-based approach places emphasis on the direct production of student development, or behavioural and psychological changes in students that assists them to take control over their learning to a greater extent (Pham 2021; Kashefian-Naeeni & Kouhpeyma 2020; Smith 2015; Benson 2013; Nguyen & Gu 2013). They further express that this approach is primarily concerned with student development and training skills and strategies i.e. developing students' metacognitive knowledge, that enables them to take-up the learning opportunities. Sheerin (1997: 59-60, as cited in Benson 2013) defines student development as “cognitive and affective development involving increasing awareness of oneself as a learner and an increasing willingness and ability to manage one's own learning”. Al-Khawlani (2018: 110) quotes various authors stating that the behavioural notion of students' developing systematic 'strategies' to assist their independence in their learning; and a humanistic motion of students' self-direction and self-initiation of their learning are all part of a process of 'experimentation and discovery'.

Cohen (1998, as cited in Benson 2013) argues that strategy training encourages students to find their own pathways to success, and therefore this fosters LA and self-direction (Reswari & Kalimanzila 2021). Nguyen and Gu (2013: 12) agree with Cohen and declare that the most 'convincing evidence that LA promotes learning comes from learner-based approaches of strategy training'. They further mention that previous studies emphasise the students' attention to task analysis, while others focus on improving students' metacognitive and self-regulation skills, and other studies involve comprehensive training packages that attempt to improve both analysis of tasks and metacognitive management of learning (Nguyen & Gu 2013). In a study conducted by Teng (2018), he investigated a learner-based approach of applying online reading to improve LA. Overall his study found that providing students with metacognitive strategy training resulted in an effective approach in promoting skills related to self-regulation and LA. He further states that self-regulation skills can be taught through a systematic and intentional process.

However, Benson (2013) cautions that the relationship between strategy use and autonomy is complex, and the claim that student development programmes can enhance learning performance and autonomy needs to be treated carefully. He argues that if students consider learning to be a task, then no strategies can make learning more efficient. The problem of student development for autonomy can thus be seen as one of changing the students' 'conception of learning from completing tasks set by others to constructing knowledge for oneself' (Benson 2013: 158). Lastly, he posits that this may involve a deep change in the students' 'psychological orientation towards the learning process', by acquiring a set of strategies that enhance learning performance which may not necessarily equate to the development of autonomy (Benson 2013: 158).

#### 2.2.5.4 Classroom-based approach

Pham (2021) and Kashefian-Naeeni and Kouhpeyma (2020) point out that researchers supporting a classroom-based approach suggest that autonomy can be fostered best when students work in a supportive and collaborative learning environment with students and educators in a classroom (i.e. Face-to-Face [F2F]) context. This approach to LA focuses on the changes that take place in the relationships between students and educators in the classroom. Classroom activities can be designed that are more student-centred and controlled, but fully scaffolded by the educator (Farr 2015). Effective scaffolding within high quality experiences will reduce students' 'cognitive load', enabling them to make small successful steps and this will assist them to achieve cognitive growth (Kokotsaki, Menzies & Wiggins 2016: 272). Promoting LA within the classroom-based approach results in students having the ability to decide over the classroom activities, be part of the decision making and planning process, and evaluate their learning outcomes (Kashefian-Naeeni & Kouhpeyma 2020; Farr 2015). This enables learning to be more effective while students are active in the learning process, assuming responsibility for their learning and in which they participate in the decisions which affect learning (Benson & Voller 2013).

Educators should be aware and prepared to devote training to assist students in order to be successful in promoting LA i.e. when students need to learn some types of assessments such as peer assessments and self-assessments (Kashefian-Naeeni & Kouhpeyma 2020). Moreover, educators should also offer students the necessary support when needed (Egel 2009). However, Breen and Man (1997, as cited in Egel 2009) found in a classroom situation, that if many students have been socialised into a dependent relationship to the educator or classroom group, then the shift towards autonomy by the individual will open two strategic pathways for the students which are (1) a counter-dependency through dropping out or (2) independence from the group.

#### 2.2.5.5 Curriculum-based approach

Pham (2021), Kashefian-Naeeni and Kouhpeyma (2020), and Nguyen and Gu (2013) postulate that the curriculum-based approach emphasises the idea of student control and the negotiation between educators and students over the curriculum as a whole. The negotiation is intended to promote the students' participation in making decisions on the learning content, programme activities and tasks and to include the evaluation of learning overall. According to Benson (2001, as cited in Nguyen and Gu 2013), this approach takes on two forms, namely a strong and weak version of the process syllabus. With the strong version, the syllabus is not predetermined and therefore it is organised, selected, negotiated and renegotiated by the educator and students as learning progresses, whereas the weak version includes students' project work in which determinations on the content and methods are made by themselves.

When students monitor the curriculum they should consider their choices concerning concepts such as their attitude towards learning, learning approaches, learning styles, learning activities, strategies used in learning, patterns of interaction, what constitutes effective learning, degree of learner control over their own learning, and the nature of learning (Kashefian-Naeeni & Kouhpeyma 2020). Kashefian-Naeeni and Kouhpeyma (2020) and Van Loi (2017) further state that using the curriculum-based approach is an effective approach to promote LA as

students feel that when their choices and decisions are valued then they experience more motivation and enthusiasm to partake in the learning process.

#### 2.2.5.6 Educator-based approach

The educator-based approach focuses on educator autonomy (Pham 2021) in educator's professional development and educator education for promoting LA in their students (Kashefian-Naeeni & Kouhpeyma 2020; Yu 2020; Nguyen & Gu 2013). This approach has been developed on the perception that changing educators' beliefs about autonomy, building their commitment to autonomy, and encouraging practices that support LA will result in changes that favour LA (Pham 2021; Zourez 2019; Nguyen & Gu 2013). Educator autonomy plays an important role in LA (Van Loi 2017) as educators can help students assess their needs, set goals, evaluate themselves (Kashefian-Naeeni & Kouhpeyma 2020), and equip students with the appropriate learning strategies to successfully take control of their own learning (Jose et al. 2020). Alonazi's (2017) study asserts that educators who have adequate knowledge regarding the concept of LA and the best strategies that students need to become autonomous helps educators to offer their students sufficient training to learn independently.

The educator should provide the framework around which learning is organised and make materials and resources available for learning (Zourez 2019). Therefore Kashefian-Naeeni and Kouhpeyma (2020) assert that educator autonomy and LA must co-exist for students to develop autonomy and stress that autonomy needs to be mutual. Educator autonomy is defined as: 'the capacity to take control of one's own teaching', which suggests the freedom to 'study, learn and teach' (Sehraway 2014: 2). It is also known as 'academic freedom' (Sehraway 2014: 3). Smith (2001, as cited in Sehraway 2014) lists six characteristics of educator autonomy, they are: (1) self-directed professional action, (2) capacity for self-directed professional action, (3) freedom from control over professional action, (4) self-directed professional development, (5) capacity for self-directed professional development, and (6) freedom from control over professional development.

According to Bhattarai (2021), Marsevani (2021) and Alonazi (2017), for students to be active and take charge of their learning, the educator's role should be that of a facilitator, counsellor, manager and resource. The educator should guide students to accept responsibility for their learning, and steer them to be reflectively engaged in their learning. Alonazi (2017: 197) agrees and states that educators have an 'indispensable role' in creating autonomous learning and that 'role should never be undermined'. Therefore, without the active role of educators encouraging and teaching students to become autonomous, the teaching and learning process will not work properly. This is confirmed by Nguyen and Thang (2020) who conclude from their study that students cannot become autonomous without the proper assistance and guidance from educators.

### **2.2.6 Purposes for promoting learner autonomy among students**

Most LA researchers agree on the importance of promoting LA. Swatevacharkul and Boonma (2020: 187-188) argue that LA must be a foundation for successful learning and that it deserves to be treated as the 'ultimate instructional goal of every educational institution'. Benson (2011, as cited in Chang 2020), confirms that autonomous students have a better sense of control over their learning (Shelton-Strong 2018; Oxford 2017). This control shows how students assess their learning needs, attempt to solve learning problems, evaluate their progress, identify suitable learning strategies and seek learning resources. Another reason for the importance of promoting LA is that these students evolve in a shrinking world where access to all types of information is made available everywhere with the assistance of information technologies (Ghout-Khenoune 2015). Therefore, the 'searching, picking, filtering, and evaluating of huge amounts of information' requires a high degree of self-direction from students and this makes the desire to become autonomous stronger and the promotion of autonomy a requirement (Ghout-Khenoune 2015: 184).

Furthermore, Swatevacharkul and Boonma (2020) posit that LA is a motivation for independent learning, is considered an enrichment of self-development principles, and helps with learning persistence and deep engagement in the learning process



(Arnab, Clarke & Morini 2019). Umeda (2000, as cited in Alonazi 2017) provides three reasons for the importance of LA; they are: (1) developing a lifelong ability to cope with social changes, (2) promoting the student's individuality, (3) developing the diversity of the student's educational and cultural background. Richard (2012, as cited in Reswari & Kalimanzila 2021) asserts that autonomous learning is all life learning, a never-ending progression. This is emphasised by Saeed (2021) and lamudom and Tangkiengsirisin (2020) who state that LA is considered an important factor that contributes to lifelong learning as students are likely to feel motivated and engaged when they are given the freedom to take charge of their learning, and also, these students will know how to learn. In addition, autonomous students are also able to learn from their own successes and failures by strategies that will assist them to be more competent learners in the future (Alonazi 2017). Lambda Solutions (2019) points out that students who develop autonomy will bring their independent critical thinking and learning capabilities with them into their lives, making them capable adults.

Moreover, Yakubu (2017) points out that autonomous students are intrinsically self-motivated; they are more likely to volunteer for special projects, rely on planned learning and utilise goal setting, planning, organising and memorising, and self-monitoring strategies. Dam (2011, as cited in Baranovskaya & Shaforostova 2018) suggests three reasons for the importance of promoting LA. The first is the fundamental notion of choice. Having a choice improves motivation, requires reflection which has a positive effect on the student's self-esteem, and scaffolds students to work for themselves. The second, according to Dam, is the need for clear guidelines to be established so that the students feel secure enough. The third, is the shift from educator-guided learning to self-guided learning. Involving students in reflection, assessment and evaluation ensures evidence of progress, enhances motivation, and heightens the awareness of learning (Baranovskaya & Shaforostova 2018).

Jose et al. (2020) list several reasons for fostering LA. They state that LA permits students to take responsibility for their advancement, develops their planning and prioritising skills, enhances self-decision, willingness, motivation, determination,

and interest to learn, heightens their sense of accountability for their actions and allows them to understand themselves better. Furthermore, LA is seen as self-rewarding. Although the reasons for promoting LA have been discussed, it is important to note the constraints that might hinder LA in an educational context. The constraints on LA are discussed in the following section.

### **2.2.7 Factors that might negatively impact the promotion of learner autonomy**

In any educational context, constraints that may impede the promotion of LA do exist (Alonazi 2017). Scholars have listed various constraints that may limit the promotion of LA. These are the students themselves, the educator, the educational institution (Barnard & Li 2016), learning materials, social and political contexts, technology (Paiva 2005, as cited in Alonazi 2017), policy, societal expectations, conflicts in student and educator agendas, priorities of learning (Alonazi 2017), and cultural constraints (Yasmin & Sohail 2018; Barnard & Li 2016). A plethora of studies have been conducted on the educators' perceptions and beliefs with regards to LA, especially in language learning (Bhattarai 2021; Wirapatni et al. 2021; Almusharraf 2020; Chang 2020; Yasmin et al. 2020; Zourez 2019; Yasmin & Sohail 2018; Alonazi 2017), while constraints are listed from the perspective and perceptions of students. The results from different studies have also shown that educators hold either positive (Khotimah, Widiati, Mustofa & Faruq Ubaidillah 2019) or negative (Wirapatni et al. 2021; Chang 2020; Borg & Alshumaimeri 2019; Saraswati 2019) beliefs towards their students as being or becoming autonomous.

Alonazi's (2017) study highlights constraints such as the students' lack of independent learning skills, rules and regulations that are applied in educational institutions and the educators' lack of basic strategies to encourage LA. She postulates that to overcome the different constraints on autonomy into learning opportunities the educator needs to play an important role. In their study, Yasmin and Sohail (2018) investigated the potential socio-cultural constraints limiting the development of LA in a Pakistani educational context. The study revealed that the perceived socio-cultural constraints included a lack of awareness regarding LA, the

authoritative attitude of educators, intolerance towards student creativity and intelligence, shyness in the interaction with the opposite sex, student dependence on the educator (Wirapatni et al. 2021), and educator bias.

The Yasmin et al. (2020) study aimed at exploring educators' perceived barriers in fostering LA using semi-structured interviews. Their results showed three major categories of constraints, namely: (1) socio-cultural of which the results showed similarities to the study by Yasmin and Sohail (2018), (2) psychological i.e. lack of motivation (Wirapatni et al. 2021) and lack of a student's self-confidence, and (3) educational institutional constraints with a predetermined and outdated syllabus. Their study showed that 'most of the psychological constraints are associated with culture' i.e. a person raised in a certain environment is supposed to behave accordingly (Yasmin et al. 2020: 138). Sinclair (2008, as cited in Pichugova et al. 2016) agrees that autonomy is construed differently by different cultures. The findings further revealed that the perceived constraints should be kept in mind by educators when planning strategies, so that LA can be achieved.

### **2.2.8 Current theoretical perspectives on learner autonomy**

LA is not a new topic in the education world. There has been much research completed over the years related to the implementation of autonomous learning to support students' success in education (Reswari & Kalimanzila 2021). However, most of the research is related to language learning especially English language and English as a foreign language (Barin & Eyerci 2021; Bhattarai 2021; Kim & Yoon 2021; Pham 2021; Yaprak 2021; lamudom & Tangkiengsirisin 2020; Jose et al. 2020; Yu 2020; Zourez 2019; Yuliani & Lengkanawati 2017). According to Najeeb (2013), developing LA has an important role in the theory and practice of language teaching and learning. Furthermore, LA aims at providing language students with the ability to take on more responsibility, in and outside of the classroom, for their own learning (Yu 2020; Çakici 2015). However, Reswari and Kalimanzila (2021) posed a question in their study which relates to this current study on whether autonomous learning can be applied to subjects other than language even though the publications related to it are not as predominant as those

expressed in language. Moreover, many subjects are also using LA for their approach to support students' mastery in education.

As the current study looks at the perception of TVET hospitality students' perception on LA it is therefore important to consider other similar viewpoints of research. Current related studies on LA, other than those conducted on the English language including English as a foreign language, are discussed from the perspective of students' perceptions below.

As a means of assessing LA in TVET or polytechnic, studies have focused on developing LA of Portuguese mechanical engineering students. Duarte's (2018) study focused on the relationship between LA and academic achievement and the way it translates to students' perception of autonomy in learning, its characteristics and importance. The results show that students have positive perceptions about their own LA and its importance. A positive moderated statistically significant correlation was found between LA and academic achievement, which is mainly due to the control dimension of LA. Another study using engineering students by Duarte's (2020) research aimed to identify relationships between LA and the progression in the studies cycle, and by doing so, assist to facilitate the adoption of a student-centred learning paradigm. Using a questionnaire, her study results indicate that the development of LA is a non-linear progression and there are periods of stagnation and regression dependent on the demands and challenges placed on student learning, therefore students will need activities that adequately support their learning.

From a methodological approach standpoint, the promotion of LA was measured using quantitative methods (Panagiotopoulou & Manousou 2020; Zaidi et al. 2020; Boggu & Sundarsingh 2019; Crockett, Joshi, Rosenbaum & Suneja 2019; Jilani & Yasmin 2016), qualitative methods (Hannam 2020; Sachdeva 2019), and MM approaches (Cheng, Wong & Lam 2020; Duarte 2018). Using a quantitative methodology, Jilani and Yasmin (2016) analysed the effectiveness of simulation in nurturing LA amongst hospitality management students. In selecting the 40 respondents, using the purposive sampling technique, respondents completed a

closed-ended questionnaire. The findings of the study showed that simulation integrated through innovative and interactive learning scenarios stimulates learning and promotes LA by encouraging teamwork, increasing student motivation, developing communication, and advancing interpersonal and project management skills. Their study also revealed the improvement of students' confidence in collaborative learning and task-based ventures, together with enrichment of workplace skills in multidimensional situations and in a tension-free environment.

Concerning the use of a qualitative study, Hannam's (2020) case study investigates how virtual blogging space seeks to cultivate LA through exploring the perceptions and practices in social LSs. Their study revealed that blogging spaces were effective in fostering LA to some extent, however, students perceived that they did not have much choice or freedom over the content of their blogs, and therefore perceived to have a lack of student empowerment. Furthermore, the findings confirm how the importance of the understanding of the pedagogy by educators may impact on both students' perceptions and practices as well as them using educational environments to their full potential. Sachdeva's (2019) qualitative research design using semi-structured interviews was used to explore students' experiences of LA in mathematics classes. The results showed that students' experiences with LA are limited to the opportunities that are provided by their educators together with perceiving themselves as lacking autonomy. The students showed their willingness to acquire autonomy, suggest change and participate in discussions and decisions concerning their mathematics teaching-learning process, together with their educators.

With a MMs approach, the aim of Crockett et al. (2019) was to provide an empirically based practical framework based on medical students' perspectives through which supervising physicians can attempt to more adequately foster LA. The results of the study indicated that students felt that autonomy is critical to their development and that supervising physicians who promoted involvement with patient care were felt to have a strong positive influence in LA. The Cheng et al. (2020) study aimed at assessing the effectiveness of fostering LA through a series of curriculum changes. The results from using a MMs approach through a questionnaire and semi-

structured interviews revealed that the students' autonomous student characteristics, including the ability to formulate their own learning strategies, identify their weaknesses and take appropriate steps to improve their performance skills.

The theoretical frameworks that were used to investigate LA were the ELT (Zaidi et al. 2020; Boggu & Sundarsingh 2019), self-determination (Van Houwelingen et al. 2021; Großmann & Wilde 2020), transactional distance (Abuhassna, Zakaria, Yahya, Kosnin & Al-Rahmi 2020; Basiel & Howarth 2020; Gavrilis, Mavroidis & Giossos 2020), and work skills development (Bandaranaike, Khampirat, Quijan & Pop 2018) frameworks. Zaidi et al. (2020) conducted their study at an elementary school using a role-play activity. The researchers used an EL scale questionnaire and learner autonomous scale questionnaire in which 118 respondents were selected through simple random sampling. The respondents had to complete the questionnaires after they had completed the activity. The results of their research concluded that the use of EL based teaching enhances LA and is proven effective in improving cognitive ability, authenticity, assurance, and collaboration amongst students. Their study revealed the EL creates a safe, flexible and engaging teaching environment through social interaction, sharing of experiences and reflection. In their study, Boggu and Sundarsingh's (2019) objective was to observe the change in perceptions of business management students on their autonomous behaviour before and after an EL intervention. The findings of the study showed that EL activities implicitly foster LA and enable necessary learning skills for the workplace.

Finally, most current research on LA shows results of what has been done mostly from western (Benson 2021; Saeed 2021; Zhong 2021; Hannam 2020; Little 2020; Moore 2019, 2020; Little et al. 2017) and eastern (Azhiimah et al. 2021; Lubis 2020; Padmadewi et al. 2020; Yu 2020; Zaidi et al. 2020; Thanh 2019) contexts. There is currently a dearth of literature on LA in an African context, especially from a South African perspective. Furthermore, as stated above most of the research has been done to investigate various ways to promote LA in language learning and foreign language and it is difficult to find studies about LA for other subjects (Reswari &

Kalimanzila 2021). Therefore, this study aims to add to the sparse literature on the promotion of LA using PjBL in hospitality education in TVET.

### **2.2.9 South African higher education policy perspective on learner autonomy**

The objective of any educational system in the world is to provide quality education for all students, regardless of educational level and all students deserve nothing less than a quality education and training that will provide them with opportunities for lifelong learning, the world of work and meaningful participation in society as productive citizens (Du Plessis 2013). 'The vision for HE in South Africa has been articulated as the establishment of a single system that would meet the learning needs of all its citizens' (De Kerk & Palmer 2019: 1233).

The CHE is an independent statutory quality council for South African HE that was established in May 1998 in terms of the HE Act, No 101 of 1997. The CHE highlights the importance of recognising and affirming the independence and autonomy of HEIs and 'autonomy of learning' for students (CHE 2002: 8, 49). The CHE (2002: 49) defines autonomy of learning as a:

*Learner's capacity for lifelong learning, i.e. the extent to which a learner can undertake action for learning independently, the extent to which a learner takes responsibility for his/her own learning and the extent to which a learner is self-reflexive about, and can evaluate the quality of, his/her learning, and eventually that of others.*

In an attempt to integrate education and training, the SAQA has developed two concepts to describe the level descriptors of a particular qualification level on the NQF. The first concept is 'applied competence' which has three components: (1) foundational, (2) practical, and (3) reflexive competence (CHE 2002: 48). The second category 'autonomy of learning' is defined the same as provided by the CHE (CHE 2002: 49). The aim is to provide a guide for the development of assessment approaches that assist in the evaluation of a student's ability to integrate knowledge

(SAQA 2005). Level descriptors provide a broad acceptable level of learning, skills and LA for a particular level on the NQF. As an example students completing a learning programme on a NQF level 6 must demonstrate the following autonomy of learning (SAQA 2005: 83):

- 1) A capacity to evaluate their own learning and identify their learning needs within a structured learning environment
- 2) A capacity to take the initiative to address these needs
- 3) A capacity to assist others with identifying learning needs

De Klerk and Palmer (2019) analysed two South African HE policies, namely *The Higher Education Act 101* and the *Education White Paper 3* to explore how LA is expressed in the mentioned policies. In their study, a quote from the *Education White Paper 3: A programme for the transformation of higher education* on 'institutional autonomy' (Republic of South Africa 1997: 8) is provided. When analysing institutional autonomy, De Kerk and Palmer (2019: 1233) state that for one to effectively govern oneself, students in HE should 'act upon themselves' in order to alter their thinking, conduct and way of being. This process is fundamental as it leads to 'independent action and transformation of the self', in an attempt to obtain more 'wisdom about the self'. Therefore, 'through the independent position of the independent action', LA is firmly established. The conclusion to their study indicates that HE policies endorse LA and that students should transform their way of doing things in an attempt to take 'authority, independent action and accountability so that they may enjoy the freedom to regulate their own learning' (De Kerk & Palmer 2019: 1233).

Although the HE policies provide for LA in South Africa, very little has been researched and documented about its implementation at classroom level or whether students demonstrate autonomous learning. Moreover, while policy offers a framework for planning, assessing and evaluating students' autonomous learning at different qualification levels, more information is needed to see whether this is achieved through teaching, learning and assessing students through PjBL.



### **2.2.10 Summary of the conceptual perspectives on what learner autonomy is about**

This section provided a brief background to the origin of the terms autonomy and LA which originated from politics and moral philosophy and was then introduced by Holec into the field of second language teaching and learning. Holec's (1981: 3) definition of LA as 'the ability to take charge of one's own learning', is still widely accepted and used today and was used in this study to define and interpret the main components of LA. An illustration of the components of LA is shown in Figure 2.1 in which a definition for LA was provided for this study as a student's willingness and ability to take responsibility to set goals, plan, implement, monitor and evaluate their own learning with tasks that are constructed in negotiation with and support from the educator.

There are various misconceptions by authors on the meaning and interpretation of LA. It was therefore important to highlight these misconceptions. Furthermore, six approaches to develop LA which are: resource-based, technology-based, learner-based, classroom-based, curriculum-based, and educator-based were discussed. In addition, the purpose of promoting LA amongst students was emphasised together with the constraints that students might be faced with in preventing them from becoming autonomous. Next to last, current theoretical perspectives on LA were reviewed and it was found that LA research in hospitality is lacking. Finally, Section 2.2 concluded with a South African HE policy perspective on LA. Section 2.3 will discuss the theoretical perspectives on what PjBL is about.

## **2.3 CONCEPTUAL PERSPECTIVES ON WHAT PROJECT-BASED LEARNING IS ABOUT**

Section 2.3 will discuss the conceptual perspectives on what PjBL is about. Therefore, it is important to first view the origin of the term PjBL before attempting to understand and interpret it from the view of international scholars. Next, the best practices or guidelines in the successful implementation of PjBL will be debated followed by the use of reflective thinking in the development of skills, then the

challenges that are experienced by students and educators in its application. A comparison of different teaching and learning WIL typologies will be presented to differentiate each pedagogy, followed by the use of PjBL as an approach for skills development. Penultimately, the promotion of LA through PjBL will be emphasised and finally, the section will conclude with a summary.

### **2.3.1 A brief background to the origin of project-based learning**

The roots of PjBL can be traced back to the work of philosopher and educator John Dewey who is regarded as the founder of PjBL by some scholars (Daher 2021; Ghosheh, Najjar, Sartawi, Abuzant & Daher 2021; Krajcik & Shin 2014). Dewey postulates that students will develop a personal investment in learning if they engage in ‘real, meaningful tasks and problems that emulate what experts do in real-world situations’ (Deffor, Adu-Agyem, Amenuke & Sakoalia 2019: 56; Krajcik & Shin 2014: 306). He suggests that students will be successful in learning environments where they can have interaction, both with the curriculum and socially and where they are able to learn through experience (Kwietniewski 2017). His theories on learning promote a lifelong learning approach where learning takes place as students interact in real-life tasks (Daher 2021; Ghosheh et al. 2021). However, other scholars argue that Kilpatrick, a curriculum theorist, is the founder of PjBL (Daher 2021; Roessingh & Chambers 2011). Kilpatrick defines PjBL as “a set of meaningful activities in a social environment that focus on a specific content or on a theme” (Daher 2021: 1; Ghosheh et al. 2021: 2). Therefore, PjBL emphasises learning by doing, problem-solving, experimenting, social skills, teamwork, understanding, collaboration, and taking responsibility.

Blumenfeld, Soloway, Marx, Krajcik, Guzdial, and Palincsar (1991, as cited in Roessingh & Chambers 2011) expanded upon Kilpatrick and posit that PjBL is a comprehensive teaching approach that maintains the potential to motivate and engage students in tasks that support deep learning. To accomplish this, a carefully organised project design, motivating questions and tasks, and the allowance of students to apply control and choice regarding what to do, how to do it, and what outcomes to achieve are considered critical to the learning effectiveness of projects.

Furthermore, Vygotsky advanced PjBL through the social constructivist theory, stating that when students partake in educational projects, they may interact with their peers, ask questions and exchange ideas which assist them to develop skills and acquire new knowledge (Daher 2021; Ghosheh et al. 2021). Therefore, the development of students is better achieved through PjBL than when students only learn by themselves.

### **2.3.2 Towards an understanding and interpretation of project-based learning from international scholars**

Educators around the world believe that PjBL is an important instructional approach that enables students to master content knowledge, develop skills necessary for future success, and build the personal agency needed for life's and the world's challenges (Wilson & Essel 2021; Juliet 2020; High Quality Project Based Learning 2018). PjBL involves an inquiry-based instructional method (Albar & Southcott 2021; Guo, Saab, Post & Admiraal 2020; Kokotsaki et al. 2016) that engages students in 'knowledge construction by having them accomplish meaningful projects and develop real-world products' (Guo et al. 2020: 2), presentations or performances over a given time duration (Albar & Southcott 2021).

These projects usually involve elements of researching a complex problem, question or challenge as an extension of what has already been learned in a class and then presented as a project (Güven & Valais 2014). A collaborative learning environment is formed whereby students are placed in teams or pairs with the supervision of an educator, facilitator or mentor (Budhai & Skipwith 2022; CHE 2011). Krajcik and Shin (2014) report that the PjBL environment has six key elements which are: (1) a driving question, (2) a focus on learning goals, (3) participation in educational activities, (4) engaging through collaboration, (5) scaffolding with the use of learning technologies, and (6) creating a tangible product.

In their engagement with the project, students may encounter problems that need to be addressed in order for them to construct and present the end product in

response to the driving question (Kokotsaki et al. 2016). The educator will interact with the students to guide them to frame meaningful questions, facilitate the conversation of knowledge development, organise tasks, and provide ongoing feedback on what students have learned from their experiences (Budhai & Skipwith 2022; Güven & Valais 2014). Educators and students, therefore, develop an ‘inclusive relationship learning partnership’ amongst themselves (Güven & Valais 2014: 184). This is represented in Figure 2.3.

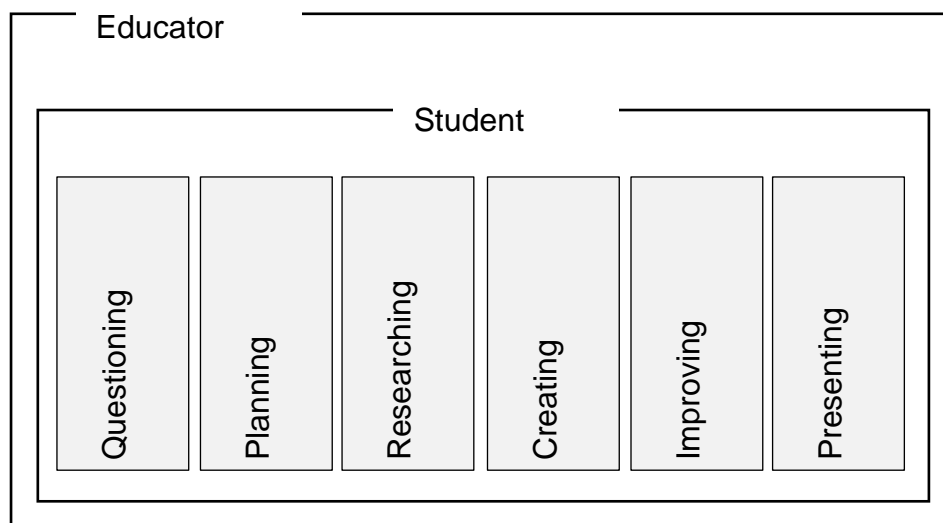


Figure 2.3: The educator and student model for project-based learning  
Source: Adapted from (Budhai & Skipwith 2022)

PjBL is multifariously defined. Brunazzi et al. (2017: 217), and Washburn and Olbrys (2019: 28) define PjBL as a teaching method in which students gain knowledge and skills by working for a period of time to investigate and respond to an ‘authentic, engaging and complex question, problem, or challenge’. Projects are usually based around real-world problems and challenges (Kokotsaki et al. 2016; Krajcik & Shin 2014; CHE 2011), which give students a sense of responsibility and ownership in their learning activities. The Buck Institute for Education posits that PjBL is a dynamic classroom approach in which students actively explore real-world problems and challenges, and students are inspired to obtain a deeper knowledge of what they are learning (Budhai & Skipwith 2022). Whereas Yu, Lee, Yu and Walton (2018) refer to PjBL as an instructional approach that educators use to guide

students through a problem-solving process as a central organising strategy for teaching.

PjBL also refers to learning activities that emphasise student-centredness (Kokotsaki et al. 2016) and merge problems with reality and practices (Ariningsih, Artini & Marsakawati 2021). Cooper, DelliCarpini, Fyfe and Nguyen (2021) and Guo et al. (2020) state that PjBL is an educational technique that uses settings and instructors or community members (i.e. clients), normally as facilitators to assist students to apply their learning to a challenging problem and to learn creative problem-solving within those authentic settings. It includes sponsoring clients' student feedback and reflection on the project as key techniques so that students can transfer the knowledge used in a specific case to other projects that they may encounter (Cooper et al. 2021).

Moreover, in PjBL the role of the student is to investigate significant questions that require them to gather information and think critically (Liu 2019). This allows them to learn through interest and motivation, and by applying new knowledge learned in a problem-solving context (Budhai & Skipwith 2022). Fini et al. (2018) assert that PjBL allows different groups of students to work together to solve practical problems and then present and defend their approaches and solutions. This entails the promoting of intellectual and social development of students. Furthermore, it requires students to actively participate in the process of acquiring knowledge, to improve their communication and interpersonal skills, and enhance their leadership skills and creativity (Fini et al. 2018).

Stirling, Kerr, Banwell, MacPherson and Heron (2016) state that PjBL can take on two forms, it can either be researched or it can be applied. They explain that PjBL is when students design, deliver, manage and evaluate a project that leads to meaningful learning experiences (Kokotsaki et al. 2016). Students therefore need to self-evaluate and reflect on the process of learning and their end project (Van Loi 2017). Shelton-Strong (2018) argues that by providing opportunities for self-evaluation as a means to reflect on both learning and performance, students not only exercise autonomy in doing so, but also take the important first steps towards

the development of metacognitive awareness which can aid in furthering the capacity for autonomy.

Thomas (2000, as cited in Vasiliene-Vasiliauskiene, Vasiliauskas, Meidute-Kavaliauskiene, & Sabaityte 2020) claims that PjBL is often referred to as a philosophy of teaching and learning, rather than an educational strategy. Moreover, PjBL should be seen as an instructional model based on a constructivist approach to learning (Liu 2019), which involves ‘the construction of knowledge with multiple perspectives, within a social activity, allowing for self-awareness of learning in a context-dependent scenario’ (Vasiliene-Vasiliauskiene et al. 2020: 137). Kokotsaki et al. (2016) postulate that PjBL is based on three constructivist principles, (1) students are involved actively in the learning process, (2) learning is context-specific, and (3) they achieve their goals through social interactions and the sharing of knowledge and understanding.

In PjBL, the ‘voice and choice’ of students is fostered through carefully managed and planned instructional benchmarks (Güven & Valais 2014: 184). Güven and Valais (2014) explain that regular formative assessments of these benchmarks assist to guide students along with the progress of the project by encouraging them to dig deeper into concepts learned. For PjBL to be successful, scholars have suggested best practices which will be discussed in the next section.

#### 2.3.2.1 Best practices or guidelines in the successful implementation of project-based learning

There are several best practices or guidelines for successful project work. For instance, Larmer and Mergendoller (2010, as cited in Bates 2019) state that every good project should meet two criteria, namely, (1) students must perceive the work as personally meaningful, as a task that matters, and that they want to do well in, and (2) a meaningful project should fulfil an educational purpose. Larmer, Mergendoller and Boss (2015: 37) designed the Gold Standard Project Based Learning, with seven elements for a successful project, that maximises student’s learning and engagement. These are: a challenging question or problem, sustained

inquiry, authenticity, student voice and choice, reflection, critique and revision, and a public product. They argue that PjBL affords students to deeply learn conventional academic content and understand how it applies to the real world, thereby acquiring multiple skills needed for work and citizenship (Mirah Sertia Dewi 2020). Students go beyond textbook content to explore, collaborate and apply new knowledge into practice through projects (Wilson & Essel 2021; Liu 2019), hence, students get the feeling of authenticity of the content they are studying. High Quality Project Based Learning (2018), Clem et al. (2014) and Carver (1996) all state that for authenticity the students should be able to identify reasons for participating in PjBL activities. It should also provide meaningful experiences within the context of the student's outlook on life.

Moreover, students should present their work to other stakeholders or people, beyond their peers and their educator, as a public product or outcome. Thomas (2000) asserts that one method PjBL can satisfy the authenticity criterion is by developing a product for a relevant audience. Furthermore, the benefits associated with making the project public is that students deliver their best work, and it presents opportunities for feedback. Next, a public outcome makes what students have learned tangible, and it assists students to develop their social and emotional skills by developing their communication, confidence and other competencies (High Quality Project Based Learning 2018; JMC 2018; Thomas 2000).

Kokotsaki et al. (2016: 274) through their review of PjBL recommend six key recommendations for the successful adoption of PjBL. They are:

- 1) **Student support.** Students need to be effectively guided and supported throughout the project.
- 2) **Educator support.** Regular support needs to be offered to educators through regular networking and professional development opportunities.
- 3) **Effective group work.** High quality group work will help ensure that students share equal levels of agency and participation.

- 4) **Balancing didactic instruction with the independent inquiry method.** Students develop a certain level of knowledge and skills before being comfortably engaged in independent work.
- 5) **Assessment emphasis on reflection, self and peer evaluation.** Evidence of progress needs to be regularly monitored and recorded.
- 6) **An element of student choice and autonomy throughout the PjBL process.** This will help students develop a sense of ownership and control over their own learning.

#### 2.3.2.2 Using reflective thinking in the development of student skills through project-based learning

Reflective thinking is a type of inquiry that John Dewey theorised that involves a process of reflecting on one experience and creating connections between these experiences that result in a continuity of meaning (Giuseffi 2021; Orakcı 2021). Learning then results from this. According to Dewey (1933, as cited in Orakcı 2021), in order for reflection to exist, current information needs to be organised, rearranged, and effectively structured and transformed into appropriate behaviour in a solution-orientated way. Reflection is seen as a person's evaluation of the current circumstances based on their experiences, arriving at a new and original conclusion based on their own perspectives by making sense of the circumstances (Orakcı 2021). Studies that have linked the importance of reflective thinking to PjBL are Ar, Palau-salvador, Belda and Peris (2020), Funny, Ghofur, Oktiningrum, Luh and Nuraini (2019), Janse van Rensburg and Goede (2019), and Kim (2019).

PjBL provides students with a real-world justification for actively reflecting on what they are doing, asking for and receiving feedback, and then revising and changing their project to make it better. In PjBL, students collaborate in groups to produce a product rather than something for themselves, so reflections, critiques, and modifications don't just happen between them and the educator at the end of the project. PjBL's essential elements of reflection, critique, and revision should be used at all stages, and not only at the conclusion (AVID 2022). Schön (1983, as cited in Vogelsang, Kulgemeyer & Riese 2022: 3) postulates the relation between reflection



and action and distinguishes between two forms of reflection: ‘reflection-in-action’ and ‘reflection-on-action’. Reflection-in-action means thinking about one’s own actions during the completion of the project, while reflection-on-action means a retrospective, analytic review of actions after the project has been completed. One goal of the latter is to support the generation of alternative ways of acting in the future. Both of these approaches to reflection are widely accepted in education.

In order for educators to evaluate students’ reflections Hatton and Smith (1995) propose a four-level framework set of criteria that is specifically made to identify various types of reflective writing. The four distinct types of writing range from non-reflective writing to critical reflection. Table 2.2 indicates the four-level reflective writing framework with the criteria for each type of reflective writing.

Table 2.2: Types of reflective writing according to Hatton and Smith (1995)  
Source: (Donohoe, Guerandel, Neill, Malone & Campion 2022)

	<b>Types of reflective writing</b>	<b>Criteria</b>
1	Descriptive (technical) writing	Not reflective. Description of events that occurred/report of literature. No attempt to provide reasons/justification for events.
2	Descriptive reflection	Reflective, not only a description of events but some attempt to provide reasons/justification for events or actions but in a reportive or descriptive way.
3	Dialogic reflection	Demonstrates a ‘stepping back’ from the events/actions leading to a different level of mulling about, discourse with self and exploring the experience, events and actions using qualities of judgements and possible alternatives for explaining and hypothesising.
4	Critical reflection	Demonstrates an awareness that actions and events are not only located in, and explicable by, reference to multiple perspectives but are located in, and influenced by multiple, historical and socio-political contexts.

Hatton and Smith's (1995) reflective writing framework is a widely accepted and used framework within education literature (Donohoe et al. 2022). The first level of writing is descriptive, where the reflective writing gives a plain narrative of the relevant project while maintaining descriptive elements and outlining the context, but without taking into account or challenging any aspect. In the second level of descriptive reflection, the reflective writing is primarily descriptive in nature, but it also contains some analysis of the events. Dialogic reflection is the third level of reflective writing. In this mode, there is a sense that the person is taking a step back from the project and that they are thinking about and discussing the events from various angles. There is also evidence that the person is building on earlier EL and drawing connections between events.

The most in-depth level of reflection is critical reflection, and this reflective writing will present information where the reader can take a metacognitive stance and step back from the project. The reflection will be self-questioning and take into account their prior experience in light of the project. The narrative discourse will be used, and they will consciously frame the problem within the larger social, cultural, historical, or political context in which it is framed (Vogelsang et al. 2022; İlin 2020; O'Leary 2013; Hatton & Smith 1995). Both the İlin (2020) and Funny et al. (2019) studies found that students wrote their reflective writings in a descriptive tone rather than in a reflective manner. As a result, Funny et al. (2019) state that lecturers and learning activities continue to be crucial in assisting students in improving their capacity for reflective thinking skills.

It is not only important to understand the best practices and guidance in the successful implementation of PjBL, as well as reflective thinking in PjBL, but one should also consider the challenges thereof. The next section discusses the challenges in the application of PjBL from the perspective of both the students and educators.

### 2.3.2.3 Factors that impede the application of project-based learning from the perspective of students and educators

To any teaching methodology, there are drawbacks. The main danger with PjBL is that the project can take on a life of its own, with not only students but the educator losing focus on the key essential learning objectives, or that the important content areas may not get covered. We will first look at the challenges experienced by students.

#### (i) Factors that impede the application of project-based learning from the perspective of students

The factors that impede the application of PjBL within the curriculum, from the perspective of students, are mainly associated with collaborative groups and assessments (Wilson & Essel 2021). Several scholars have listed the challenges as follows (Wilson & Essel 2021; Guo et al. 2020; Aldabbus 2018; Kokotsaki et al. 2016; Mansor et al. 2015):

- 1) Time limitations for team meetings and the time allocated to complete projects. For some scholars, PjBL is a highly time-consuming learning pedagogy that requires great attention to detail.
- 2) Team members' lack of commitment to the project.
- 3) The constitution of team members. Some students do not possess the maturity of adults and therefore have to learn how to work collaboratively as a team, value diversity and respect each other.
- 4) Students who lack the skills of working in teams or as a group may face challenges in working collaboratively.
- 5) Some students dominate the work and do not allow their peers, in the team, to take an active role in the project, while other high achieving students want to direct the project according to their interests.
- 6) Some students are passive during the project and expect other team members to complete all the tasks for the project.

- 7) A lack of technological devices in searching for information. Some students do not have electronic devices or do not have access to technology which forms a barrier when searching for information to share with members of their team.
- 8) The pace of some students is faster than others and they focus rather on finishing than learning from the project.
- 9) A lack of motivation to complete the project or complete tasks, or for teamwork.

Next, I will discuss the challenges experienced by educators when implementing PjBL.

- (ii) Factors that impede the application of project-based learning from the perspective of the educator

The successful implementation of PjBL lies with the educator's ability to effectively scaffold students' learning, motivate, support and guide them, however, educators do face challenges with PjBL (Kokotsaki et al. 2016). Challenges that may be experienced by the educator in the implementation of PjBL are: (1) educators cannot decide which topic or unit in the textbook should be taught by PjBL, (2) implementing the project within the timeframe of a set schedule allocated by the syllabus or educational institution (Mansor et al. 2015), (3) educators not confident in designing, applying, managing and assessing PjBL (Aldabbus 2018), (4) creating a culture of collaboration and teamwork, (5) adjusting from a directive to a facilitative role, and (6) scaffolding student learning (Bradley-Levine & Mosier 2014). Other challenges to the implementation of PjBL include the following: project planning is time-consuming, classrooms sometimes feel disorderly, and authentic assessments are difficult to design and implement (Vasiliene-Vasiliauskiene et al. 2020). Therefore, PjBL needs careful design and monitoring by the educator for it to be used as an effective pedagogical tool (Bates 2019).

A comparison of the different WIL typologies namely WDTL, PBL, PjBL and WpL will be illustrated in this section.

### **2.3.3 A comparison of teaching and learning work-integrated learning typologies**

From the many WIL approaches mentioned in the *Work-intergrated learning: Good practice guide*, the CHE (2011) concentrates on the following main curricular modalities in developing WIL programmes, namely: WDTL, PBL, PjBL and WpL (Table 2.3).

Table 2.3: A work-integrated learning typology

Sources: Adapted from (Maseko 2018; CHE 2011)

<b>Curricular modality</b>	<b>Work-directed theoretical learning</b>	<b>Problem-based learning</b>	<b>Project-based learning</b>	<b>Workplace learning</b>
Definition	WDTL involves an attempt to ensure that theoretical forms of knowledge are introduced and sequenced in ways that meet both academic criteria and are applicable and relevant to the career-specific components.	PBL is a term used within HE for a range of pedagogic approaches that encourage students to learn through the structured exploration of a research or practice-based problem.	PjBL combines PBL and WpL in that it brings together intellectual inquiry, real-world problems, and student engagement in relevant and meaningful work.	WpL is considered to be a valid learning experience for students in many HE programmes. Most professional training programmes include a practicum, which can vary from a few weeks to a few years of practical experience at a site of professional practice.
Terms and practices associated with the curricular modality	Classroom-based instruction, lecture, tutorial, peer learning groups.	Sequenced real-world problems, integrated learning, discovery learning, self-directed learning, peer learning groups.	Industry project, real-world learning, guided practice, capstone modules	In-service work placements, cooperative education, practicum work-based learning, 'Sandwich' courses, apprenticeships, internships, traineeships.
Examples	Career-focused courses and curricula (e.g. maths for engineering,	Work simulated problems, case studies	Study visit, site visit, job shadowing, authentic tasks and texts,	Learning contracts, work record books, learning logs, journals,

	communication for business), guest lecturers (e.g. from industry), authentic examples, workplace assessors.	and scenarios, team learning.	fieldwork, interviews, teamwork, service learning, integrated trans- or inter-disciplinary projects.	mentoring, specific training, learning portfolios.
Sites of learning	Lecture theatre, classroom, laboratory, studio, websites blogs.	Classroom, laboratory, group sessions, library, electronic media.	Multiple sites: classroom and workplace, laboratory and workplace, etc electronic media.	Workplace and classroom (for preparation and reflection) electronic media.

According to Maseko (2018), educators and curriculum designers are expected to design appropriate curricula inclusive of the different types of WIL typologies, as shown in Table 2.3, that are appropriate to the subject contents. The curricula must align teaching and learning with the programme and syllabus outcomes. Furthermore, the assessment practices should also be aligned with the intended outcomes.

#### **2.3.4 How can project-based learning, as an approach, be used for skills development?**

UNESCO (2016b) states that education and training are crucial to the achievement of the 2030 Agenda. The *2030 Agenda for Sustainable Development* was adopted in September 2015 in which the international community recognised that education was essential for the success of all 17 Sustainable Development Goals (SDGs) (UNESCO 2021b). SDG4, known as *Education 2030*, aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UNESCO 2016a,b, 2021b; Lim & Wang 2017). Quality education necessitates that students develop their higher-order skills (Green 2020; UNESCO 2016b) and acquire relevant knowledge, skills and competencies (UNESCO 2016a, 2021c) for students' readiness to work. UNESCO (2021a) defines quality education as specifically involving issues such as appropriate skills development, provision of relevant educational institution infrastructure, gender parity, equipment, educational materials and resources, scholarships and teaching force.

UNESCO (2021b) argues that changes within the economy and labour market, that are affected by globalisation and internationalisation, are essential driving forces for the need for 21<sup>st</sup>-century skills and competencies. These skills or competencies are listed as: ICT literacy, collaboration, social and/or cultural competencies (including citizenship), creativity, critical thinking, problem-solving (Albar & Southcott 2021; UNESCO 2021c; Rios, Ling, Pugh, Becker & Bacall 2020), leadership and social skills (Ghafar 2020). Rohm, Stefl and Ward (2021) mention in their study the importance of meta-skills (Sreehari 2021) which are critical to the future success of students entering the workforce. They define meta-skills as generalisable skills that include analytical thinking, creative problem-solving, teamwork, interpersonal



relations, communication, self-awareness and emotional intelligence (Sreehari 2021). They also describe technical skills which are the 'how to' skills (Rohm et al. 2021: 205), while Vogler, Thompson, Davis, Mayfield, Finley and Yasserli (2018) refer to soft skills (Sreehari 2021) and hard skills that are needed for employment. According to Shereni (2020), soft skills refer to the knowledge and attitudes needed to apply hard skills which are the technical skills or competencies needed to perform the work in the workplace. A large number of studies and authors have identified the need for graduates to attain and develop essential skills for future employment (Albar & Southcott 2021; Mohamed, Mohd Puad, Rashid & Jamaluddin 2021; Mukan et al. 2021; Rohm et al. 2021; Shariff 2021; Sreehari 2021; Wilson & Essel 2021; Rios et al. 2020).

PjBL provides opportunities in classrooms for student-centred pedagogies and deep learning that assists 21<sup>st</sup>-century teaching and learning skills needed for student success (Albar & Southcott 2021) as well as for employment. Students gain and practice these skills through PjBL which are difficult to acquire through traditional methods of teaching alone (Wilson & Essel 2021). Ghosheh, Najjar, Sartawi, Abuzant and Daher (2021) argue that PjBL is consistent with theories, such as the social constructivist theory, in which students build knowledge when socially placed and through the interaction and collaboration with others under the guidance of an educator. Educators should therefore provide learning environments that allow students to take responsibility for their own learning. They further state that PjBL does provide for such conducive environments, where students take responsibility for their own learning and learn to develop their skills through the undertaking of projects (Ghosheh et al. 2021; Wilson & Essel 2021; Shpeizer 2019). Students learn to be more independent and accountable for their work. If students do not follow through with their responsibilities for their peers or for the team, they will then experience greater consequences than if they only had a responsibility towards their educator (Kwietniewski 2017).

Studies found that students learn through social interaction when working in teams, and through the collaboration of shared knowledge when solving problems and challenges, thereby developing skills (Collins-Nelsen, Koziarz, Levinson, Allard, Verkoeyen & Raha 2021; Ghosheh et al. 2021; Ghafar 2020; Perry, Braren, Rincón-

Cortés, Brandes-Aitken, Chopra, Opendak, Alberini, Sullivan & Blair 2019). Collins-Nelsen et al. (2021) and Ghosheh et al. (2021) argue the importance of the social context of EL opportunities in shaping skills development and thereby reducing the gap between knowledge and skills. Collaborative learning, which is the cornerstone of PjBL, is seen to enhance the quality of knowledge and the development of skills which leads to positive results for students (Almulla 2020). Furthermore, the creation of products through PjBL is important as it assists students to integrate and reconstruct their knowledge, discover and improve their skills and increase their interest in the discipline and the ability to work with others. Thus the final product achieved by students is an expression of the various competencies that they developed during PjBL (Guo et al. 2020).

A review by Ralph (2016) of 14 studies that adopted PjBL revealed that PjBL increased the development of students' knowledge and skills. Furthermore, the Guo et al. (2020) review stated 37 reports where students reported their perception on their improvement of content knowledge and skills. Therefore it can be stated that the PjBL approach has the capacity to create learning conditions that expand the knowledge and skills of students required for the 21<sup>st</sup> century (Almulla 2020).

### **2.3.5 How can learner autonomy be promoted through project-based learning?**

PjBL is one of the learning approaches which is assumed to promote LA (Pham 2021; Mirah Sertia Dewi 2020; Rostom 2019; Yuliani & Lengkanawati 2017). Studies on PjBL in the traditional classroom approach (i.e. HEIs that offered programmes through F2F contact) showed positive results in using PjBL as an EL tool to bridge the gap between theory and practice and thereby promote LA (Yuliani & Lengkanawati 2017). Three separate studies that also focused on students' perceptions of promoting LA through the use of PjBL pedagogy, will be discussed in detail.

The first is the study by Marsevani (2021) who used a descriptive qualitative research approach to investigate students' perceptions and practices of understanding educators' teaching objectives and requirements related to

autonomous learning, setting-up of objectives and study plans for autonomous language learning, and finding out students' perceptions in learning English autonomously. This research took place at a private university in Batam where 64 respondents were solicited to complete an online questionnaire to gain their perceptions of LA, and to also participate in an online interview. This research concluded that there were some constraints reported by students i.e. that students still needed guidance from the educator, and that they were concerned with the educator's class activity in the teaching and learning process. However, more positive responses were shown by students. The students were positively disposed to LA in theory and most of the students were familiar with LA.

Several suggestions were made by the author. The educator should pay attention to classroom activities by making them interesting for students so that they may be more enthusiastic in learning English. Then, although students may choose and adapt resources, the educator's role is still to guide students to find their appropriate learning strategies.

The second study, reported by Van Loi (2017) aimed to report on the impact of PjBL in teaching English skills to second-year students and on the LA of students in an English Language Teacher Education programme. This study used a self-assessment questionnaire on LA as a pre-test and post-test on 50 respondents as well as two group interviews. The results revealed that students gained a higher degree of LA after participating in PjBL. However, the researcher reports that the gain was largely due to increased self-decisions on learning, and that some aspects of LA, namely self-regulated learning actions, attitudes to social interaction, and self-responsibility remained unchanged.

Van Loi (2017) states that careful thought should be made when educators integrate PjBL into a learning programme. He further states that PjBL has little effect on students' learning skills and behaviours, but it does enhance students' intrinsic motivation. He suggests that educators need to train students in learning skills, especially self-regulated skills and should allow them to exercise these during the process of learning by doing. Moreover, the ability for students to take control of their own learning takes time to develop and this can take place through having

more projects that foster LA on the programme He also states that intensive training and opportunities to exercise this are essential to developing LA.

Thirdly, a study conducted by Mirah Sertia Dewi (2020) aimed at investigating the effect of PjBL on students' speaking skills using a post-test control group of 82 students randomly selected. The researcher used a scoring rubric test which was used to measure the degree of the students' speaking skills, after the implementation of PjBL, as well as a Likert scale questionnaire. The study showed a significant difference between students who were taught using PjBL and those who were taught through the conventional teaching and learning method. Furthermore, there was also a correlation between PjBL and LA where students with higher LA that was taught through PjBL showed higher levels in skills development than the conventional method.

The research found an interactional effect between PjBL and LA particularly on students' speaking skills. However, there was no significant difference in skills development of students with low LA who were taught by using PjBL versus those who were taught by using the conventional method. Therefore, the study proved that students who have high LA are able to achieve higher scores than the students who have low LA. Furthermore, students who have high and low LA in a conventional teaching and learning method group received a lower score than the students who were taught by using PjBL. Finally, the results mean that PjBL is important to improve LA.

### **2.3.6 Summary of the conceptual perspectives on what project-based learning is about**

Firstly, a brief background to the origin of PjBL was presented. PjBL is understood to be a student-centred learning pedagogy that enables students to master content knowledge, develop skills necessary for future success, and build on personal agency needed for life's and the world's challenges. Projects incorporate various key elements that are used to answer complex problems or questions through the facilitation of an educator, facilitator or mentor. Although PjBL is a well-regarded teaching and learning pedagogy by scholars through best practices, many

challenges are still experienced by students and educators in both its implementation and application.

Furthermore, this section looked at the comparison of teaching and learning work-integrated learning typologies namely WDTL, PBL, PjBL and WpL. This was followed by a discussion of the use of PjBL as an approach to develop work-readiness skills amongst students to prepare them for the workplace and attain the *Education 2030* goals as agreed upon at the *2030 Agenda for Sustainable Development*. Lastly, this section reviewed current studies on promoting LA through the use of PjBL as a teaching and learning pedagogy. The next section will discuss teaching and learning in hospitality education in TVET.

## **2.4 THE ESSENCE OF TEACHING AND LEARNING IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING**

Section 2.4 will discuss the conceptual perspectives regarding teaching and learning in hospitality education in TVET. Therefore, it is important to first view the origin of the term TVET before attempting to understand and interpret it from the view of international scholars and then from a South African perspective. Next, the section will discuss hospitality education in TVET followed by the factors that impact on WpL by students and educators. Lastly, an overview of the two subjects that were used in this study CTP N6 and HS L3 will be described. The section will conclude with a summary.

### **2.4.1 Towards an understanding of the term technical and vocational education and training from an international perspective**

There has been a growing area of interest in TVET internationally. The word TVET was officially used in 1999 at the World Congress of TVET which was held in Seoul, Korea where TVET was stressed as a necessity in preparing the youth for the challenges ahead and to encourage and equip them to take an active role in the world of the 21<sup>st</sup> century (Kayode, Noordin & Wahid 2020; Warman & Halim 2015). It was acknowledged that the word TVET was generic enough to include different terms that had already been used to describe parallel elements of the field,

educational and training activities (Azeem & Omar 2019). Alternative international terms used for TVET are Vocational and Technical Education and Training (VTET), Vocational Education and Training (VET), Vocational and Technical Education (VTE), Technical and Vocational Education (TVE), Further Education and Training (FET), or Career and Technical Education (CTE). Within the context of this study, all the above terms will relate to TVET.

UNESCO defines TVET as those aspects of the educational processes involving, in addition to general education, the study of 'technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic and social life' (Nooruddin 2017: 131). The OECD describes TVET as education and training programmes containing both knowledge (i.e. theoretical understanding) and practical training, designed for, and typically leading to a particular job or type of job (Field, Hoeckel, Kis & Kuczera 2009) while the European Union Commission defines it as the training of skills and teaching of knowledge related to a specific trade, occupation or vocation in which students or employees wish to participate (Eurostat 2017). The African Union Commission explains TVET as all aspects of training and skills development of all cadres, whether formal, non-formal, or informal (African Union 2018). TVET is further identified (Warman & Halim 2015: 70; UNESCO 2003: 7) to be:

- 1) An integral part of general education
- 2) A means of preparing for occupational fields and effective participation in the world of work
- 3) An aspect of lifelong learning and the preparation for responsible citizenship
- 4) An instrument for fostering environmentally sound sustainable development
- 5) A method of facilitating poverty alleviation

*Education 2030* dedicates a large degree of attention to TVET skills development through access to affordable quality TVET; the acquisition of TVET skills for employment, decent jobs and entrepreneurship; and the elimination of gender disparity and ensuring access for the vulnerable (UNESCO 2016a). According to UNESCO (2016a), the core role of TVET is envisioned to address the numerous demands of an economic (Kuehn 2019), social and environmental nature by

assisting youth and adults in developing the necessary technical and vocational skills. Shereni (2020) adds that it also ensures that the labour market is continuously supplied with a skilled workforce that supports the economy. UNESCO has therefore developed a clear direction of how TVET must partake in a transformative approach to development, and states that credible and comprehensive skills systems can be constructed to support individuals, communities and organisations to produce and maintain enhanced and just livelihood opportunities (McGrath et al. 2020).

There is an escalating expectation that TVET is required to focus on developing motivated, well-trained, higher-order skills, industry-responsive and a globally competitive labour force that is needed in a globalising world (Azeem & Omar 2019). It also ensures inclusive and equitable quality education and promotes lifelong learning, which increases the quality of life of individuals in the 21<sup>st</sup> century (Kayode et al. 2020; Azeem & Omar 2019; UNESCO 2016a; Warman & Halim 2015). Afeti (2020) argues that the belief of employability accepts that the skills need of the labour market should drive training provision. However, this is not always the case at many TVET institutions or with the TVET curriculum as there is still a mismatch between training and the labour market on the demands for skills and competencies (Shereni 2020; Onyuna 2019; African Union 2018; Ndlovu & Nyane 2018; Nicolaidis 2015). Azeem and Omar (2019) and Obwoye and Kwamboka (2016) posit that TVET programmes have existed for decades and are well recognised and sustained in developed countries. Developed economies enjoy abundant freedom and flexibility in their educational systems due to advanced technology. They state that the physical development of a nation is greatly influenced by skills adopted by their community derived from the existing educational systems. Many countries have enhanced their development by fostering well-organised and linked TVET systems.

#### **2.4.2 Technical and vocational education and training from an African perspective**

In Africa, there is a growing problem with youth unemployment. According to Afeti (2020) there is a large number of young Africans, who are often poorly skilled or

lack the skills employers want, who are searching for work in local employment markets. Without work-related skills, youth and adults cannot benefit from employment opportunities (African Union 2018). Well-functioning TVET systems are seen as best suited to train the unemployed and employed workforce which Africa requires to address its socio-economic development challenges. Until recently, TVET has not acquired the deserved recognition in the human resource development strategy of many African countries. Furthermore, low financial allocation to the TVET subsector has meant that the funding is insufficient to train students to the desired standard of competence i.e. of the education budget only 11% in Mali, 1% in Togo and 3.7% in Ghana (in 2014) was allocated to TVET. However, numerous governments have accepted the role of TVET in national development and the roll-out strategies to develop the skills of the youth and adults to support economic growth and industrialisation (Afeti 2020; Olowoyo et al. 2020; African Union 2018).

According to African Union (2018) TVET delivery in Africa can be divided into three broad categories: (1) public technical and vocational institutions belonging to the state, (2) private vocational training institutions, and (3) traditional apprenticeships. Generally, there are no common set standards that cover the three types of structures of TVET. At some private educational providers, certificates and diplomas are issued to graduates that do not conform with national standards. Thus, fragmented delivery structures of TVET in Africa pose severe implications for the quality of standards, training and comparability of qualifications issued and these undermine the image of TVET.

Many African states have now developed policies, strategies and legal frameworks aimed at reforming and strengthening their TVET systems. The African Union (2018) has also developed the *Continental Strategy for Technical and Vocational Education and Training (TVET) to foster youth unemployment* and constituted a TVET expert group to support the adoption and implementation of the TVET strategy by member states. One such country is South Africa. An overview of TVET within the South African context is discussed in the next section.



### **2.4.3 Towards an understanding of technical and vocational education and training from a South African perspective**

The South African government has identified HE as being central to social and economic growth (Bolton & Blom 2020). The importance of skills development is emphasised in the Skills Development Act No. 97. The Skills Development Act was implemented in 1998 'to provide an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce', and to integrate those strategies within the NQF contemplated in the SAQA Act No. 58 of 1995 (Republic of South Africa 1998: 2).

According to Terblanche and Bitzer (2018), the South African TVET college sector was established in 2002 in terms of the FET Act 98 of 1998. The merger process transformed 152 former technical colleges (both state and state-aided) into 50 multi-site TVET colleges (Terblanche & Bitzer 2018) which are overseen by the DHET. The DHET's primary objective is to develop policy, norms and standards that will develop well-educated, competent and skilled citizens who can compete in a sustainable, diversified and knowledge-intensive international economy, which caters towards the development goals of South Africa (National Government of South Africa 2021). The DHET (2014) has set, as a high priority, the aim of strengthening and expanding the public TVET colleges and turning them into attractive educational institutions. However, TVET institutions are viewed as the second-best option by both young people and parents (Kuehn 2019; Abrahams et al. 2018; Afeti 2018; Alexander & Masoabi 2017; Hang, Kaur & Nur 2017) in comparison to public or private HEIs such as universities, universities of technology, or public or private colleges. TVET is also seen as a qualification for students who are 'less academically gifted' or who struggle academically, also taking into consideration that the entry requirements at TVET institutions are lower than those at general education institutions i.e. universities (Shereni 2020: 8).

TVET, at TVET colleges, incorporates two different systems: the first being the Report 191 or NATED programmes which are regarded as tertiary education, and the second is the NC(V) which is regarded as a secondary school education (Kuehn

2019). Figure 2.4 indicates the two systems that can be chosen by persons wishing to register at TVET institutions at tertiary and secondary levels.

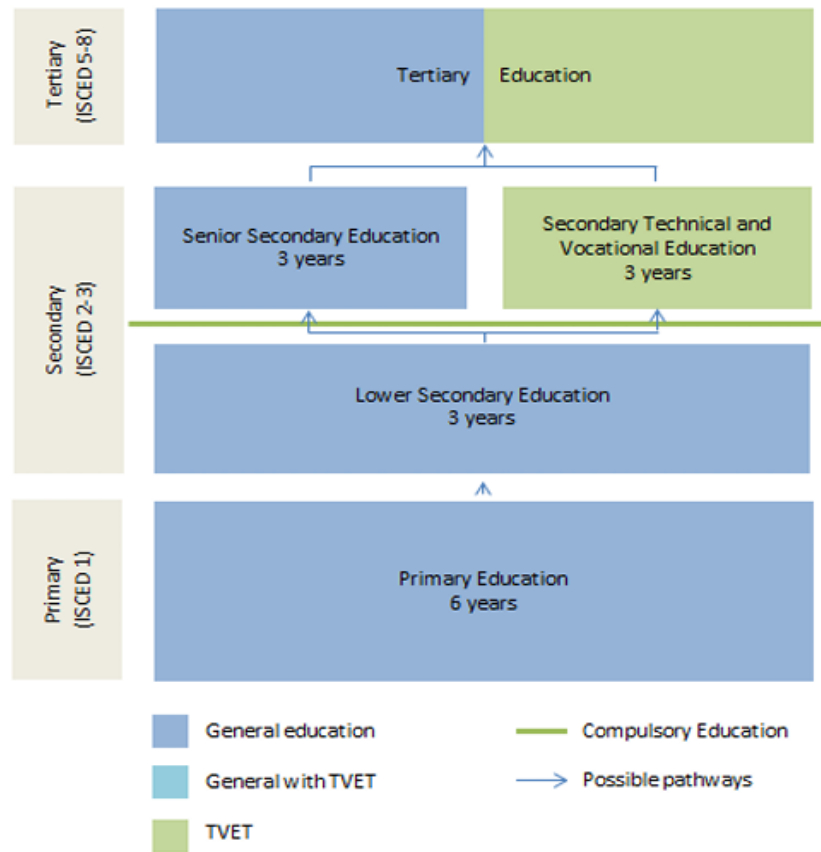


Figure 2.4: Formal educational system in South Africa

Source: (UNESCO 2015: 8)

All formal TVET qualifications must be registered on the South African NQF. A brief overview of the NQF will be discussed in Section 2.4.3.1.

### 2.4.3.1 The South African National Qualifications Framework

The NQF Act No. 67 in 2008 instituted the NQF, as a single integrated national education system, and as a set of guidelines and principles by which records of student achievements are captured. This ensures national recognition of acquired knowledge and skills. The NQF is a comprehensive system that retains DHET approval for the classification, registration, publication and articulation of quality-assured national qualifications (SAQA 2014). It comprises three differentiated and

articulated NQF Sub-Frameworks: (1) the General and Further Education and Training Qualifications Sub-Framework (GFETQSF), (2) the Higher Education Qualifications Sub-Framework (HEQSF), and (3) the Occupational Qualifications Sub-Framework (OQSF) (Bolton & Blom 2020). The CHE oversees the HEQSF, the QCTO, the OQSF, and Umalusi the GFETQSF. A representation of the South African NQF is shown in Table 2.4.

Table 2.4: Representation of the South African National Qualification Framework

Source: (Bolton & Blom 2020: 21)

Level	Sub-Frameworks and qualification types			
10	HEQSF (CHE)	Doctoral Degree	*	OQSF (QCTO)
9		Master's Degree	*	
8		Bachelor Honours Degree Professional Degree Postgraduate Diploma	Occupational Certificate	
7		Bachelor's Degree Advanced Diploma	Occupational Certificate	
6		Diploma Advanced Certificate	Occupational Certificate	
5		Higher Certificate	Occupational Certificate	
4		National Certificate	Occupational Certificate	
3	GFETQSF (Umalusi)	Intermediate Certificate	Occupational Certificate	
2		Elementary certificate	Occupational Certificate	
1		General Certificate	Occupational Certificate	

Both the NATED and NC(V) learning programmes must be accredited by the quality assurance bodies and registered on the NQF. Therefore, the NATED programmes are registered on the OQSF, and NC(V) programmes are registered on the GFETQSF. Programme accreditation, for public HEIs, does not lapse but it does undergo a periodic review, however, if 50% of the programme changes then a re-accreditation is needed (Bolton & Blom 2020). SAQA coordinates all three NQF Sub-Frameworks and is responsible to advise the Minister of Higher Education, Science and Innovation on NQF matters and must oversee the implementation of the NQF and ensure that the NQF objectives are achieved (SAQA 2014). The present study focuses on both NATED (tertiary-level) and NC(V) (secondary level) hospitality education, therefore an overview of both levels in TVET will be described.

#### 2.4.3.2 What are the technical and vocational education and training national accredited technical education diploma and the national certificate (vocational) qualifications about?

The NATED programmes date back to the National Education Policy Act No. 27 of 1996 and were phased out in 2009 when they were partly replaced with leadership. However, they were reinstated due to criticism from industry and business by the ministry regarding the employability of NC(V) graduates (Kuehn 2019). In TVET, the concept of 'curriculum' is seen as a composition of structured theoretical, practical and WpL components for the NATED (Terblanche & Bitzer 2018: 106) and theoretical and practical for NC(V). The new NC(V) curriculum was introduced in January 2007 that gave students an industry-focused vocational alternative to the academic grades 10 to 12 offered by senior secondary schools (Buthelezi 2018). According to Buthelezi (2018: 3), NC(V) sought to overcome outdated divisions between academic and vocational education, and training and is characterised not by the 'vocationalisation' of education, but by a sound foundation of general knowledge, combined with practical relevance. Terblanche and Bitzer (2018) and DHET (2014) state that the curriculum must be kept relevant to the needs of the labour market through consistent industry consultation, research, reviews in and support for curriculum development.

The NC(V) level 4 and the NATED qualifications are viewed as 'bridging qualifications' into HE studies (Bolton & Blom 2020: 25). However, although the NC(V) level 4 qualifications are officially university entry qualifications, there has been little take-up by universities in this regard. The NATED qualifications have long bridged into tertiary-level studies at universities of technology (Bolton & Blom 2020).

##### (i) The national accredited technical education diploma qualification

According to DHET (2011), the NATED programmes refer to Report 191 and the N1 to N6, programmes that were developed for what was previously known as technical colleges. The entry requirement for prospective students wanting to register within the NATED programme is a NC(V) level 4 or a National Senior Certificate (NSC) (grade 12), which is known as matriculation or matric, with no

additional requirements specifying a specific symbol or grade in any subject (Olowoyo et al. 2020). This admission requirement is different from general HE where the results from NSC indicate at which level the students can apply i.e. pass with admission in a higher certificate or bachelor. Olowoyo et al. (2020), and Declercq and Verboven (2018) argue that the admission policy should be reviewed and re-designed which will, in turn, reduce the unsuccessful rate or non-completion of qualifications. To acquire a NATED diploma students should complete 2000 hours or 18 months of on-the-job experience over and above the 18 months of theoretical studies in classes (Kuehn 2019; DHET 2011).

(ii) The national qualifications (vocational) qualification

According to Kuehn (2019), at the completion of grade 9 students have an option to stay in secondary schooling until grade 12 and will complete secondary schooling with a NSC or alternatively, they may continue with vocational education at TVET colleges and receive an NC(V) qualification. Persons may also apply to attend NC(V) if they have completed grades 10 to 11 or have not completed their grade 12. The NC(V) is offered from level 2 to level 4 of the NQF and students must start at level 2 even though they have obtained a grade 10 or 11.

The NC(V) programmes are designed to provide both theory and practical experience in various vocational fields (DHET 2011). The practical component of the study may take place in a simulated environment or the workplace. However, Kuehn (2019) posits that it is not a requirement in the NC(V) curricula that students must complete WpL. The structure of the NC(V) programmes is a combination of three compulsory subjects (language, mathematics or mathematical literacy, and life skills and computer literacy) and four vocational subjects that are dependent on the programme that students are registered in. Moreover, to acquire a NC(V) qualification, students must comply with the exit-level outcomes stipulated in the National Education policy on the NC(V) level 4 of the NQF (Umalusi 2013).

#### **2.4.4 Teaching and learning of technical and vocational education and training in hospitality education**

The hospitality industry is highly competitive, complex, labour intensive, and it is characterised by excellent service quality (Olowoyo et al. 2020; Shereni 2020). Hospitality employers expect graduates to have acquired the necessary academic knowledge and employable skills and competencies when applying for positions within the industry (Olowoyo et al. 2020; Adeyinka-Ojo 2018). TVET plays an important role in ensuring that students are exposed to such skills (Shereni 2020). To obtain these employable skills the TVET hospitality NATED and NC(V) curricula have integrated practical activities i.e. PjBL, PBL (Kayode et al. 2020), practicals (i.e. culinary skills, food and beverage service skills, cocktail making skills and so on) while students are either completing their 18 months of theoretical studies for the NATED programme or three years within the NC(V) programme. These practical tasks are normally assessed and form part of the ICASS. Within the NC(V) hospitality programme, the syllabus makes provision for an ISAT task for each subject. The ISAT task draws on the student's cumulative learning throughout the year of study and takes place in a simulated or structured environment that assesses the student's ability to apply acquired knowledge (DHET 2020). On the NC(V) hospitality programme students do not need to complete WpL.

Following the NATED hospitality theoretical studies, students need to complete WIL in the form of WpL of 18 months or 2000 hours of working practice before they are awarded their N6 qualification certificate. WpL, which is a requirement for the Hospitality and Catering N6 programme, is one of the three components in the TVET syllabus for NATED. The first component is the theory, the second component is practical tasks, and the third component is workplace experience (DHET 2018). However, WpL is not a requirement for NC(V) hospitality and therefore the syllabus only has two components. According to Kayode et al. (2020), the incorporation of EL into the TVET hospitality programme contributes to the meaningful and effective development of students and society. The outlay of both NATED Hospitality and Catering Services and the NC(V) Hospitality curriculum is tabled in Table 2.5.

Table 2.5: The national accredited technical education diploma and the national qualifications (vocational) qualifications curriculum

<b>Programmes</b>			
<b>NATED Hospitality and Catering Services</b>		<b>NC(V) Hospitality</b>	
<b>Levels</b>	<b>Subjects</b>	<b>Levels</b>	<b>Subjects</b>
Introductory food services N4	<ul style="list-style-type: none"> <li>• Intro communication</li> <li>• Intro catering theory and practice</li> <li>• Intro service techniques practical</li> <li>• Intro hygiene and safety</li> </ul>	Level 2 - 4	<ul style="list-style-type: none"> <li>• English first additional language</li> <li>• Mathematical literacy</li> <li>• Life orientation</li> <li>• Hospitality generics</li> <li>• Client services and human relations</li> <li>• Food preparation</li> <li>• Hospitality services</li> </ul>
N4	<ul style="list-style-type: none"> <li>• Applied management</li> <li>• Catering theory and practical</li> <li>• Nutrition and menu planning</li> <li>• Sanitation and safety</li> </ul>		
N5	<ul style="list-style-type: none"> <li>• Applied management</li> <li>• Catering theory and practical</li> <li>• Entrepreneurship and business Management N4</li> <li>• Food and beverage</li> </ul>		
N6	<ul style="list-style-type: none"> <li>• Applied management</li> <li>• Catering theory and practical</li> <li>• Computer practice N4</li> <li>• Communication and human relations</li> </ul>		

Although the NATED programme has WpL coupled to its syllabus, various factors impact its effectiveness. These factors will be discussed in the next section.

#### 2.4.4.1 What factors impact the national accredited technical education diploma students when completing their workplace learning?

WpL normally takes the form of internships whereby the TVET college either finds a placement for students, or students need to find a placement for themselves.

However, there is a growing concern about the challenges that students and lecturers face when completing their WpL. The Olowoyo et al. (2020) study revealed that students normally return to their provinces to complete their WpL which is usually away from the TVET college. This results in the fact that students normally choose their own hospitality establishments to complete their WpL and also to negotiate terms thereof with the hospitality establishment, and not the hospitality department or lecturer(s) (Abrahams et al. 2018; DHET 2018). This may compromise the standard and quality of the WpL as students can choose any hospitality establishment as no set standards are prescribed for WpL, only the individual scope of work experience (Olowoyo et al. 2020; DHET n.d.). Lecturers therefore, do not know whether the hospitality establishment conforms to the requirements that are conducive to teaching and learning.

Secondly, hospitality lecturers do not oversee and monitor students in the workplace or while they are completing their WpL (Abrahams et al. 2018). Abrahams et al. (2018) postulate that it is not always possible to find placements for students as the number of students is too large. Lecturers only rely on the completion of the WpL logbook once students have completed their WpL (Olowoyo et al. 2020). DHET (2018) mentions that educators reported that some campus managers do not value or understand WpL and are therefore reluctant to release educators to go out and conduct WpL activities. Thirdly, there is also no 'task book' available for NATED programmes that would provide a logbook with information on WpL and the expectations thereof. So, students have to rely on the activities in the logbook, which can be a disadvantage for NATED students (DHET 2018). Fourthly, the challenge is that students are not properly prepared for the WpL as there is no proper plan for student preparation available. The student preparation is often dependant on the educators who sacrifice their own time for their students (DHET 2018).

This raises many questions on the quality of WpL and the standard adopted by TVET in the acquisition of employable skills and competencies. This lack of appropriate WpL hinders the achievement of the internship's full potential (Farmaki 2018). Furthermore, it is unknown whether the mentor or supervisor within the hospitality industry is equipped to train students on the correct methods, skills and competencies needed in the industry.



Olowoyo et al. (2020) assert that there needs to be a reconfiguration of the TVET sector to address structural deficiencies that serve to hinder the provision of appropriate and meaningful hospitality education training that can ensure the employability of students. Moreover, the majority of managers within the hospitality industry that were interviewed by Olowoyo et al. (2020) recommend that more time should be spent on practical training, where scenarios capturing operational challenges associated with the hospitality industry, be given to students. Therefore, this study aims to investigate how project-based teaching and learning promotes LA in hospitality education students at a TVET college, in order to develop a framework for PjBL in promoting LA in a TVET environment.

#### **2.4.5 Providing an overview of the two hospitality education programmes under investigation**

The main research question addressed in this empirical research is: what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college? Two TVET hospitality subjects were used in this study to answer this question. They were CTP N6 (from the programme Hospitality and Catering N6) and HS L3 (from the NC[V] Hospitality L3) (Figure 1.3) An overview of the two subjects will be provided.

##### **2.4.5.1 An overview of the Catering: Theory and Practical N6**

The national certificate programme, National Certificate N6: Hospitality and Catering Services offers a subject CTP N6 that has a PjBL group project attached to its syllabus whereby students need to plan and organise a function. During the project, the students need to act as the convener and accept responsibility for the planning, implementation and outcome of the function (Republic of South Africa 1995). The project is aimed at providing students with practical knowledge, workplace knowledge and skills required in hospitality. Students also need to compile a Portfolio of Evidence (PoE) of their project that must be presented to the educator for assessment. The educator acts as a facilitator and guides the students during the planning, organising and implementation of the project. The contents of the PoE are listed in Table 2.6.

Table 2.6: Contents of the portfolio of evidence for the Catering Theory and Practical N6 project

Source: (Republic of South Africa 1995)

No.	Contents of portfolio
1.	Occasion
2.	Planning of menu
3.	Number of guests
4.	Venue
5.	Time
6.	Allowed budget
7.	Assistance
7.1	Individual time work schedules
7.2	Recipes and methods of dishes adapted according to the number of guests
7.3	Portioning
7.4	Calculation of cost per dish
7.5	Apparatus list
7.6	Ingredient list
8.	Responsibilities of supervisor
8.1	Organisational diagram
8.2	Overhead financial statement
8.2.1	Total cost of food (save and name slips)
8.2.2	Travel expenses
8.2.3	Flowers
8.2.4	Rent: hall or room, tableware and tablecloths
8.2.5	Additional costs
8.3	Overhead time work schedule
8.4	Overhead apparatus list
8.5	Order list (grouped according to type of food)
8.6	Control list
8.6.1	Apparatus and equipment
9.	Room
9.1	Invitations and replies
9.2	Laying up a table - sketches and photos
9.2.1	Guest list and place assignment
9.2.2	Name cards
9.2.3	Menus
9.2.4	Table decorations

Students are provided with the syllabus that contains all the requirements for the project, including appendices (i.e. instructions with regard to function/occasion, organisational diagram, overhead time work schedule, and so on) and the marking guideline. Students from the academic years 2021 and 2022 had to plan and organise an African themed luncheon where they invited guests from the college staff to attend.

#### 2.4.5.2 An overview of the Hospitality Services level 3 task 1

The HS L3 subject has two ICASS practical tasks and one ISAT task that needs to be completed for the year. The project that was used for this study was task 1 which requires students to gain in-service training through a project in the field of fast food services by serving at the pop-up fast food stall on campus (DHET 2019). Students need to research examples of various types of takeaways and counter services. The project consists of completing a worksheet on different service types, designing a promotional poster about their pop-up food stall and the food being sold with prices, and they then must promote their stall throughout the campus. The students then need to deliver a counter service to customers wishing to purchase their food on a set date. The money is then collected by the students to cover the cost of the ingredients bought as well as to see the amount of profit made by the students. The final part of the project is to compile a service report to reflect on their experiences at the counter and to rate their own service (DHET 2019).

The educator acts as a facilitator and provides guidance to students for the successful delivery of the project. Students are assessed throughout the project with marks allocated for researching different types of service, designing a promotional poster, delivering professional counter service and then compiling a service report. Students are provided with the task that details the requirements of the project as well as the assessment tool. The period to complete this project was a total of one week.

#### **2.4.6 Summary of the conceptual perspectives on what learner autonomy is about**

TVET is seen as an essential contributor to the skills development of society within the international, African, and South African community. The South African government has identified TVET as being central to social and economic growth. TVET at TVET colleges incorporates two different systems, the Report 191 or NATED programmes and NC(V). All formal qualifications that are offered at TVET colleges must be registered on the NQF and accredited by SAQA. The section further discussed what teaching and learning of TVET in hospitality education entailed. Furthermore, an overview of the two subjects that offer PjBL namely CTP N6 and HS L3, was presented.

### **2.5 CHAPTER SUMMARY**

This chapter placed the study within the contextual framework by providing an international overview of LA from experts in the field of autonomous learning and reviewed the literature on LA in the context of its origin, its components, and misconceptions. The different methods of promoting LA were highlighted through different approaches based on resource, learner, classroom, curriculum, educator and technology. The reasons for promoting LA as well as the factors that negatively impact the promotion of LA in HE were discussed. The section on LA was concluded by providing a South African HE policy perspective to LA. It was found that the South African HE namely DHET, CHE and SAQA's NQF do promote LA through its policies.

The next section of this chapter described PjBL as an EL pedagogy and in the context of facilitating skills development which is at the forefront of the *2030 Agenda for Sustainable Development* that was adopted by the international community as part of the SDG4, known as *Education 2030*. This was followed by the factors that impede the application and implementation of PjBL from both the perspective of students and the educator. Next, a comparison of the different types of WIL typologies was presented in a tabular format followed by how PjBL can be used to promote LA and skills development.

The chapter concluded by defining TVET within an international and African context leading to a South African perspective of TVET by explaining the NQF and the NATED and NC(V) programmes. The section described what teaching and learning of TVET hospitality are about and described the factors that impede WpL. Finally, an overview of the Hospitality and Catering N6 and NC(V) Hospitality L3 programmes was provided, including the admission requirements which were explained as these hospitality education programmes were the focus of this study.

In Chapter 3 the Kolb's ELT, as a theoretical framework, that will guide this study will be discussed.

## CHAPTER 3

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### THEORETICAL FRAMEWORK: KOLB'S EXPERIENTIAL LEARNING THEORY

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#### 3.1 INTRODUCTION

Chapter 2 provided a contextual and conceptual framework for this study on three aspects, namely LA, PjBL, and TVET in providing an international and South African overview. Section 2.2. started with a brief background to the origin of the term LA, followed by defining and interpreting LA from international scholars. The components of LA were then summarised and shown in Figure 2.1. Next, the five-level model of LA, the misconceptions that are normally associated with LA, the six approaches to promote LA, as well as the factors that negatively impact the promotion of LA were discussed. Current studies show that there is a dearth of literature on the promotion of LA within hospitality education in TVET. Finally, in Section 2.2 a South African HE policy perspective on LA was presented. The section ended with a conclusion to LA.

Section 2.3 provided a brief background, understanding and interpretation of PjBL from various scholars. PjBL is recognised as a facilitator for skills development and the promotion of LA. This was followed by the factors that impede the application and implementation of PjBL from both the perspective of students and the educator. Next, a comparison of the different types of WIL typologies was presented in a tabular format followed by how PjBL can be used to promote LA and skills development.

The chapter concluded with Section 2.4 which presented a description of the international TVET sector and explained TVET from an international and South African perspective with an outline of the two programmes, NATED and NC(V), with an emphasis on the CTP N6, and HS L3 subjects which form the foundation of this study. Section 2.4 concluded with a summary on teaching and learning in TVET institutions.

The theoretical framework is presented and discussed in Chapter 3 which will guide this study. The theoretical framework that was employed is Kolb's ELT which relates to the concepts of LA and PjBL. The chapter will commence with an overview of Kolb's ELT followed by a discussion of the three core concepts that comprise Kolb's ELT. Furthermore, although Kolb's ELT is highly regarded, critiques from international scholars will be argued. Lastly, EL from an international and South African perspective will be discussed and the chapter will conclude with a summary.

## **3.2 A THEORETICAL PERSPECTIVE ABOUT KOLB'S EXPERIENTIAL LEARNING THEORY**

This section will provide an overview on the theoretical perspective of what Kolb's ELT is about by first introducing Kolb's ELT and then providing an outline to his theory. Next, the relevance of Kolb's ELT to the current study will be discussed.

### **3.2.1 An introduction to the use of Kolb's experiential learning theory to guide this study**

Kivunja (2018) states that a theoretical framework consists of interrelated concepts and theories that are expressed in the field in which a researcher plans to research. It is developed from previously tested and published knowledge that lays the scholarly foundation for the research and assists in the data analysis and interpretation of the empirical research findings and meanings contained in the research data. Therefore, the theoretical framework that was used to guide this study is Kolb's ELT. The reasons for using Kolb's ELT are because it has 'roots' in educational research (Calderón Carvajal et al. 2021), and curriculum development (Arnett et al. 2011: 6) and also that all the aspects of LA are observable in Kolb's ELC. When students are made aware of their learning strategies, they set learning goals, take responsibility for learning in and out of the classroom, and they reflect on their learning experiences (Boggu & Sundarsingh 2019). Furthermore, Kolb's ELT is known to foster LA (Boggu & Sundarsingh 2019), as well as empower students to become autonomous (Zaidi et al. 2020). Lastly, according to Bell and Bell (2020), EL also lies at the centre of the social constructivist learning paradigm by meeting the need to develop skills, competency and attributes.

The overview of Kolb's ELT is briefly expressed and Kolb's four-mode ELC and the nine Kolb KLSI 4.0 and experiential LSs will be discussed in the next sections.

### **3.2.2 An overview of Kolb's experiential learning theory**

David Kolb laid the foundation of experiential education theory with his model developed from the Lewinian ELC (Urquidi-Martín, Tamarit-Aznar & Sánchez-García 2019; Kolb 1984, 2015; Andresen, Boud & Cohen 1995). The ELT is derived from the work of twentieth-century foundational scholars of EL such as John Dewey, William James, Kurt Lewin, Lev Vygotsky, Jean Piaget, Paulo Freire, Carl Jung, Carl Rogers and Mary Follett who placed experience at the centre of the learning process, therefore envisaging a learner-centred educational system (Passarelli & Kolb 2020; Villarroel, Benavente, Chuecas & Bruna 2020; Kolb & Kolb 2005, 2012, 2013, 2017). Dewey postulates that the nature of the experience is continuous, and the EL process is fundamentally important in education and in the development into adulthood. He considers that experience, inquiry and reflection are the key components in EL (Chan 2012). Moreover, he believes that practical and varied experiences improve students' preparedness for life in the future holistically and that varied activities were more beneficial than traditional curricula (Dewey, 1986, 1997, as cited in Bradbury, Schwarz & Lenton 2021).

Lewin developed a four-stage cycle of action research with action, reflection, analysis and testing (Bradbury et al. 2021; Chan 2012). He emphasises the here-and-now Concrete Experience (CE) to validate the theory (Kolb 2015) and stated that learning involves a feedback process in order for students to learn from each other (Kolb 2015). Piaget's model of learning and cognitive development of EL suggests that learning is a 'lifelong process of discovering knowledge, assimilation and accommodation of learning from experience and knowledge' (Chan 2012: 405). He emphasises that intelligence is the product of interactions between individuals and the environment, and that intellectual development is a process involving assimilation, accommodation and equilibrium (Bradbury et al. 2021). Piaget



stresses that learning is individualised and self-directed and requires activity-based discovery learning (Bradbury et al. 2021).

According to Kolb (2015), the perspective on learning is called experiential for two reasons namely: (1) to associate with the original work of theorists Dewey, Lewin and Piaget, and (2) to emphasise the importance that experience plays in the learning process. Dewey advocated learning experiences that were centred around student interests and developed students into socially responsible citizens (Williams 2017). In Dewey's EL theory, everything takes place within a social environment where knowledge is socially constructed and based on experiences that are organised through real-life experiences (Bell & Bell 2020; Roberts 2003). Therefore, knowledge should be organised in real-life experiences that provide context for the information (Roberts 2003). The ELT, therefore, integrates the works of the aforementioned scholars around six proposals they all share (Passarelli & Kolb 2020: 5–6; Kolb & Kolb 2013: 6–7), which are:

- 1) Learning is best regarded as a process, not as an outcome.
- 2) All learning is relearning.
- 3) Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
- 4) Learning is a holistic process of adaptation to the world.
- 5) Learning results from synergetic transactions between the person and the environment.
- 6) Learning is the process of creating knowledge.

In its most current state, the ELT (Passarelli & Kolb 2020; Kolb & Kolb 2017, 2018; Kolb 2015) is known as a dynamic, holistic model that defines learning as the major process of human adaptation involving the person in their entirety (Passarelli & Kolb 2020; Kolb & Kolb 2012, 2013, 2017, 2018; Kolb 2015). According to Maseko (2018), experience is the foundation for learning and learning cannot exist without reflection. Moreover, while reflection is important to the learning process, it must be integrally linked to action.

ELT applies to the formal education classroom, outside the classroom, and to all areas of life (Passarelli & Kolb 2020; Kolb & Kolb 2017). Moreover, ELT can operate on all levels of human society from the individual person, or in the case of this study a student, a group of students, and ELT concepts can be used to enhance their lifelong learning processes (Passarelli & Kolb 2020). The core concepts of Kolb's ELT are the ELC, Kolb's KLSI 4.0 and experiential LSs and these are illustrated in Figure 3.1 and will be discussed in the following sections.

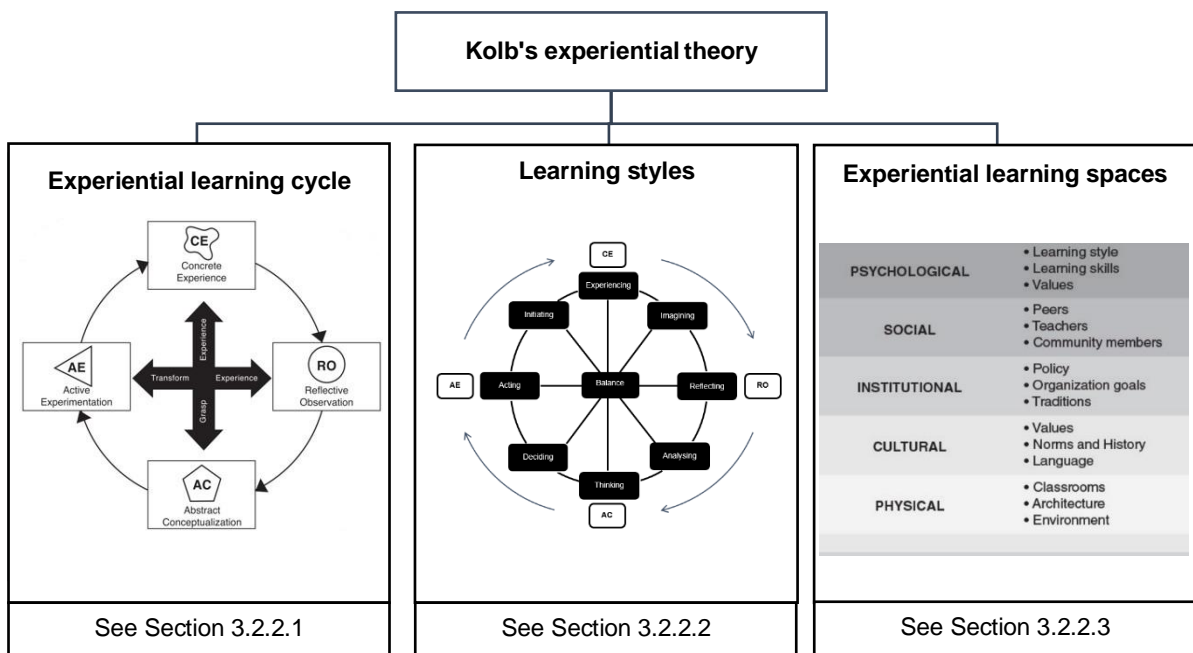


Figure 3.1: The core concepts of Kolb's experiential learning theory

### 3.2.2.1 The experiential learning cycle as a concept of Kolb's experiential learning theory

ELT is based on the constructivist learning approach (Levy & Mensah 2021; Gittings, Taplin & Kerr 2020; Kolb & Kolb 2005) that learning is an ongoing process of developing knowledge and skills from experience (Southgate 2019), by following Kolb's ELC while still acknowledging that individual students learn in different ways (Gittings et al. 2020). The ELT defines learning as:

*The process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.*

(Passarelli & Kolb 2020: 6; Kolb 1984: 41, 2015: 51; Kolb & Kolb 2013: 7)

The central focus of the ELT as the ‘felt’ experience from which learning commences, is reviewed, challenged and reconsidered (Andresen et al. 1995: 248).

Figure 3.2 shows the four modes that a student needs to complete for effective learning to take place.

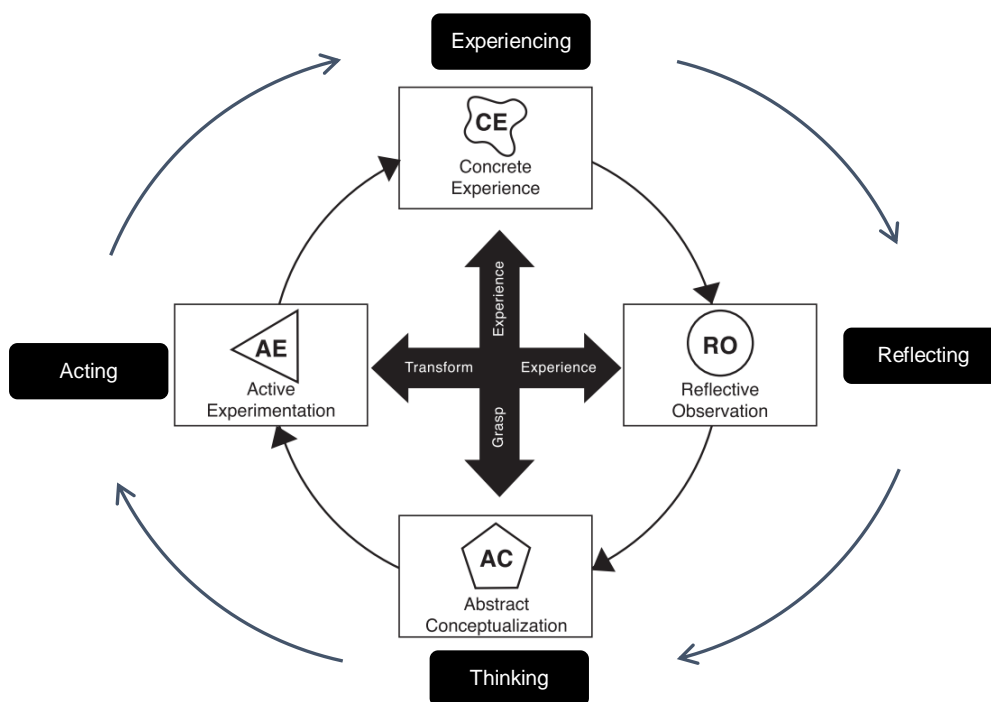


Figure 3.2: Kolb’s experiential learning cycle with the dialectic poles

Sources: Adapted from (Kolb & Kolb 2017; 2018; Passarelli & Kolb 2020)

ELC is a dialectic and cyclical process consisting of four stages (Passarelli & Kolb 2020; Kolb & Kolb 2018). The four learning modes are CE, Reflective Observation (RO), Abstract Conceptualisation (AC), and Active Experimentation (AE). CE (experiencing) and AC (thinking) depict two dialectically related modes of acquiring or ‘grasping experience’, and RO (reflecting) and AE (acting) are two dialectically

related modes of 'transforming experience' (Passarelli & Kolb 2020; Kolb & Kolb 2009: 44, 2013: 7). The construction of knowledge results from the combination of both grasping and transforming experiences (Calderón Carvajal et al. 2021; Kolb 1984, 2015) that are responsive to contextual demands (Kolb & Kolb 2009). This process is depicted as an idealised learning cycle or spiral where the student 'touches all the bases' of the four steps in a recurring process that is sensitive to the learning situation and what is being learned (Passarelli & Kolb 2020: 6; Kolb 2015: 51; Kolb & Kolb 2009: 44). The stages in the four-step process are not separate independent entities but are inseparably related to each other in their dialectic opposition (Kolb 2015). Through the spiralling effect, enriched concrete learning experiences are broadened and deepened through critical reflections that confirm that the student is indeed learning and creating new meanings through their thoughts and actions (Johnson, Khan & Saeed 2020). Thus, all tasks or activities should be designed to stimulate reflection on the learning process (Zaidi et al. 2020; Boggu & Sundarsingh 2019).

CE is when a new or a familiar experience is encountered by a student which then creates a learning opportunity (Budhai & Skipwith 2022). Students need to involve themselves fully, openly, and without bias or preconceived notions in the experience (Calderón Carvajal et al. 2021; Kolb 1984, 2015). Therefore, it is not enough for a student to just watch it in action or even just to read about it; they need to be actively engaged in the activity or task in order for them to acquire new knowledge (Kurt 2020). The experience may also be a reinterpretation of an existing experience (Budhai & Skipwith 2022). CE is followed by RO where the student reflects on and observes their experience from different perspectives (Calderón Carvajal et al. 2021; Kolb 1984, 2015), and identifies any inconsistencies between the experience and their understanding (Barton 2020). Communication is vital as students can ask questions and discuss the experience with fellow peers (Kurt 2020).

After the reflective process, AC takes place as the student formulates new ideas or concepts or modifies existing abstract ideas or concepts arising from the RO stage. At this stage the student attempts to draw conclusions from their experiences by reflecting on their prior knowledge, using ideas that they are familiar with or by discussing possible theories with peers (Kurt 2020). AC aims to create concepts

that the student can apply to future life situations (Weinstein 2019). Lastly, with the AE stage, the student will apply or test the newly acquired knowledge to make predictions, make decisions, analyse activities and tasks, make plans, and solve problems in a variety of life situations to see if their abstract concept functions in the real world (Kurt 2020; Weinstein 2019; Kolb 1984). Therefore, letting students implement their newly acquired knowledge and demonstrating how it is applicable to their lives will ensure that the newly acquired information is retained for future use (Kurt 2020). Douglas (2015) states that the ELC can be summarised as: do (CE), what (RO), so what (AC), and now what (AE).

New knowledge, skills, or attitudes are achieved from the resolution of conflict among the dialectically opposed modes (Kolb & Kolb 2013; Kolb 1984). If there is an imbalance in the four learning modes, then learning will cease to take place. Kolb and Kolb (2018) emphasise that the model is not static, and that learning is a recurring process of exchange between the student's internal world and the external environment. The more that the student recycles through the ELC, the more depth of understanding and skills will occur. Furthermore, students may commence with their learning at any stage in the sequence of the cycle (Kurt 2020; Mc Pherson-Geyser, De Villiers & Kawai 2020; Kolb & Kolb 2018). However, the cycle must be completed in its totality to ensure that effective learning has occurred and new knowledge is acquired and developed (Kurt 2020; Mc Pherson-Geyser et al. 2020; Kolb & Kolb 2018; Kolb 2015). This learning creates changes at cognitive, behavioural and attitudinal levels in students (Passarelli & Kolb 2020; Villarroel et al. 2020; Kolb & Kolb 2018), and this offers the opportunity for students to put them into practice in real-life situations, therefore demonstrating the appropriate behaviours and procedures (Villarroel et al. 2020).

### 3.2.2.2 Learning styles as a concept of Kolb's experiential learning theory

Educators have used knowledge from the ELT learning styles to increase teaching effectiveness and maximise student learning in numerous varied ways (Kolb & Kolb 2017). Students must understand why different teaching styles are used by educators in order for them to understand their own learning (Mc Pherson-Geyser

et al. 2020). For students, knowledge of their learning styles assists them to be aware of the learning process and the appropriate use of learning strategies needed for the learning activities and tasks in the educational environment (Kolb & Kolb 2017). Ng and Confessore's (2010) study provided evidence that students who are flexible in using different learning styles according to their needs and situations were found to be more autonomous.

The KLSI 4.0 which was revised in 2011 is the latest revision of the original Learning Style Inventory (LSI) developed by David Kolb (Kolb & Kolb 2013, 2018). In the KLSI 4.0, a student's learning style is defined by their unique combination of preferences for the four learning modes defining a kite shape profile (Kolb & Kolb 2013; 2018). The students' genetic makeup, the demands of their present environment, and their particular life experiences depict their preferred way of choosing among the four learning modes of CE, RO, AC, and AE (Passarelli & Kolb 2020; Kolb & Kolb 2009). Therefore, because of the student's different preferences of the learning modes, each student's kite shape will be different from the others. This reinforces that each student's learning style is unique (Kolb & Kolb 2018). Passarelli and Kolb (2020) argue that previous research by Kolb (2015) indicates that learning styles are determined by personality types, culture, educational specialisation, current roles, activities and tasks. The nine learning styles and their place on the learning cycle are shown in Figure 3.3. The learning styles are not fixed personality traits but are seen as a habit of learning shaped by choices and experiences (Passarelli & Kolb 2020; Kolb, Kolb, Passarelli & Sharma 2014). It can be an automatic, unconscious mode of adapting or it may be consciously changed and modified (Passarelli & Kolb 2020; Kolb et al. 2014).

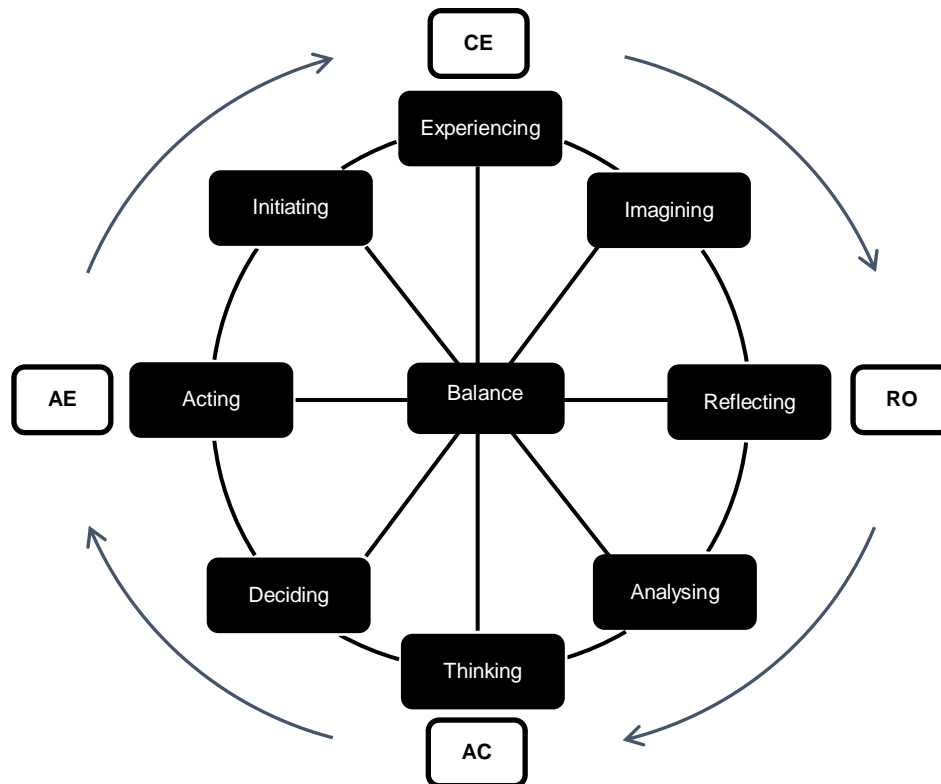


Figure 3.3: The nine learning styles and their place on the learning cycle

Sources: (Kolb & Kolb 2018; Peterson & Kolb 2017)

The nine learning styles are described as follows (Institute for Experiential Learning 2021; Kolb & Kolb 2013, 2018; Kolb et al. 2014):

- 1) The **Initiating style** initiates actions to deal with experiences and situations. This style is characterised by the ability to initiate action in order to seek new opportunities, deal with situations and experiences, and influence others. The initiating style involves AE and CE.
- 2) The **Experiencing style** finds meaning and is characterised by the ability to find meaning from deep participation in the experience and social relationships. In this learning style, a person is aware of emotions, intuition and sensations, and they enjoy being in social relationships. It draws on CE while balancing AE and RO.
- 3) The **Imagining style** is characterised by the ability to imagine possibilities by observing and reflecting on experiences. A person is receptive to people and many ideas, engages in possibility thinking and appreciates diversity. It combines the learning steps of CE and RO.

- 4) The **Reflecting style** is the ability to connect ideas and experience through sustainable reflection. In the reflecting style, a person observes, takes multiple perspectives, and waits for a certain outcome before acting. The reflecting style employs RO while balancing CE and AC.
- 5) The **Analysing style** is the ability to integrate and systematise ideas into concise models and systems through reflection. A person plans to minimise any mistakes, uses models and theories to test assumptions, and integrates information to attain the bigger picture. It is a combination of RO and AC.
- 6) The **Thinking style** is the capacity for disciplined involvement in abstract reasoning and logical reasoning. Here one uses hard data to analyse solutions, frame arguments with logic and utilise critical thinking. It draws on AC while balancing AE and RO.
- 7) The **Deciding style** is characterised by the ability to use theories and models to decide on the problem solutions and courses of action to take to solve problems and achieve practical results. It combines AC and AE.
- 8) The **Acting style** is described by a strong motivation for goal-directed action that integrates people and tasks, and balances accomplishments with social relationships. It draws on AE while balancing CE and AC.
- 9) The **Balancing style** is the ability to adapt by weighing the advantages and disadvantages of acting versus reflecting and experiencing versus thinking. It balances all four modes of learning.

According to Passarelli and Kolb (2020), Kolb et al. (2014), and Kolb and Kolb (2013) the nine KLSI 4.0 learning styles further define the ELC by emphasising four dialectic tensions in the learning process. Four of the learning styles, as shown in Figure 3.4, emphasise one of the four learning modes CE (experiencing), RO (reflecting), AC (thinking) and AE (acting). The other four learning styles imagining, analysing, deciding, and initiating emphasise two learning modes, one from the grasping dimension and one from the transforming dimension. Furthermore, to the primary dialectics CE/AC and RO/AE, a combination dialectics of assimilating/accommodating and converging/diverging are also represented in an eight-stage learning cycle with balancing in the centre.



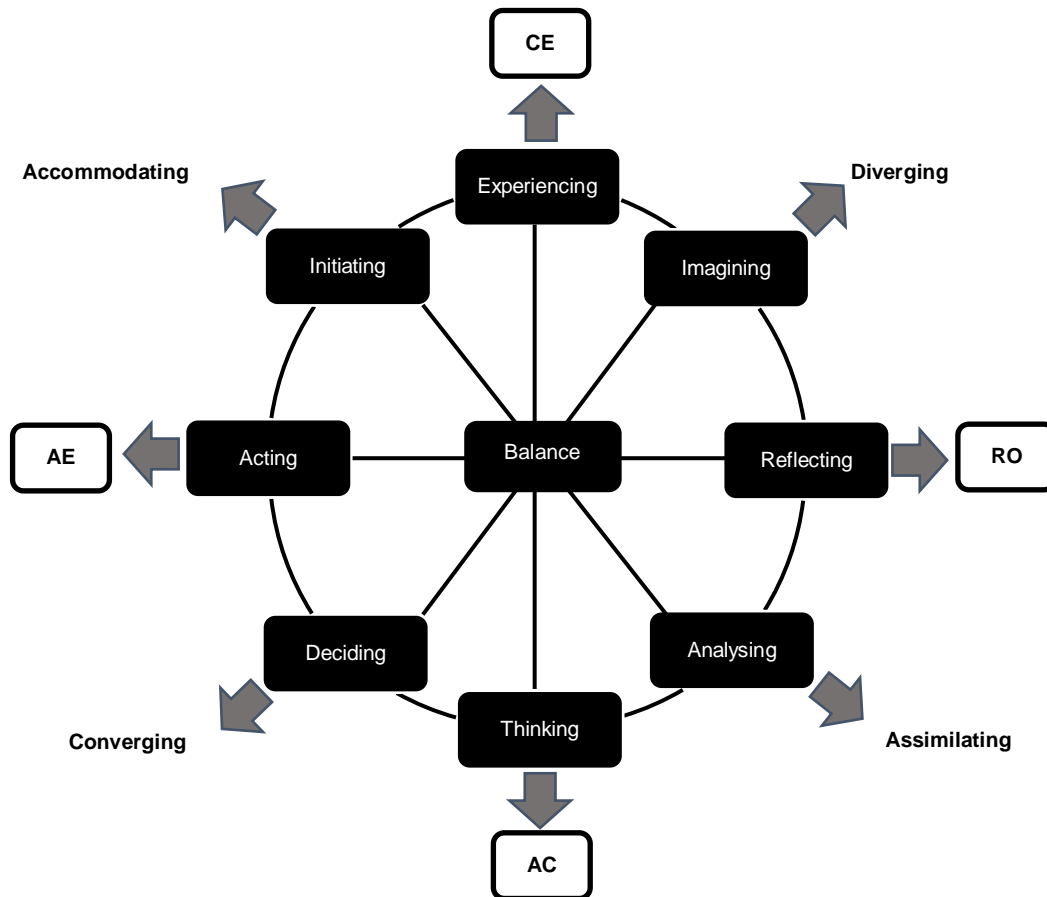


Figure 3.4: The nine learning styles and the four dialectics of the learning cycle

Sources: Adapted from (Mercer, Kythreotis, Robinson, Stolte, George & Haywood 2017; Kolb et al. 2014; Kolb & Kolb 2013)

The initiating style has a robust presence for active learning in context (accommodating) while the analysing style has a robust presence for reflective conceptual learning (assimilating). The imagining style has a robust preference for opening alternatives and perspectives on experience (diverging) while the deciding style has a robust preference for closing on the single best option for action (converging) (Kolb et al. 2014; Kolb & Kolb 2013).

The KLSI 4.0 learning styles have emanated from the original four learning styles accommodating, assimilating, converging and diverging as the new nine learning styles better define the unique patterns of individual learning styles and reduce the confusion introduced by borderline cases (Gittings et al. 2020; Kolb & Kolb 2013). The accommodating (doing and feeling) learning style is hands-on and relies on initiation rather than logic (McLeod 2017; Kolb & Kolb 2005). Students using this style will rely on their peers' analysis and rather prefer to take on practical and

experiential approaches. In formal learning settings, students prefer to work with their peers to get assignments completed, do fieldwork, set goals, and test out different approaches to complete project work (Kolb & Kolb 2005). They are attracted to new challenging experiences and carry out plans. Students with an assimilating (watching and thinking) learning style are best at understanding a wide range of information and have a preference that entails a concise and logical approach where students feel that concepts and ideas are more important than people (McLeod 2017; Kolb & Kolb 2005). They require clear explanations and value conciseness, logic and assessing processes (McLeod 2017). According to Kolb and Kolb (2005), students with this style prefer lecturers, reading, exploring analytical models, and having time to think things through.

With the diverging (feeling and watching) style, students can view situations from various perspectives and generate several ideas (i.e. brainstorming) to solve problems by using their imagination (McLeod 2017; Kolb & Kolb 2005). They prefer to watch rather than to do, are interested in people, prefer to work in groups, listen with an open mind, tend to be imaginative and emotional, have a broad cultural interest, and like to receive personal feedback (McLeod 2017; Kolb & Kolb 2005). Students with a converging learning style (doing and thinking) can solve problems and will utilise their learning to get solutions to practical issues (Kolb & Kolb 2005). They are less concerned with people and interpersonal relationships and prefer technical tasks (McLeod 2017; Kolb & Kolb 2005). Students with the converging style have the ability to solve problems and make decisions based on finding solutions to problems and questions (Kolb & Kolb 2005). With formal learning situations, these students prefer to experiment with new ideas, practical applications, and simulations (Kolb & Kolb 2005).

For a fully integrated learning experience for students, the educator should experientially address all the nine learning styles and associated dialectics in the cycle (Mercer et al. 2017). Furthermore, if learning is to transpire a LS is needed by students. The experiential LSs are discussed in the following section.

### 3.2.2.3 Experiential learning spaces as a concept of Kolb’s experiential learning theory

LSs exist in the experiences of students and are formed by objective factors in particular the physical setting and time available for learning, and by subjective factors for instance expectations and learning preferences (Passarelli & Kolb 2020). The concept of LS is built on Lewin’s field theory and his idea of life space (Passarelli & Kolb 2020; Kolb 2015; Kolb & Kolb 2013). Lewin argues that a person and their environment are interdependent variables where behaviour is a function of a person and the environment and the life space form the total psychological environment that the person experiences subjectively (Passarelli & Kolb 2020; Kolb 2015; Kolb & Kolb 2009, 2013). Educators objectively create experiential LSs by the activities and information they provide in their programme or subject(s), however, this space is also construed in the students’ subjective experience through the lens of their learning styles, beliefs, attitudes and life experiences (Passarelli & Kolb 2012, 2020; Kolb & Kolb 2017).

According to Kolb and Kolb (2013, 2017) the dimensions of experiential LS include psychological, social, institutional, cultural and physical dimensions (see Figure 3.5) and they come together in the experience of the student. There may be many factors that may either facilitate or hinder learning i.e. the physical space, the constraints of time, culture and so on (Kolb & Kolb 2017).

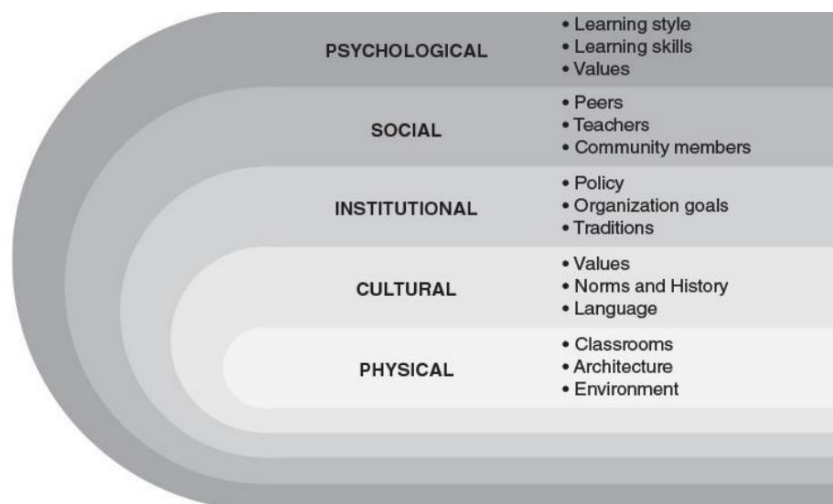


Figure 3.5: Dimensions of learning space

Sources: (Kolb & Kolb 2017; Kolb 2015)

A person's position in a LS determines their experience and therefore defines their reality (Kolb & Kolb 2009, 2013, 2017; Kolb 2015). Kolb (2015) and Kolb and Kolb (2013) argue that since the experiential LS is ultimately what the student experiences it to be, it is the psychological and social dimensions of experiential LSs that have the most influence on learning. Thus, experiential LS can be seen as aggregates of the characteristics of students in them, since students in a particular environment are arguably the dominant feature of it (Kolb 2015; Kolb & Kolb 2013). A student's learning style positions him/her in 'one of these regions based on their unique equilibrium of forces' among acting, reflecting, experiencing, and conceptualising (Kolb 2015: 291). Using the 'human aggregate' approach, the experiential LS is defined by the 'attracting and repelling forces (positive and negative valences) of the poles of the dual dialectics' thereby creating a two-dimensional map of the regions of the experiential LS (Kolb 2015: 291; Kolb & Kolb 2013: 18; Passarelli & Kolb 2012: 10). Moreover, for a student to be totally engaged in the ELC, an experiential LS must be provided that is conducive to the four modes of the cycle (Trinh, Van Esch, Martinez & Messer 2021; Kolb & Kolb 2017).

The experiential LS should be welcoming, safe, supportive and should encourage a genuine conversation that is characterised by respect for all participants (Kolb & Kolb 2017). The tasks and activities need to be challenging with the students being allowed to be in charge of their own learning and they should be allowed time for the repetitive practice that develops expertise (Kolb & Kolb 2017). This is confirmed by Fazey and Marton (2002, as cited in Passarelli & Kolb 2020), as they state that learning leads to an understanding with greater retention and transfer when an experiential LS of variation is created through repeated practice from various perspectives and under different conditions. This space of variation can be described as the number of learning regions that a student engages in during the learning process (Passarelli & Kolb 2020).

### **3.2.3 How is the theoretical framework relevant to the current study?**

Confucius states:

*I hear and I forget, I see and I remember, I do and I understand*

(Garlick 2014: 8)

The selection of an appropriate theoretical framework for this study required a deep and thoughtful understanding of the research problem, purpose, aim and research questions and should be used as an appraisal tool. The quote by Confucius embodies the concepts that this study wanted to adopt. This study aimed to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment. Therefore, the concepts LA and PjBL are foundational to this study and adopting a theoretical framework that employs both LA and PjBL was sought. Furthermore, EL, with its emphasis on authentic learning activities through real-world problems, (Danko 2019) is seen as ideal for hospitality education.

Kolb's ELT is considered one of the most cited and scholarly influential EL theories studied (Morris 2020) and is regarded as being particularly efficacious in hospitality education (Azar et al. 2020). Kolb's ELT underpins the concepts that LA and PjBL enhance the experience for learning and the development of skills and competencies (Sneha & Aluvala 2021; Zaidi et al. 2020). It is therefore necessary to understand the underpinnings and the impact of Kolb's theory.

Figure 3.6 illustrates how Kolb's ELT was used by other studies as a theoretical framework.

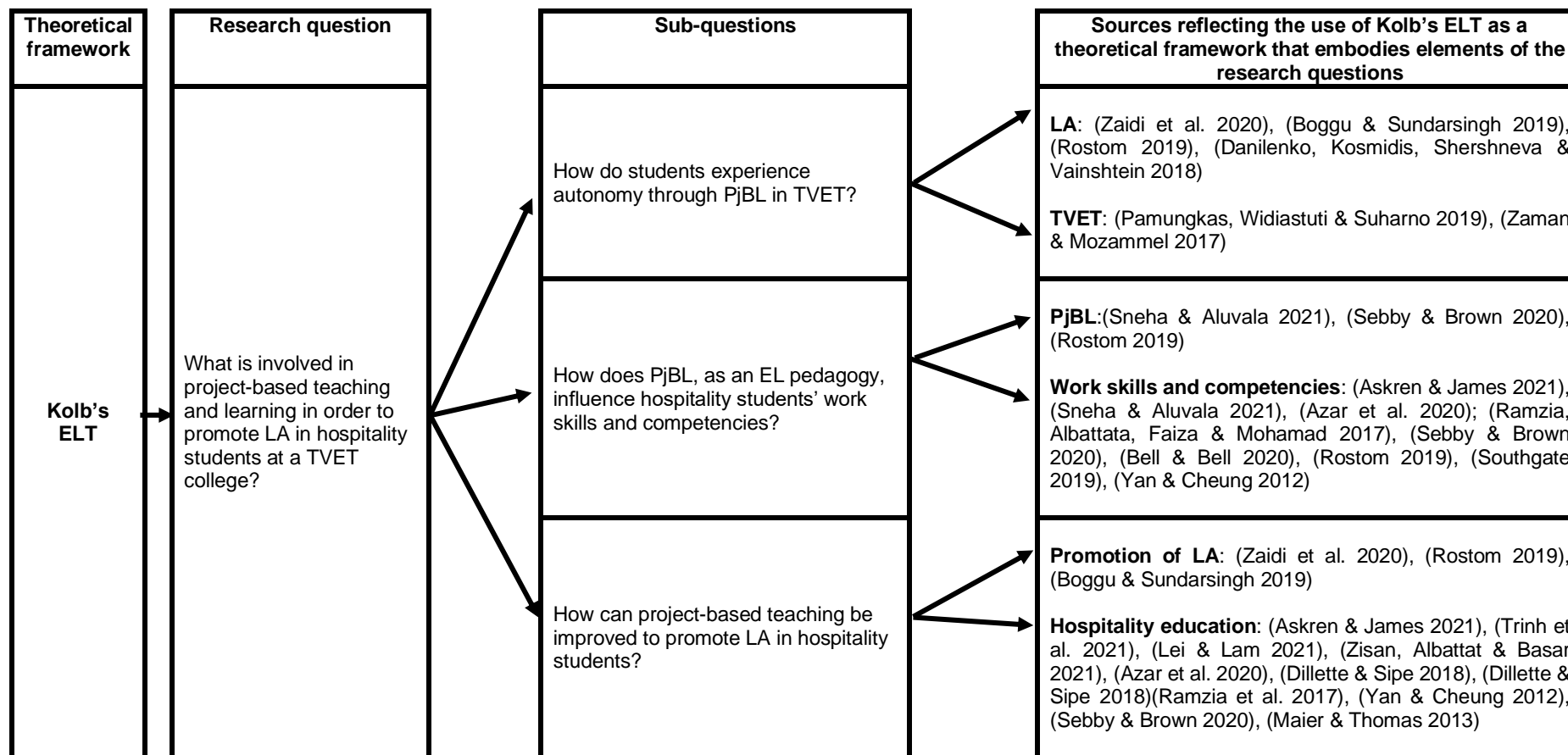


Figure 3.6: The use of Kolb's experiential learning theory to encapsulate the current study

There is clearly a significant crossover between the key elements of the current study that is embedded in Kolb's ELT that can inform the development of a framework for PjBL in promoting LA in a TVET environment. Therefore, it can be stated that Kolb's ELT was the appropriate theoretical framework to guide this study.

### **3.3 CRITIQUES FROM INTERNATIONAL SCHOLARS OF KOLB'S EXPERIENTIAL LEARNING THEORY**

Although Kolb's ELT is the most widely recognised, used, and cited model in EL (Morris 2020; Kolb & Kolb 2018; Bergsteiner, Avery & Neumann 2010), it has been widely criticised by various scholars, through various systematic reviews and studies on EL where authors have indicated different critics of EL (Calderón Carvajal et al. 2021; Johnson et al. 2020; Kumar & Bhandarker 2020; Matsuo & Nagata 2020; Morris 2020; Ndlovu & Nyane 2018; Atherton 2013; Bergsteiner et al. 2010). Scholars believe that the ELT lacks sound theoretical and empirical foundations (Bell & Bell 2020; Morris 2020; Burch et al. 2019; Wheeler 2012; Miettinen 2000), they question the premise on which it is based, the design and acceptance of its constructs, and its generalisability and effectiveness (Kumar & Bhandarker 2020). Miettinen (2000: 65, as cited in Morris 2020: 1065) concludes that Kolb's ELT does not provide an adequate interpretation of Dewey's concept of experience and reflective thought and gives a 'unilateral and erroneous picture'.

Bergsteiner et al. (2010) posit that the model contains many flaws. These flaws include 'graphic syntax errors, a failure to meet modellers' graphic sufficiency and simplification tests, categorisation and definitional problems relating to learning activities and typologies, misconstrued bi-polarities and flawed logic' (Bergsteiner et al. 2010: 29). The Calderón Carvajal et al. (2021: 605) study found that Kolb's model reflects the presence of the four learning modes, but not the presence of the 'orthogonal bipolar structure'. Therefore, these results indicate the existence of learning modes, but not the existence of learning styles. They further state that the learning styles are non-viable due to their lack of compliance with the orthogonal bipolar structure. Bergsteiner et al. (2010: 32) claim from a modelling perspective that Kolb's typology is 'highly muddled' in what constitutes 'concrete and abstract learning'. Morris (2020) conducted a systematic literature review and argues that an issue exists with the lack of clarity regarding the exact interpretation of the mode CE in EL.

Atherton (2013) argues from a pedagogical perspective that the educator needs to 'chase' the student around the ELC asking questions to encourage reflection, conceptualisation and ways of testing ideas. Calderón Carvajal et al. (2021) and Wheeler (2012) postulate that there has been a large number of studies that have achieved inconsistent results and have shown that there is little empirical evidence to support Kolb's model. Wheeler (2012) argues that the model is obsolete in a digital age where social learning supersedes isolated learning. A study by Blenkinsop, Nolan, Hunt, Stonehouse and Telford (2016, as cited in Morris 2020) places concern that educators do not consider listening to a traditional lecture and reading a book as a CE or part of EL, while some educators will. They state that this confusion seems somewhat ironic as experience is theoretically central and perhaps the most salient feature of ELT.

Matsuo and Nagata (2020) highlight two limitations with the ELT. Firstly Kolb's model is not inclusive of an explicit process that accounts for emotions (Bell & Bell 2020) (i.e. doubt, fear and anxiety) that can emerge at the beginning of learning. Emotions may sometimes hinder the learning process as such hindrance may direct the student's focus and attention away from tasks and activities and thereby influence performance. A second limitation is that no analytical reflective process is specified in Kolb's model. Miller and Maellaro (2016) state that root-cause problem-solving, and a collective reflection step should be part of any EL process.

Morris (2020: 1065) postulates that Seaman, Brown and Quay (2017) propose that Kolb's ELT model, in its current form, actually presents as a barrier to a clearer understanding and successful facilitation of EL. Morris' (2020) research findings necessitate slight, but key, adjustments to Kolb's ELC that are proposed as an imperative consideration for future research on the ELT. More recently there have been alternative EL models based on Kolb's ELT model proposed, dependent on the context of the study (Sadaghian & Marandi 2021; Kumar & Bhandarker 2020; Matsuo & Nagata 2020; Kaushik 2017; Miller & Maellaro 2016).



### **3.4 EXPERIENTIAL LEARNING USED AS A TEACHING AND LEARNING PEDAGOGY IN THE HOSPITALITY EDUCATION CURRICULUM FROM AN INTERNATIONAL PERSPECTIVE**

The importance of EL in hospitality education is widely noted (Zisan et al. 2021; Lin, Kim, Qiu & Ren 2017) and it is deeply entrenched in the hospitality curriculum. Ren and McKercher (2021: 1) posit that hospitality education has been at the forefront of the move to integrate education and training with the recognition that a practical learning component is an indivisible aspect of comprehensive hospitality education. EL has been implemented in many leading hospitality education programmes across the world and forms an integral part of the practical component of the hospitality curriculum (Azar et al. 2020; Garlick 2014). Hospitality education, in comparison with other academic educational programmes, requires both academic and vocational curriculum contents to bridge the educational setting with relevant experience from industry (Azar et al. 2020). Not only do students need to know and understand the theoretical side of hospitality, but they also need to apply it. EL can play a vital role by providing a link between the discipline and the hospitality industry (Yang & Cheung 2014) and is seen as a useful educational pedagogy for transforming the learning experience to extend beyond the traditional classroom (Azar et al. 2020).

As stated previously many different types of EL can be implemented into a hospitality curriculum, therefore one is not confined to only one type of EL. Dang and Moreo (2021), in their study, surveyed 40 hospitality colleges of which 97% offered EL in foodservice programmes and 66% offered it in hotel programmes. The programmes studied had a compulsory of 20 credit hours of hands-on learning as a component. However, this is not always the case with some programmes as 'workplace' credits are counted above and beyond the normal credit load needed to graduate (Ren & McKercher 2021: 2). Rosenkranz (2021) argues that many of the EL types in hospitality programmes rely on the interaction or full immersion with industry partners outside of the classroom which includes internships, exchange programmes, service learning and field trips, to name a few. The length or duration of the EL i.e. practicum or an internship may range from one to 12 months.

Over the past two decades, hospitality educational institutions have realised the importance of developing employability in their students during their programmes of study (Askren & James 2021; Dang & Moreo 2021). For students to be successful in the hospitality industry after graduating, they must acquire relevant skills during their time at an educational institution. According to the standards and mission statements of some hospitality educational institutions worldwide, the focus is on preparing students for the hospitality industry by 'increasing their knowledge and skill in different related fields to their future career' (Alhelalat 2015: 48). Moreover, EL is shown to motivate learning amongst students by enriching their understanding and facilitating confirmation of knowledge learned in the classroom, making them work-ready and assisting them to achieve greater competencies which is difficult to achieve through classroom teaching alone (Ren & McKercher 2021).

However, achieving the correct balance between traditional classroom instruction and EL activities (Askren & James 2021; Ren & McKercher 2021), and providing space in the curriculum framework to draw the two together (Ren & McKercher 2021) is not straightforward. Katula and Threnhauser (1999, as cited in Askren & James 2021) argue that if EL activities are not effectively integrated within the hospitality programme, they will not be of any help to the overall learning experience. Furthermore, there is no single best model that exists (Ren & McKercher 2021). The Association for Experiential Education, founded in 1972, is a recognised authority on EL around the world. They have listed and recommended 12 prerequisites in their guideline *Experiential education: The principle of practice* in order to succeed with EL (Association Experiential Education 2022). They are:

- 1) EL occurs when carefully chosen experiences are supported by reflection, critical analysis and synthesis.
- 2) Experiences are structured to require the students to take initiative, make decisions and be accountable for results.
- 3) Throughout the EL process, the student is actively engaged in the learning event i.e. posing questions, investigating, being curious, solving problems, assuming responsibility, being creative, and constructing meaning.

- 4) Students are engaged emotionally, intellectually, soulfully, socially and/or physically. This involvement produces a perception that the learning task is authentic.
- 5) Personal learning outcomes serve as the foundation for future learning and experience.
- 6) Relationships are developed and nurtured: student to self, student to others and student to the world at large.
- 7) The educator and student may experience success, failure, adventure, risk-taking and uncertainty as the outcomes of experience cannot totally be predicted.
- 8) Opportunities are nurtured for students and educators to explore and examine their own values.
- 9) The educator's primary roles include setting suitable experiences, posing problems, setting boundaries, supporting students, ensuring physical and emotional safety, and facilitating the learning process.
- 10) The educator recognises and encourages spontaneous opportunities for learning.
- 11) Educators strive to be aware of their biases, judgements and pre-conceptions, and how these influence the students.
- 12) The architecture of the learning experience includes the possibility to learn from natural consequences, mistakes and successes.

Section 3.5 will delve into EL used as a teaching and learning pedagogy in the education curriculum from a South African perspective.

### **3.5 EXPERIENTIAL LEARNING USED AS A TEACHING AND LEARNING PEDAGOGY IN THE EDUCATIONAL CURRICULUM FROM A SOUTH AFRICAN PERSPECTIVE**

In an unequal society such as in South Africa, WIL may be utilised to bring about excellence and equity in the workplace (Maseko 2018). The South African HE sector has made provision for EL in the form of WIL embedded in policy documents promulgated by the South African parliament and the DHET such as The New

Growth Plan, the National Development Plan, the National Skills Development Strategy III, the National Skills Accord, the White Paper for Post-School Education and Training, the Higher Education Qualifications Framework (HEQF), and HEQSF (Dipitso 2021; DHET 2018; Ndlovu & Nyane 2018; CHE 2011; Republic of South Africa 2007). According to CHE (2011: 72), EL is a term used with a large variety of meanings in the international literature.

*More broadly it may refer to learning that has meaningful learner involvement. It is the process of making meaning from direct experience. Experiential learning is learning through reflection on doing, which is often contrasted with rote or didactic learning. Experiential learning is related to, but not synonymous with, experiential education, action learning, adventure learning, free choice learning, cooperative learning, and service learning. While there are relationships and connections between all these theories of education, importantly they are also separate terms with separate meanings. Experiential learning focuses on the learning process for the individual (unlike experiential education, which focuses on the transactive process between teacher and learner).*

The term EL can be used for internships, service learning and applied projects including less-structured experiences, i.e. instructional educational tours, that can be assessed and reflected upon from a learning standpoint (Ramzia et al. 2017). The Unisa (2015: 1) posits that EL is the process of developing meaning from direct experience and interplay between theory and practice where students are exposed to 'realistic experiences and important contextual characteristics of relevant disciplines'. EL is primarily intended to create a bridge between learning and experience (Azar et al. 2020), to enhance learning that is less didactic and more situated, participative and real-world orientated which could develop students' deeper understanding of their profession, improve their employability and/or competitiveness once they have graduated (Bell & Bell 2020; Maier & Thomas 2013).

WIL is defined by the CHE as an umbrella term to describe pedagogic, curricular and assessment practices, over a range of academic disciplines that integrate

formal learning and workplace concerns (DHET 2018; CHE 2011). CHE (2011) lists many different types of WIL approaches that can be used in the curricula that support students' teaching and learning and may assist with graduateness, employability, and civic responsibility. These are apprenticeships, cooperative education, EL, PBL, PjBL, team-based learning, simulated or virtual WIL learning, and so on. According to Maseko (2018: 1319), HEIs' educators are expected to negotiate boundaries of the educational theories and design appropriate curricula for pre-graduation WIL. He further states that the curricula should align teaching and learning and assessment practices with the programme's outcomes. The HEQF posits that if WIL is part of a structured qualification the volume of learning that is allocated to WIL should be appropriate to the 'purpose of the qualification and to the cognitive demands of the learning outcome and assessment criteria contained in the appropriate level descriptors' (Republic of South Africa 2007) .

It also states that it is the responsibility of the HEI, which offers the programme requiring WIL credits, to place the student into the WIL programme and that such a programme is appropriately structured, supervised, and assessed (Republic of South Africa 2007). However, the White Paper for Post-School Education and Training argues that WIL programmes are commonly vague and unstructured and only contribute to a small degree to the outcomes of a qualification (Ndlovu & Nyane 2018). Furthermore, a report by DHET (2018: 21) indicates that educators found that there is a conceptual confusion in the terminology that relates to WIL as 'everything falls under WIL'. They further state that there is no clear definition of WIL and that DHET should decide on the terminology and stick to those terms.

### **3.6 CHAPTER SUMMARY**

To investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college, the study used Kolb's ELT as a theoretical framework. Kolb's ELT was chosen to guide the study as it has 'roots' in educational research (Calderón Carvajal et al. 2021), curriculum development (Arnett et al. 2011: 6) and it is known to foster LA (Boggu & Sundarsingh 2019) as well as empower students to become autonomous. Kolb's ELT works on two levels namely, the four-mode cycle of learning and the nine KLSI. The ELT defines

learning as: 'The process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience' (Passarelli & Kolb 2020: 6; Kolb 1984: 41, 2015: 51; Kolb & Kolb 2013: 7).

Experiential LS exists in the experiences of students and is formed by objective factors, particularly the physical setting and time available for learning, and by subjective factors for instance expectations and learning preferences. The dimensions of experiential LS include psychological, social, institutional, cultural and physical and they come together in the experiences of the student.

Although Kolb's ELT is a widely recognised, used and cited model in EL, it has also been widely criticised by various scholars. The different criticisms by various scholars were highlighted. EL is an important component of the hospitality education curriculum and also from a South African HE curriculum in the acquiring of knowledge and skills needed for the workplace. WIL is defined by the CHE as an umbrella term to describe pedagogic, curricular and assessment practices, over a range of academic disciplines that integrate formal learning and workplace concerns.

Next, Chapter 4 will present the research methodology used to collect the relevant data to answer this study's research question: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?

#### 4.1 INTRODUCTION

The purpose of this study, as discussed in Chapter 1, was to investigate what is involved in project-based teaching and learning within TVET hospitality education in order to promote LA so that students could develop work-related skills and competencies to equip them for future work. Thus, developing a framework for PjBL in promoting LA could assist educators in developing meaningful learning experiences needed to develop students to acquire work-related skills, understandings, personal attributes, and experience in making them employable for the hospitality industry. To assist the researcher to answer the research problem, he formulated the research question: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?

Next, in Chapter 2, the researcher elaborated on the contextual and conceptual framework of LA and PjBL before examining what teaching and learning in TVET are about. Chapter 3 discussed Kolb's ELT as a theoretical framework that guided this study and was used to conceptualise the research problem. Following the discussion on Kolb's ELT, this chapter will discuss the research methodology used in this study.

Kumar (2008) states that the research methodology, entails the research method and reasoning, within the context of the research study, together with the purpose for the individual's selection. For this empirical study, the researcher will elaborate on the research design (Section 4.3) and research methods (Section 4.4) used in this empirical study. Section 4.3 will not only provide an overview of the research paradigm, research approach and the research strategy but will also inform on the rationalisation for the use of each.

Section 4.4 will describe how the respondents and participants were selected to participate in the three data collecting instruments used, namely a questionnaire, semi-structured interviews and students' self-reflection reports. Next, the methods that will be employed to analyse both QUAN and QUAL data will be explained.

Finally, in Section 4.5 the measurement of validity and reliability of the QUAN research results, and the trustworthiness of the QUAL research findings in the data collection and analysis will be detailed. Thereafter the ethical considerations (Section 4.6) will be highlighted, concluding the chapter with the chapter summary (Section 4.7).

Figure 4.1 illustrates the overview for Chapter 4.



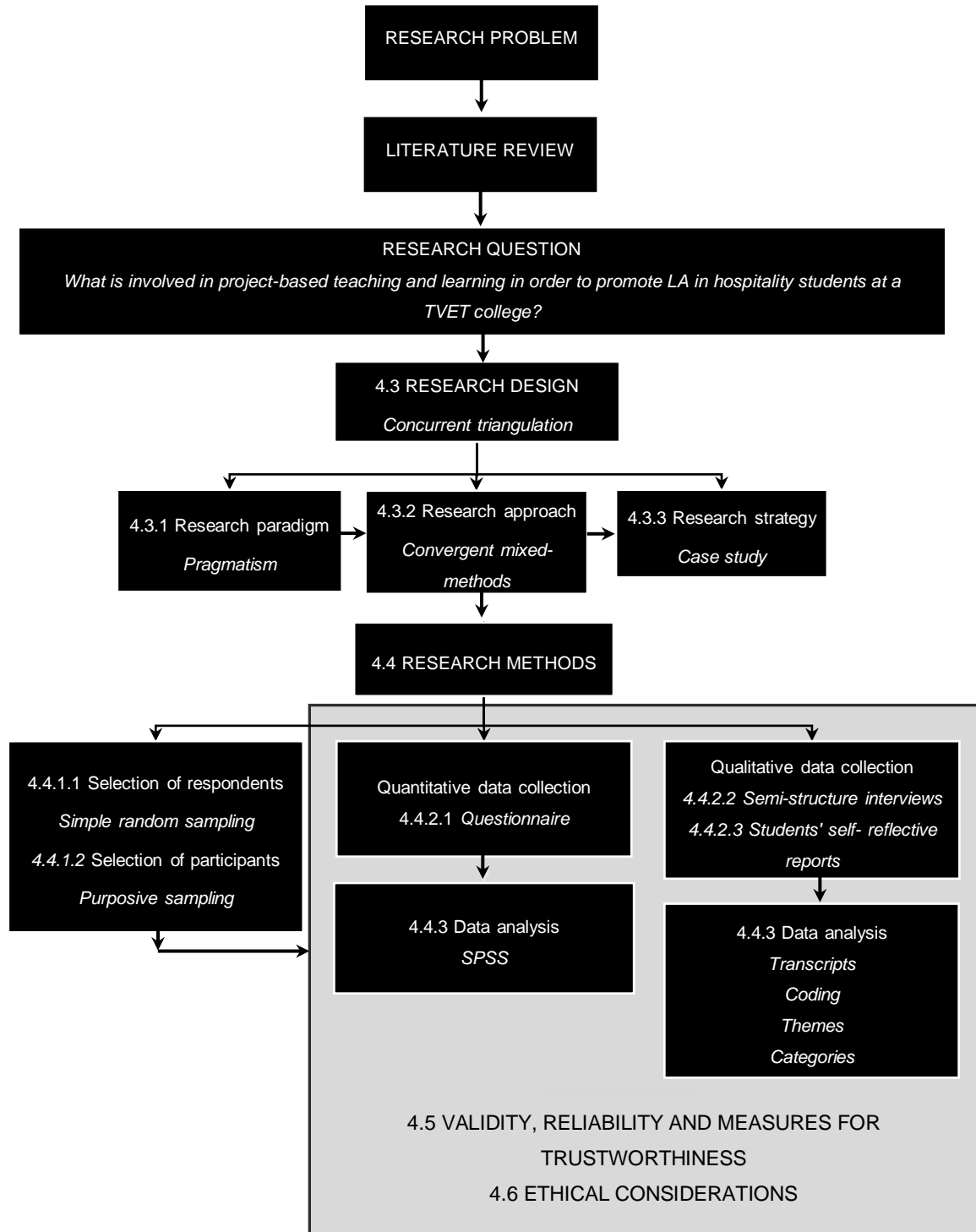


Figure 4.1: Flow of the empirical research process using a triangulation research design with a convergent mixed methods research approach for this study

Source: Adapted from (Creswell & Guetterman 2019)

## 4.2 RATIONALE FOR USING EMPIRICAL INQUIRY

Empirical research, also known as evidence-based research, is a research study that is based on a measurement of phenomena and observation as directly experienced by the researcher (Bradford & Gordon 2022; Emerald Publishing 2021) rather than from theory or belief (Bouchrika 2021). Therefore, in this current study, the research goes beyond the conceptual, contextual and theoretical data gathered and includes empirical data from fieldwork completed in the years 2021 and 2022. Thus, any conclusions and recommendations that are drawn in this study are based upon hard evidence that was collected and analysed from primary data gathered from real-life experiences (Bouchrika 2021; Emerald Publishing 2021; Godwill 2015; Sarantakos 2013). Empirical research is research that reports on findings from an original study. Therefore, the current empirical research study was to investigate what is involved in project-based teaching and learning to promote LA in hospitality students who are registered at a TVET college in NATED and NC(V) programmes.

In the context of the current study, empirical research helped the researcher to understand how PjBL influences hospitality students' work skills and competencies; how students experience autonomy through PjBL; and to establish how project-based teaching can be improved to promote LA in hospitality students. Empirical research was necessary for this study as it relies on observable data to design and test theories and reach conclusions. It is also needed to produce knowledge that is based on experience (Bouchrika 2021), especially in the case of this study of NATED and NC(V) hospitality students' experiences while completing PjBL.

This study further utilised empirical evidence to gather primary data from a MMs research approach to answer the study's research question of 'what' (Bouchrika 2021), regarding students' beliefs and perceptions of their autonomous learning, in acquiring hospitality-related knowledge and skills, once they have completed a project. The literature review has shown that there is a lack of theoretical insights and empirical research in determining whether PjBL promotes LA in hospitality education. The pragmatist approaches problems by using empirical research in an effort to identify problems that persist in society and to develop solutions to address those problems (Kaushik & Walsh 2019). The results and findings from this

empirical study are therefore deemed to fill the gap observed in the contextual, conceptual and theoretical literature review and provide a framework for PjBL in promoting LA in TVET. Bouchrika (2021: 1) postulates that empirical research functions to 'create new knowledge' about the way the world works, while Noori (2021: 15) posits that empirical research is the process of developing systematised 'knowledge gained from observations that are formulated to support insights' and generalisations about the phenomena being researched.

This study also used the empirical data with the contextual, conceptual and theoretical literature review to interpret the data on whether there is an empirical relationship between PjBL and hospitality students' work skills and competencies, and whether project-based teaching could be improved to promote LA amongst hospitality education students. Furthermore, empirical research makes use of a sample of the population that can reflect the entire population and the findings can be generalised to the population (Godwill 2015). Figure 4.1 illustrates the flow of the empirical research conducted for this study through a triangulation research design using a convergent MMs research approach.

### **4.3 RESEARCH DESIGN**

The focus of the research design is to prepare a detailed plan that indicates how the study will be conducted using a methodology that fits the research paradigm (Collins & Hussey 2021) and addresses the research question and problem (Noori 2021). According to Abutabenjeh and Jaradat (2018: 237–238), the research design is a 'critical point that is central to research studies' in social science and forms the 'blueprint' (Kumar 2019: 151) to guide the research process by laying out how a study will progress from the research question to the outcomes. It is a comprehensive planning process used to collect and analyse data in order to increase the understanding of the research topic (Abutabenjeh & Jaradat 2018; Salkind 2018). Cohen et al. (2018) define research design as a strategy or plan that is drawn up for organising the research and ensuring practicality so that the main research question can be answered based on evidence and warrants. Furthermore, Kumar (2014) states that through the research design the researcher decides on the study design, how the information will be collected from respondents and

participants, how they will be selected, how the information will be collected and analysed, and how the findings will be communicated.

The research design used in this study was a convergent (parallel or concurrent) triangulation research design. A concurrent triangulation research design aims to collect both QUAN and QUAL data simultaneously and then uses it to validate and clarify findings (Noori 2021) and converges it in the conclusions (Ary et al. 2019). Creswell and Plano Clark (2018) state that the concurrent triangulation design is a MM approach whereby the researcher collects and analyses two separate databases, namely QUAN and QUAL, and then merges the two databases for the purpose of combining or comparing the results and findings. Furthermore, by using the concurrent triangulation design in the MMs approach, the essential point is confirmatory, corroborative or cross-validative (Murdock 2021; Tashakkori & Teddlie 2010). In this study, the level of priority for the convergent MMs approach is QUAN and QUAL.

The concurrent triangulation research design has both advantages and challenges. The motivation for employing the concurrent triangulation design in this study is illustrated in the advantages of this design. Both the advantages and challenges are illustrated in Table 4.1.

Table 4.1: Advantages and challenges associated with the concurrent triangulation design

Sources: (Bhandari 2022; Noori 2021; Ary et al. 2019; Creswell & Plano Clark 2018)

Advantages	Challenges
<ul style="list-style-type: none"> <li>• By using both QUAN and QUAL MMs, a diverse source of data is gained about a specific research problem and question.</li> <li>• Triangulation assists in enhancing the validity and credibility of data since it does not overly rely on any particular method.</li> <li>• Data collection takes place simultaneously, therefore saving the researcher time in data collection.</li> </ul>	<ul style="list-style-type: none"> <li>• This design requires a significant level of expertise from the researcher to analyse both the QUAN and QUAL data.</li> <li>• It is time-consuming and labour intensive to analyse as two approaches are used.</li> </ul>

The researcher took cognisance of the challenges that are associated with using the concurrent triangulation design and acquired the use of a statistician to assist with the analysis of the QUAN data. The researcher’s promoter also offered support concerning the QUAL data analysis and observed whether both QUAN and QUAL data were correctly analysed and interpreted in the findings so that appropriate recommendations could be made to this study. Moreover, the researcher attended various workshops that were offered by Unisa’s Office of Graduate Studies and Research, in his preparation for this study.

The next sub-sections will discuss the research paradigm, research approach, and the research strategy employed by this study that is chosen from the research design.

#### 4.3.1 Research paradigm

A paradigm is defined as a philosophical way of thinking or worldview of the researcher (Kaushik & Walsh 2019; Nguyen 2019). Cohen et al. (2018) and Kivunja and Kuyini (2017) posit that this worldview is the perspective, or thinking, or set of

shared beliefs, or school of thought, that informs the interpretation or meaning of research data. The paradigm constitutes the assumptions, principles and beliefs that shape how the researcher sees the world, and how he/she interprets and acts within that world. It is the conceptual lens through which the researcher examines the methodological aspects of the study to determine the research methods that will be used, what the key concepts are, what counts as relevant knowledge, how we validate and consider that knowledge, and how the data will be analysed (Nguyen 2019; Cohen et al. 2018). Furthermore, Žukauskas, Vveinhardt and Andriukaitienė (2018) state that a paradigm provides the researcher with a theoretical, philosophical, instrumental and methodological foundation.

According to Green (2020), choosing a paradigm depends on: (1) how the researcher views what is real, (2) what the researcher knows and how they know it, (3) the current literature that exists on the topic, (4) the theoretical perspective about the chosen research topic, and (5) the researcher's own value system (see Figure 4.2).

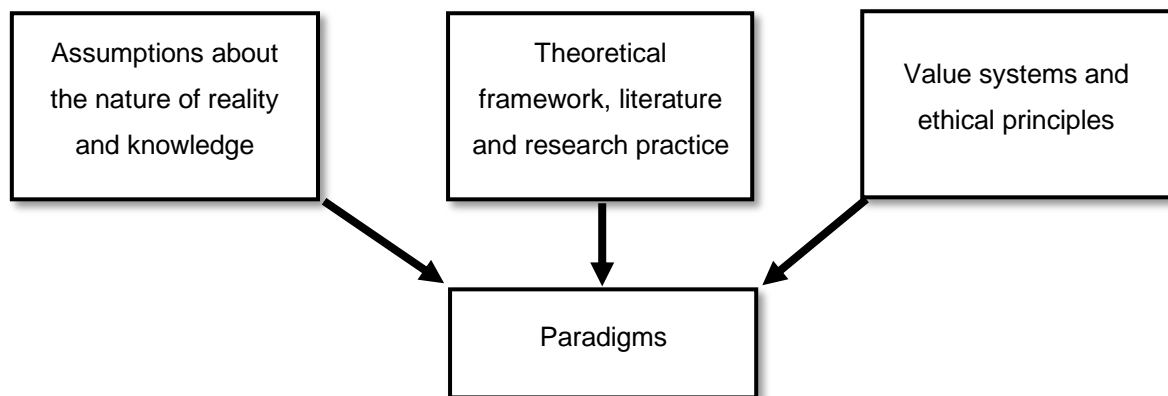


Figure 4.2: Factors influencing the choice of a paradigm

Source: Adapted from (Kawulich 2012)

Therefore, the paradigm that was chosen for this study was pragmatism which will be discussed next.

#### 4.3.1.1 An overview of the pragmatic research paradigm

Pragmatism originated from the argument amongst philosophers that a mono-paradigmatic orientation of research by using a single scientific method was not sufficient to either access the truth about the real world by the positivist paradigm or determine social reality under the interpretivist paradigm (Kaushik & Walsh 2019; Nguyen 2019; Kivunja & Kuyini 2017). This disagreement amongst scholars has given rise to a paradigm that advocates the use of a MMs approach in a pragmatic way to understand human behaviours, their beliefs behind the behaviours and the consequences that are likely to follow from their different behaviours (Nguyen 2019; Kivunja & Kuyini 2017).

The word *pragma* is derived from the Greek literature which means action, from which the words *practice* and *practical* come (Kaushik & Walsh 2019; Parvaiz et al. 2016). The term *pragmatic*, in English, has a connotation of searching for feasible and workable solutions to complex problems (Parvaiz et al. 2016). In academic literature, *pragmatism* is defined as ‘to relieve and benefit the condition of man – to make mankind happier by enabling them to cope more successfully with the physical environment and with each other’ (Rorty 1997, as cited in Parvaiz et al. 2016: 68).

Pragmatism originated in the late 19th to early 20th century in the United States of America in the work of philosophers Charles Pierce, William James and John Dewey (Saunders et al. 2019). According to Saunders, Lewis and Thornhill (2019), pragmatism strives to reconcile both subjectivism and objectivism, values and facts, accurate and rigorous knowledge, and different contextualised experiences. It achieves this by considering theories, ideas, hypotheses, concepts, and research findings not in an abstract form, but in terms of the roles they play as instruments of action and thought, and in terms of their practical consequences in specific contexts. To pragmatists, reality matters as practical effects of ideas, and knowledge is valued for enabling actions to be successfully carried out.

The goal then for a pragmatist is to utilise human experience as the primary means for building knowledge and understanding the world (Allemang, Sitter &

Dimitropoulos 2022). Research starts with a problem and then aims to contribute practical solutions that inform future practice (Kaushik & Walsh 2019; Saunders et al. 2019). Therefore, as a research paradigm, pragmatism orients itself toward 'solving practical problems in the real world' through inquiry (Allemang et al. 2022: 39; Kaushik & Walsh 2019: 4). The pragmatist uses both deductive and inductive reasoning to investigate the 'multiple, plural views' of the research problem and question (Cohen et al. 2018: 34). Allemang et al. (2022) argue that pragmatism provides an action-orientated framework for research wherein the researcher seeks to address practical issues that arise directly from communities using the most sort after methods for answering the research question. Thus, pragmatists place the research question above philosophical considerations (Dudovskiy 2022; Kaushik & Walsh 2019).

Creswell and Creswell (2017) highlight seven philosophical bases for the pragmatism paradigm. They are:

- 1) Pragmatism is not dedicated to any one system of reality and philosophy.
- 2) Researchers are allowed to select the study methodologies and processes of research that best suit their needs and goals.
- 3) Pragmatists do not see the world as an absolute unity.
- 4) Truth is what works at the time. As researchers aim to provide the best understanding of the research problem, both QUAN and QUAL data are used in conducting MMs research.
- 5) In pragmatism, the researcher looks at the 'what' and 'how' of research based on the intended consequences.
- 6) Pragmatists agree that research always occurs in social and other contexts.
- 7) Pragmatists believe in an external world independent of the mind as well as that lodged in the mind.

All research is based on some underlying philosophical assumptions and beliefs in the development of knowledge in research. Each paradigm has a different perspective on ontology, epistemology, axiology and methodology research (Kaushik & Walsh 2019). Table 4.2 indicates the assumptions and beliefs associated with the pragmatic paradigm.



Table 4.2: Assumptions, beliefs and worldview associated with the pragmatic paradigm

Sources: Adapted from (Dudovskiy 2019; Kaushik & Walsh 2019; Nguyen 2019; Žukauskas et al. 2018; Creswell & Creswell 2017; Patel 2015)

<b>Assumption/belief/worldview</b>	<b>Definition of assumption</b>	<b>Application within the paradigm</b>
<b>Ontological assumption:</b> What is reality?	Ontology is concerned with the assumptions researchers make to conceptualise the nature and form of reality and what they believe can be known about that reality.	Reality is constantly renegotiated, debated and interpreted in light of its usefulness in new unpredictable situations.
<b>Epistemological assumption:</b> How can one know reality?	Epistemology refers to how one can know the reality or truth and focuses on the nature of human knowledge and comprehension that researchers can possibly acquire so as to be able to extend, broaden and deepen understanding in their research field.	The best method is one that solves problems. Finding out is the means, change is the underlying aim.  Knowledge is derived from experience. The researcher restores the subjectively assigned and 'objective' meaning of other actions
<b>Axiological assumption:</b> What do you value in research?	Axiological refers to the ethical issues that must be considered and also considers the philosophical approach to making decisions of value or the right decisions.	Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view.
<b>Methodological assumption:</b> How do you go about finding out?	Methodological refers to the research design, methods, approaches and procedures used in an investigation.	Mixed or multiple method designs, design-based research, action research.
<b>Research methods:</b> What techniques do you use to find out?		MMs approach, such as data mining expert review, usability testing, a physical prototype,

		interviews, observations, testing and experimentation. Also surveys, and case studies.
<b>Worldview</b>		<ul style="list-style-type: none"> <li>• Consequences of actions</li> <li>• Problem-centred</li> <li>• Pluralistic</li> <li>• Real-world practice orientated</li> </ul>

From the overview of the pragmatic research paradigm, the researcher will inform on the rationalisation for selecting the pragmatic paradigm for this research in the next subsection.

#### 4.3.1.2 The rationalisation for selecting a pragmatic research paradigm for this study

The rationalisation for selecting a pragmatist research paradigm is highlighted through five reasons. First, pragmatism does not belong to any reality and philosophical system therefore the researcher has the freedom of choice. The researcher has the freedom to choose techniques, methods and procedures that best meet his needs and research aims and objectives (Alghamdi and Li 2013, as cited in Žukauskas et al. 2018). Secondly, pragmatism allows for the best philosophical and methodological approach that can be employed to solve the research problem and answer the research question to be investigated (Creswell & Guetterman 2021; Kaushik & Walsh 2019; Saunders et al. 2019). The ‘research question is the most important determinant of the research philosophy’ (Dudovskiy 2022: 1). As the pragmatist paradigm can be used to answer the ‘what’ and ‘how’ questions, the researcher decided that a MMs research approach would be best to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment. Parvaiz et al. (2016) concluded in their study that a MM approach is a valid approach for a pragmatic researcher. Therefore, using a MM approach helps to gain a more complete picture in achieving

the aim of the study as the QUAL data helps to explain and contextualise the QUAN data.

Thirdly, pragmatism is used to solve practical problems in the real world and the practical results are considered important (Žukauskas et al. 2018). For the researcher, it was important to find practical solutions to the research question and to make recommendations that educators could use to promote LA amongst hospitality students and to develop a framework for PjBL. Fourthly, this study sort to investigate the students' beliefs and perceptions of LA and project-based teaching and learning which falls within the pragmatic paradigm as pragmatists emphasise the actual behaviour of participants, their beliefs that stand behind their behaviours and the consequences that are likely to follow from different behaviours (Kivunja & Kuyini 2017). Furthermore, pragmatists believe that 'human actions can never be separated from the past experiences and from the beliefs that have originated from those experiences' (Kaushik & Walsh 2019: 3) and that human thoughts are intrinsically linked to action. Therefore, humans are capable of moulding their experience through their actions and intelligence. Lastly, Kolb's ELT is grounded in pragmatism and forms an important component of this study as the foundation from which knowledge is construed.

Creswell and Plano Clark (2018: 69) suggest that 'instead of trying to mix different paradigms' the researchers should rather use the pragmatism paradigm, especially if they want to employ a MMs approach to their study. The MMs research approach will be discussed next.

#### **4.3.2 Research approach**

A research approach is defined as the procedures and plans for a study that encompasses steps from broad assumptions to detailed methods of data collection, analysis and interpretation during an empirical study (Mavodza 2022; Creswell & Creswell 2017). Creswell and Creswell (2017) state that the selection of the appropriate research approach rests with the nature of the research problem, the researcher's personal experiences, and the audience for the study. It is therefore

important that the researcher selects the correct research approach that can be utilised to address the research problem and that will answer the research question.

The three main research approaches that a researcher can use are: (1) quantitative i.e. positivism and post-positivism, (2) qualitative i.e. constructivism and transformative, and (3) MMs i.e. pragmatism. Table 4.3 illustrates the distinctions and practices between the three research approaches.

Table 4.3: Quantitative, qualitative and mixed methods approaches with the highlighted column referencing to this study

Source: Adapted from (Creswell & Creswell 2017)

<b>Tend to or typically</b>	<b>Quantitative approaches</b>	<b>Qualitative approaches</b>	<b>MMs approaches</b>
Use these philosophical assumptions  Employ these strategies of inquiry	<ul style="list-style-type: none"> <li>• Post-positivist knowledge claims</li> <li>• Surveys and experiments</li> </ul>	<ul style="list-style-type: none"> <li>• Constructivists/ transformative knowledge claims</li> <li>• Phenomenology, grounded theory, ethnography, case study, and narrative</li> </ul>	<ul style="list-style-type: none"> <li>• Pragmatic knowledge claims</li> <li>• Sequential, convergent and transformative</li> </ul>
Employ these methods	Closed-ended questions, predetermined approaches, numeric data (may include some open-ended questions)	Open-ended questions, emerging approaches, text or image data	Both open- and closed-ended questions, both emerging and predetermined approaches, and both QUAN and QUAL data and analysis
Use these practices of research as the researcher	<ul style="list-style-type: none"> <li>• Tests or verifies theories or explanations</li> <li>• Identifies variables to study</li> </ul>	<ul style="list-style-type: none"> <li>• Positions him- or her- or himself</li> <li>• Collects participant meanings</li> </ul>	<ul style="list-style-type: none"> <li>• Collects both QUAN and QUAL data</li> <li>• Develops a rationale for mixing</li> </ul>

	<ul style="list-style-type: none"> <li>• Relates variables in questions or hypothesis</li> <li>• Uses standards of validity and reliability</li> <li>• Observes and measures information numerically</li> <li>• Uses unbiased approaches</li> <li>• Employs statistical procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Focuses on a single concept or phenomenon</li> <li>• Brings personal values into the study</li> <li>• Studies the context or setting of participants</li> <li>• Validates the accuracy of findings</li> <li>• Makes interpretations of the data</li> <li>• Creates an agenda for change or reform</li> <li>• Collaborates with the participants</li> <li>• Employs text analysis procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Integrates the data at different stages of inquiry</li> <li>• Presents visual pictures of the procedures in the study</li> <li>• Employs the practices of both QUAN and QUAL research</li> </ul>
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Furthermore, as this study employs the use of the pragmatic research paradigm as discussed in Section 4.3.1, a MMs research approach was used, more specifically the convergent MMs approach. The next section will explain the MMs research approach including the convergent MMs approach.

#### 4.3.2.1 An overview of the mixed methods research approach

Pragmatism is well suited for steering the work of merging the two approaches into a larger understanding (Creswell & Plano Clark 2018). As a MMs research approach was employed for this study, Morgan (2007, as cited in Cohen et al. 2018: 35) suggests that MMs research be seen as an 'approach', especially when using

pragmatism as a research paradigm. A MMs research approach is defined broadly as procedures for collecting, analysing and mixing both quantitative (designed to collect numbers) and qualitative (designed to collect words) methods in a single study to understand a research problem (Creswell & Guetterman 2021; Creswell & Plano Clark 2018). Other authors, such as Johnson, Onwuegbuzie and Turner (2007, as cited in Creswell & Plano Clark 2018), define MMs research as research in which the researcher combines elements of both quantitative and qualitative research approaches (i.e. using quantitative and qualitative viewpoints, data collection, analysis, inference techniques) for the intent of enhancing the breadth and depth of understanding and corroboration. Their definition relates MMs more towards a methodology and to the rationale for conducting research.

Creswell and Creswell (2017) view the MMs as an approach to inquiry that involves collecting quantitative and qualitative data, integrating both forms of data, and utilising distinct designs that may involve theoretical frameworks and philosophical assumptions. Popa, Bochiş, Laurian-Fitzgerald and Fitzgerald (2018) refer to MMs as a system of research that has been developed to employ and analyse both quantitative and qualitative data and is used when neither the quantitative nor qualitative data alone can fully develop a complete picture of the results for a study. Both preceding definitions understand MMs as an approach that provides for a complete understanding of the research problem. The MMs research is 'suitable for complex research questions comprising many components, or people and contextual factors that cannot be fully addressed by using one methodology' (Ngulube 2020: 425). It aims to maximise the advantages of both quantitative and qualitative approaches while minimising their disadvantages (Ngulube 2020).

Creswell and Plano Clark (2018) emphasise four key characteristics for designing and conducting a MMs research approach. The researcher should:

- 1) Collect and analyse both quantitative and qualitative data rigorously in response to the research question
- 2) Integrate the results and findings from the two types of data
- 3) Organise processes into particular research designs that offer the reasoning for and methods for carrying out the study

#### 4) Frame these procedures within philosophy and theory

For this empirical study, the researcher conformed to all four of the above requirements through a pragmatist paradigm in collecting and analysing both QUAN and QUAL data through a concurrent triangulation research design and then integrating the results and findings to answer the research question using Kolb's ELT as the theoretical framework.

Creswell and Guetterman (2021) list three MMs approaches, namely: (1) convergent, (2) explanatory sequential, and (3) exploratory sequential. The research approach that was chosen for this study was the convergent MMs approach which will be discussed in the next subsection.

#### 4.3.2.2 An overview of the convergent mixed methods research approach used in this study

The convergent, also known as parallel or concurrent, MMs approach is the collecting of both quantitative and qualitative data simultaneously and then analysing both data sets separately, followed by comparing or combining the results and findings, and then interpreting and explaining whether the results and findings support or diverge (Creswell & Guetterman 2021; Busetto, Wick & Gumbinger 2020; Cohen et al. 2018; Creswell & Plano Clark 2018). Other scholars refer to the convergent MM as simultaneous triangulation, parallel study, a convergence model, and concurrent triangulation (Creswell & Plano Clark 2018) The intent of using this MMs approach is to collect both QUAN and QUAL data to achieve a more thorough and full understanding of the research problem through the use of one data collection method that offers strengths that balance the deficiencies of the other method (Creswell & Guetterman 2021; Creswell & Plano Clark 2018).

Creswell and Plano Clark (2018) postulate that the convergent MMs can be used to validate one set of findings against the other (Edmonds & Kennedy 2019) or it can be used to determine if participants respond similarly if they check quantitative predetermined scales and if they are asked open-ended qualitative questions.

Figure 4.3 illustrates the application of the convergent MMs approach to this study by providing a cross-reference to various sections and sub-sections.

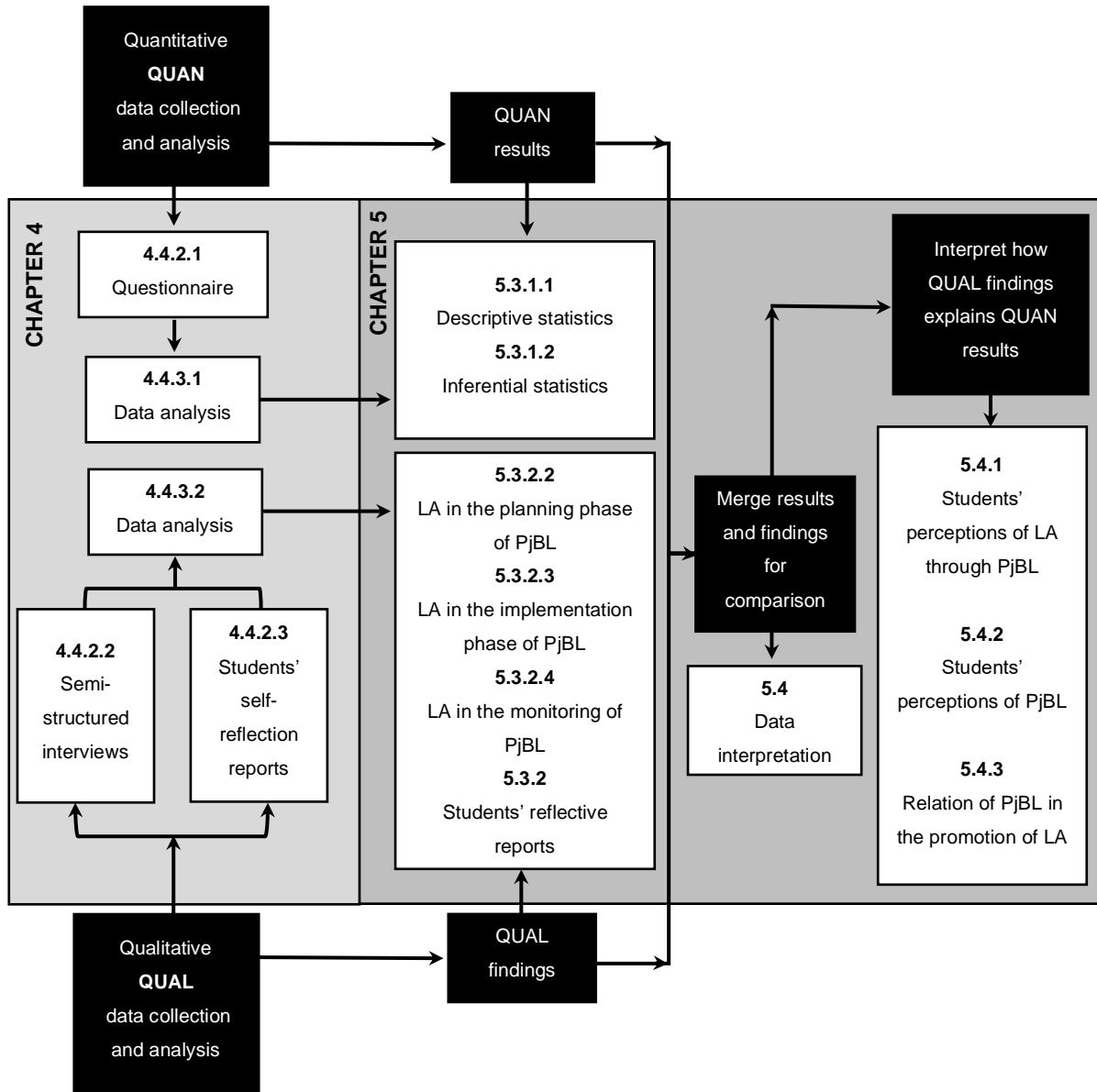


Figure 4.3: The application of the convergent mixed methods approach to sections within this study

Source: Adapted from (Creswell & Guetterman 2021)

Creswell and Guetterman (2021) argue that the convergent MM approach is based on the core assumption that quantitative data (closed-ended data) and qualitative data (open-ended data) offer different results and findings in a study and can therefore be used as a check for one another. Furthermore, qualitative data can



also provide detailed information about individuals i.e. in this study, students' personal experiences and a detailed understanding of the settings in which they respond to research problems. According to Creswell and Guetterman (2021), the convergent MM approach allowed the researcher to:

- 1) Compare the QUAN results and QUAL findings from a study in order to see if they converged and provided similar results.
- 2) Award equal priority to both QUAN and QUAL data. In this study, equal priority was given to both quantitative and qualitative data (QUAN + QUAL).
- 3) Collect both the QUAN and the QUAL data simultaneously during the study.
- 4) Compare the results and findings from the QUAN and QUAL analyses to determine if the two databases yield similar or dissimilar results.

When a study is theory orientated, Creswell and Plano Clark (2018) indicate that the theory may operate in the convergent design by providing an umbrella theoretical or/and conceptual framework that notifies the quantitative and qualitative data collection and analysis, including the researcher's approach to integrating the QUAN results and QUAL findings.

#### 4.3.2.3 The rationalisation for selecting a convergent mixed methods research approach for this study

The main argument and reason for using a MMs research approach is that the combination of both methods of data offers a better understanding and explanation of the research problem than either quantitative or qualitative data alone (Creswell & Guetterman 2021). The agreement by authors for combining the approaches is that there is more insight to be gained from the combination of both quantitative and qualitative research than from either form by itself (Creswell & Creswell 2017). The MMs approach also allows for bringing together the strengths and weaknesses of quantitative and qualitative methods. For this study, the researcher wanted to achieve objective measures, trends and generalisability by using quantitative data and subjective interpretation, detail and depth by using qualitative data (Creswell & Plano Clark 2018). Moreover, the researcher wanted to compare both QUAN data with QUAL findings for a complete understanding of the research problem and to

investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college. He also wanted to develop a framework for PjBL in promoting LA in a TVET environment using the MMs approach. Next, an overview of the case study research strategy will be discussed.

### **4.3.3 Research strategy**

A research strategy is defined as: ‘a general plan of how the researcher will go about answering the research question(s)’ (Saunders et al. 2019: 815). It is a scheme or plan in which the ‘activity of searching for and assessing information found is carried out’ (Malhotra 2017: 172). Malhotra (2017) further states that the research strategy is a subset of the research design that includes elements of data collection and interpretation that develop from the research purpose and question. Every research strategy has connections with philosophical and theoretical traditions such as the research paradigm. The research strategy for this study was a case study. The study took place at a single TVET college within the Gauteng province in South Africa, which consists of multiple campuses, during the 2021 and 2022 academic years. The next section will provide an overview of a case study strategy.

#### **4.3.3.1 An overview of a case study research strategy**

This study used a case study research strategy to describe accurately and systematically a situation, population or phenomenon (McCombes 2020) with a pragmatist paradigm. Godwill (2015: 23) argues that the ‘case study research method can be defined as an empirical inquiry that investigates a contemporary phenomenon with its real-life context’.

Case study research has multiple definitions and is termed a ‘contested terrain’ (Yazan 2015, as cited in Cohen et al. 2018: 375). Gillham (2010) and Yin (2009) define case study research as an empirical inquiry that investigates an individual institution to answer the research questions and one where the researcher uses a range of different evidence to get to the best possible answer. A case study is defined by Bell and Waters (2018: 306) as a ‘real-life situation that can be studied’ where researchers identify an ‘instance’, then evidence on the ‘instance’ is collected

systematically, the relationship between variables studied (a variable being a characteristic or attribute) and the investigation methodically planned. It is also defined as ‘the study of an instance in action’ (Adelman, Kemmis & Jenkins 1980, as cited in Cohen et al. 2018: 375), or even as ‘the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances’ (Stake 1995, as cited in Cohen et al. 2018: 375). It is a ‘variation of an ethnography in that the researcher provides an in-depth exploration of a bounded system’ (i.e. an event, an activity, a process, or an individual) ‘based on extensive data collection’ (Creswell & Guetterman 2021: 674).

While Saunders et al. (2019: 797) define it as a research strategy that involves the ‘empirical investigation of a phenomenon within its real-life context, using multiple sources of evidence’. Salkind (2018) argues that it is a method used to research an individual or an institution in a unique setting or situation in an as intense and as detailed a manner as possible. In this study, both the Saunders et al. (2019) and Salkind (2018) definitions of a case study have been selected and applied as the case study took place at a singular TVET institution specifically investigating what is involved in project-based teaching and learning in order to promote LA in hospitality students using a MM’s approach.

With case study research, the researcher attempts to develop an in-depth, holistic and thorough understanding of the case by collecting multiple forms of data (Creswell & Guetterman 2021; Kumar 2019). Yin (2018) agrees and states that a case study is relevant when the research question requires an in-depth and extensive description of a phenomenon. Case study research can be used to answer ‘how’ questions, that can either include single or multiple cases that can be part of a MMs study (Yin 2018, para. 2). In this study, the researcher sought to use three forms of data collection through a MMs approach which were: a questionnaire (QUAN), semi-structured interviews and students’ reflective reports (QUAL).

Furthermore, for a study to be named a case study, it is imperative to treat the total research population as one entity. This is based on the assumption that the case is atypical of cases of a certain type and therefore a single case can provide insight into the situations and events prevalent in a group from where the case has been

drawn (Kumar 2019). Kumar (2019) further postulates that a case study research strategy is useful when exploring an area where the researcher wants to have a holistic understanding of a phenomenon, situation, site or group. Moreover, he states that it is of enormous significance when the 'focus of a study is on extensively exploring and understanding rather than confirming and quantifying' (Kumar 2019: 138). In addition, case study research can result in data from which generalisations to theory are possible (Ary et al. 2019).

#### 4.3.3.2 The rationalisation for selecting a case study research strategy for this study

A single case study was chosen for this study as it helped to test a theory that has a specified set of propositions as well as the circumstances with which the propositions are considered to be true. Thus, a single case can be used to assess whether a theory's propositions are true or whether an alternative set of explanations might be more relevant, thereby contributing to knowledge and theory building (Yin 2018). This study aimed to develop a framework for PjBL in promoting LA in a TVET environment. Next, the single case study was to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college. Therefore, the case represented two PjBL events that took place at a TVET college during the academic years 2021 and 2022 and were informative about the experiences of the students who completed these projects (Yin 2018). These experiences were captured through the use of multiple data collection tools. Lastly, this study commenced during the Covid-19 pandemic and the researcher had to take into account the challenges that were associated with data collection due to the restrictions placed on accessing HEIs during fieldwork. Moreover, a case study was found to be the best option to combat this challenge.

## 4.4 RESEARCH METHODS

Research methods are specific procedures that are used to gather and analyse research data (Noori 2021). The research methods were determined by the research paradigm, research approach and research strategy which were derived from the research problem and research question. The next sub-sections will

discuss how the respondents and participants for this case study were selected, and how data was collected and analysed.

#### **4.4.1 Selection of respondents and participants within mixed methods research**

For this case study, one TVET college, that offered both NATED and NC(V) hospitality programmes with a specific focus on offering PjBL, was selected in the Gauteng province of South Africa, to conduct this research. A population is defined as a target group of people, with the same characteristics, that are under investigation. It is the entire set under consideration from which samples are drawn (Creswell & Guetterman 2021; Noori 2021; Salkind 2018). A total of 181 students constituted the population, within the selected TVET college, and they were used for both QUAN and QUAL data collection. To ensure that the correct population was selected for this study, the following eligibility criteria had to be met:

- 1) Students had to be registered at the TVET college during the academic years 2021 and 2022 within either the hospitality NATED or NC(V) programme.
- 2) Students had to have completed either the CTP N6 or HS L3 project.
- 3) Students needed to have had at least one year's experience within a TVET college and study within a hospitality programme so that the respondent or participant understood terminologies used within the questionnaire and/or interview questioning i.e. self-assessment report, marking rubric, etc.

The population for the academic years 2021 and 2022 within the two selected project subjects, CTP N6 and HS L3, is illustrated in Table 4.4.

Table 4.4: Research target population

Year	Subject	Population
2021	<b>CTP N6</b>	13
2022		45
<b>Total population for CTP N6</b>		<b>58</b>
2021	<b>HS L3</b>	88
2022		35
<b>Total population for HS L3</b>		<b>123</b>
<b>Total Population for this study (N=)</b>		<b>181</b>

As shown in Table 4.4, there was a total of 58 CTP N6 students and 123 HS L3 students which encompassed the total population of 181 students for the academic years 2021 and 2022. The total population was used to select a sample of respondents for the QUAN data and participants for the QUAL data collection. A sample is defined as a representative portion or a subgroup of a target population that the researcher plans to study (Creswell & Guetterman 2021; Salkind 2018). The selection of respondents and participants for the QUAN and QUAL convergent MMs approach is argued in the next subsection.

#### 4.4.1.1 The selection of the sample of respondents for the quantitative data collection in this study

As stated in Section 4.3.2, a MMs research approach was used in this study. To select the respondents within the QUAN research part of MMs, a probability sampling strategy is advised. Probability sampling is a quantitative sampling procedure in which a random sample of a population is chosen that ensures that each person in the population has an equal chance of being selected for the sample (Creswell & Guetterman 2021; Noori 2021; Salkind 2018). This is the most rigorous form of sampling quantitative research, as the researcher can claim that the sample is representative of the population and therefore can make generalisations about the population (Creswell & Guetterman 2021). There are several types of probability sampling which can be used. They are: (1) simple random sampling, (2) stratified sampling, (3) multistage cluster sampling, and (4) systematic sampling. The probability sampling that was chosen for this study was simple random sampling.

Creswell and Guetterman (2021) and Salkind (2018) state that simple random sampling is where the researcher selects persons for the sample so that any individual has an equal and independent chance of being selected from the population. The purpose of simple random sampling is to select individuals to be sampled who are representative of the population. Therefore, any bias in the population will be equally distributed among the chosen individuals, and the choice of one person does not bias the researcher for or against the choice of another. Furthermore, Salkind (2018) argues that when a researcher uses random sampling, then the characteristics of the sample should be closely related to that of a population.

To obtain the QUAN sample size that would be invited to participate in the questionnaire, the researcher used an online sample size calculator (Calculator.net 2021). The values for the confidence level, the margin of error, population proportion, and population size used to calculate the sample size are indicated in Table 4.5. Once the sample size was calculated the researcher assigned a number to each individual in the population and used an online random number generator allocated at Research randomizer (2021) to generate the randomised numbers for the potential participants. The researcher then selected the sample size according to the number calculated by the randomiser application. As the CTP N6 programme population for 2021 of thirteen (13) students was too small, all students were invited to participate in the questionnaire. Stoker (1985, as cited in De Vos et al. 2015) indicates that if a population is 20 or less, then a hundred per cent of the population can be invited to participate in a questionnaire. The sample size for the population for both CTP N6 and HS L3 is shown in Table 4.5 and explained after the table.

Table 4.5: Calculation of the simple random sample size using Calculator.net (2021) from the target population

Source: (Calculator.net 2021)

Year	Subject	Population	QUAN questionnaire sample calculation	QUAN questionnaire respondents	Confidence level	Margin of error ( <i>E</i> )
			Confidence level: 95.0% Margin of error ( <i>E</i> ): 5.0% Population proportion: 50.0%			
2021	CTP N6	13	13	13		
2022		45	41	36		
<b>Total population (<i>N</i>) for CTP N6</b>		<b>58</b>	<b>54</b>	<b>49</b>	<b>95.0%</b>	<b>5.56%</b>
2021	HS L3	88	72	64		
2022		35	33	31		
<b>Total population (<i>N</i>) for HS L3</b>		<b>123</b>	<b>105</b>	<b>95</b>	<b>95.0%</b>	<b>4.82%</b>
<b>Total population (<i>N</i>) for this study</b>		<b><i>N</i>=181</b>	<b>Total sample</b>	<b><i>n</i>=144</b>	<b>99.0%</b>	<b>4.87%</b>

Table 4.5 indicates that there was a total of 49 respondents from the population of 58 students in the subject CTP N6 (95.0% confidence level and  $E=5.56%$ ), and a total of 95 respondents from the population of 123 students in the subject HS L3 subject (95.0% confidence level and  $E=4.82%$ ). A total of 144 respondents for the two subjects, were obtained therefore procuring a level of confidence of 99.0% with a  $E=4.87%$  for this study. A level of confidence of 95.0 per cent was sought, however, 99.0 per cent was achieved when combining the total number of respondents. Therefore, this study can be generalised to the whole population. The level of confidence is 'the probability associated with a confidence interval; the probability that the interval will contain the corresponding parameter' (Noori 2021:



26). Noori (2021) and Cohen et al. (2018) postulate that in education research a confidence level of 95 and 99 per cent are commonly used.

As part of the questionnaire for the QUAN data collection, respondents were invited to indicate their willingness to participate in the semi-structured interviews by completing Section E of the questionnaire (see Appendix E). The selection of participants for the QUAL data collection will be discussed in the next subsection.

#### 4.4.1.2 The selection of participants for the qualitative data collection in this study

In QUAL data collection the nonprobability selection approach is used. Creswell and Guetterman (2021: 679) define nonprobability selection as a selection procedure in which the 'researcher chooses participants because they are available and convenient and represent some characteristics the investigator seeks to study'. The likelihood of selecting any one person, in the nonprobability selection, from the population is unknown (Salkind 2018) and therefore each person does not have an equal chance of being selected for a particular study (Fouché, Strydom & Roestenburg 2021). Thus, the purpose of employing the relevant selection technique in QUAL data collection is to collect the richest data. Rich data describes 'the notion that qualitative data and their subsequent representation' in the 'text should reveal the complexities and the richness of what is being studied' (Given 2022: 1).

The nonprobability selection technique used for this study was a purposive selection of participants. Noori (2021) and Babbie (2017) define purposive selection as a nonprobability selection strategy whereby the researcher uses their judgement to select participants who are considered to be typical of the wider population. Purposive selection is seen as a sufficient selection technique to provide maximum understanding and insight into what the researcher is studying (Ary et al. 2019). The researcher will therefore use his knowledge and experience to select participants that they believe may provide relevant information about the setting and topic or the study's objectives (Ary et al. 2019; Kumar 2019).

Table 4.6 indicates the participant numbers for both the CTP N6 and HS L3 subjects inclusive of their gender and age groups. The participants were selected through their willingness to participate in the interview, by confirming their availability, by completing Section E (see Appendix E), and by adhering to the selection criteria as explained in Section 4.4.1.

Table 4.6: Purposive selection size for qualitative data collection from the target population

Year	Subject	Population	Selection size of QUAN respondents	QUAL semi-structured interview selection size	Gender representation for the QUAL semi-structured interview		Age group representation for the semi-structured interview		QUAL self-reflection report selection size			
					Male	Female	18-19	20-21		22-23	24-25	28+
2021 to 2022	<b>CTP N6</b>	58	49	10	Male 3	Female 7	18-19 1	20-21 3	22-23 3	24-25 2	28+ 1	13
2021 to 2022	<b>HS L3</b>	123	95	8	Male 4	Female 4	18-19 1	20-21 2	22-23 2	24-25 3	28+ 0	30
<b>Total population</b>		<b>(N=181)</b>										
<b>Total QUAN sample</b>			<b>(n=144)</b>									
<b>Total QUAL selection size for semi-structured interviews</b>				<b>(n=18)</b>								
<b>Total QUAL selection size for self-reflection reports</b>									<b>(n=43)</b>			

In Table 4.6, it is illustrated that out of a total sample size of 144 respondents that participated in the questionnaire, ten CTP N6 students and eight HS L3 students were willing and participated in the semi-structured interviews. Moreover, 13 CTP N6 students and 30 HS L3 students from the years 2021 and 2022 provided voluntary permission for the researcher to investigate their perceptions of the PjBL through their self-reflection reports.

The number of participants for the semi-structured interviews was guided by data saturation whereby further data collection would yield no further themes (Collins & Hussey 2021; Vasileiou, Barnett, Thorpe & Young 2018). Noori (2021: 12) explains that data saturation is reached when the information that is gathered by the researcher from participants becomes 'repetitive and contains no new ideas' and the researcher may be reasonably confident that the inclusion of additional participants is unlikely to generate any new ideas or enhance the findings (Collins & Hussey 2021). Therefore, QUAL data collection can cease once data saturation is obtained and significant repetition of themes and information is occurring which suggests ample sampling. The next section will discuss the data collection instruments that were used in this study.

#### **4.4.2 Data collection**

Data collection for the concurrent triangulation research design was achieved by taking into consideration the research paradigm, research approach and research strategy to better understand and explain the research problem and answer the research questions. Data collection is defined as the measurement and recording of information in a research study (Noori 2021). To answer the main research question: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college, three data collection methods were used. The data collection methods that were used are a questionnaire, semi-structured interviews, and students' self-reflection reports. Table 4.7 shows the research methods used, the number of respondents and participants that partook in the study, the procedure used for data collection and how data were recorded.

Table 4.7: Data collection matrix

<b>Data collection instruments</b>	<b>Number of respondents or participants sample</b>	<b>Procedure</b>	<b>Data collection methods</b>
<b>QUANTITATIVE DATA COLLECTION INSTRUMENT</b>			
Questionnaire	144	Paper-based cross-sectional survey design (1 time).	5 and 7 point Likert scale data
<b>QUALITATIVE DATA COLLECTION INSTRUMENTS</b>			
Semi-structured interview	18	Face-to-face, semi-structured interviews (1 time).	Audio recorded data and transcripts
Student's self-reflection report	43	Project student self-reflection reports completed at the end of the project (1 time).	Self-reflection report documents

Case study research usually includes multiple data collection techniques and data that is collected from multiple sources (Shanks & Bekmamedova 2018). These collection techniques include questionnaires, observations, interviews and relevant documents (Shanks & Bekmamedova 2018; Yin 2018). The inclusion of 'multiple data collection techniques and sources strengthens the credibility of outcomes and enables different interpretations and meanings to be included in data analysis' (Shanks & Bekmamedova 2018: 193). The three data collection instruments chosen for this study and shown in Table 4.7 and will be discussed next.

#### 4.4.2.1 Questionnaire

The first data collection instrument that was used in this study was a questionnaire. Noori (2021) defines a questionnaire as a survey document with questions and/or statements that are used to gather information from individuals, known as respondents (Babbie 2017), to be used in research. The questions asked can either be open-ended or closed-ended. An open-ended question is where the respondent can provide their own answer to the question, whereas a closed-ended question is

where the respondent is asked to select an answer from among a list that is provided by the researcher (Babbie 2017). Furthermore, a questionnaire can either be structured or unstructured. A structured questionnaire, according to Peterson (2000, as cited in Wilson 2022) entails asking all respondents the same question, in the same way, in the same order. Moreover, Wilson (2022) argues that in a completely structured questionnaire, only closed-ended questions are used. Unstructured questionnaires involve the use of open-ended questions.

A questionnaire is a tool created expressly to gather data that will be valuable for analysis (Babbie 2017). According to Saunders et al. (2019), questionnaires can be used to gather three types of data variables. They are: (1) factual or demographic, (2) attitudes and opinions, and (3) behaviours and events. Factual and demographic variables differ from the other two types of variables in that they include information that the respondents can easily access and which is therefore more likely to be correct. Examples of this variable include characteristics such as gender and age. This data is used to investigate how attitudes and opinions, and behaviours and events differ as well as to check that the data obtained is representative of the entire population.

As to the second variable, Saunders et al. (2019) postulate that attitude and opinion variables contain data that respondents must contemplate before responding. They are likely to be influenced by the context in which questions are asked; recording how respondents feel about something or what they believe or think to be true or false. Lastly, behaviour and event variables are also likely influenced by context. They contain data relating to what people did (behaviours) or what happened (events) in the past, is happening now, or will happen in the future.

This study employed the use of a closed-ended structured paper-and-pen questionnaire. The reason for using a paper-and-pen questionnaire was that more students could fit into a classroom venue due to Covid-19 regulations and social distancing, than within a computer lab to complete the questionnaire. All Covid-19 protocols were followed when collecting data as prescribed by the TVET college policy.

The questionnaire, as seen in Appendix E, is comprised of five sections:

- 1) **Section A: Demographical data.** Demographical data entails the respondent's age, gender, and the faculty in which they were registered for that academic year.
- 2) **Section B: Personal autonomy.** Personal autonomy relates to the student's perception of their autonomy regarding their personal responsibility, personal control, self-awareness, active involvement, internal motivation, and insistence (Bei et al. 2019). Two dimensions exist within personal autonomy. The first is 'autonomy in managing difficulties' which relates to a student's ability to adapt to difficult situations and to seek alternative solutions. The second is 'self-awareness autonomy' which is an understanding of one's own self (Bei et al. 2019: 138).
- 3) **Section C: Educational autonomy.** Educational autonomy relates to the educational dimension of autonomy in relation to the educational programme. Educational autonomy includes items relevant to the awareness of learning needs, the organisation, monitoring and assessment of the learning process, and the extent to which students expect their educator to transfer the control of the educational procedure to them (Bei et al. 2019).
- 4) **Section D: Project-based learning.** Students needed to describe the feelings and actions that they might have experienced during the completion of the project on a Likert scale.
- 5) **Section E: Interview participation.** Students had to indicate their willingness to participate in the interview process of the study. Only students who indicated their willingness were considered for the interviews.

Table 4.8 shows the different sections of the questionnaire with the number of questions per scale, the Likert scale used to include the data variables obtained and the designers of the scales.

Table 4.8: Questionnaire sections

<b>Questionnaire sections</b>	<b>Number of questions</b>	<b>Likert scale</b>	<b>Data variables obtained</b>	<b>Reference to scale designers</b>
<b>Section A:</b> Demographics	3		Demographic	(Saunders et al. 2019)
<b>Section B:</b> Personal autonomy	7	<b>5-point Likert scale</b> 1 = strongly disagree to 5 = strongly agree	Attitude and opinions	(Bei et al. 2019)
<b>Section C:</b> Educational autonomy	9	<b>5-point Likert scale</b> 1 = strongly disagree to 5 = strongly agree	Attitude and opinions	(Bei et al. 2019)
<b>Section D:</b> Project-based experiential learning	28	<b>7-point Likert scale</b> 1 = strongly disagree to 7 = strongly agree	Attitude, opinions, behaviours, and events	(Clem et al. 2014)
<b>Section E:</b> Interview participation	1			(Barnard & Li 2016)

The primary aim of using the questionnaire was to obtain QUAN data with 5-point and 7-point Likert scales ranging from (1) strongly disagree to (5) or (7) strongly agree. The Likert scale is a method that is used to measure respondents' attitudes by indicating their degree of agreement or disagreement with a series of statements (Wilson 2022; Noori 2021; Saunders et al. 2019). Scores are summed to provide a composite measure of attitudes (Noori 2021).

As an indicator of LA, the researcher used the Bei et al. (2019) scale that was developed to measure LA from the dimensions of personal and educational autonomy. The reason for choosing this scale was due to its reflection of LA in



highlighting the correlation between personal and educational autonomy. Both personal and educational autonomy are seen as necessities for students to take ownership of acquiring the knowledge and skills needed for the world of work (Bei et al. 2019; Macaskill & Taylor 2010). The Clem et al. (2014) ELS was developed to measure students' perceptions of experienced-based instruction and was used to obtain data from respondents' experience in their PjBL. Closed-ended statements were developed using the 5-point Likert scale for measuring LA and a 7-point Likert scale for measuring EL. According to Ary et al. (2010), the benefit of using Likert scale closed-ended statements is that points can be allocated to the various responses and thus 'measures of central tendencies, variability, correlation and the like, can be calculated. They further state that closed-ended statements can be answered easily and quickly by respondents. The researcher furthermore did not want to change the Likert scales used by both authors to match each other as the scales had been validated by them.

A cross-sectional design is used to accumulate data at one point in time (Creswell & Guetterman 2021; Creswell 2014a) from a specific group of respondents. The timeline for the QUAN data collection took place from 6 October 2021 to 18 August 2022.

Table 4.9: Timeline for quantitative data collection

<b>Subject</b>	<b>Number of respondents</b>	<b>Data collection date</b>
<b>CTP N6</b>	13	6 October 2021
	36	18 August 2022
<b>HS L3</b>	64	17 and 18 November 2021
	31	16 March 2022
<b>Total number of respondents</b>	144	

As can be seen from Table 4.9, once the data was collected through paper-and-pen questionnaires, the researcher transferred the information into Google Forms for easy exporting and importing into the statistical analysis programme IBM SPSS. Next, Section 4.4.2.2 will discuss the semi-structured interview data collection instrument employed for this study.

#### 4.4.2.2 Semi-structured interviews

A semi-structured interview is where the researcher (known as the interviewer) collects QUAL data through open-ended questions that are formulated to answer the research question, however, the questions may be modified during the interview process (Busetto et al. 2020; Ary et al. 2014). Saunders et al. (2019: 816) state that a semi-structured interview is one where the interviewer has a list of 'interview themes' to work from but is open to changing the order in which questions are asked and to 'ask questions in the context of the research situation'. This study employed a one-on-one or individual semi-structured interview where the interviewer interviewed each participant individually. This approach works best when interviewing participants who don't hesitate to speak or who can comfortably offer their opinions (Creswell & Guetterman 2019). Appendix F indicates the interview schedule that was used to interview each participant during the years 2021 and 2022, combined with each participant's gender and age. The interview with each participant took an average time of 30 minutes.

Semi-structured interviews are an excellent method of collecting qualitative data when investigating participants' subjective beliefs, experiences, opinions and motivations (Creswell & Guetterman 2021; Busetto et al. 2020; De Vos et al. 2015; Creswell 2014a), and it is seen as an important component of case study data collection (Yin 2018). A QUAL interview occurs when the researcher asks participants open-ended questions in which they can 'best voice their experiences unconstrained by any perspectives of the researcher or past research findings' (Creswell & Guetterman 2021: 218). The researcher will then record the conversation and will transcribe the information into words for analysis. In this study, the researcher recorded the participants with an audio recorder, with the consent of the participant, and then transcribed the conversation himself to ensure that all the details expressed by the interviewees were documented accurately. All interviews were transcribed within 24 hours of the interview taking place to ensure the accuracy and context of the data.

Semi-structured interviews are commonly used to collaborate with data emerging from other data sources (De Vos et al. 2015). The purpose of these interviews was

to confirm and elaborate on information that was collected through the QUAN questionnaire. Moreover, the semi-structured interview was used to solicit information on the beliefs and experiences of students while planning and implementing the project, as well as the monitoring process of the project. Furthermore, the researcher wanted to know what skills participants had that allowed them to be autonomous and what skills they gained through the project. The questions for the interview were formulated from the literature review and information provided by scholars Almusharraf (2021), Yuliani and Lengkanawati (2017), Güven and Valais (2014) and Ying (2002). The interview questions used in this study are provided in Appendix G.

Creswell and Guetterman (2021) state that there are several advantages and disadvantages associated with interviews. The advantages are that interviews provide useful information when one cannot directly observe participants, and the interviewer can ask the participants specific questions to elicit information, therefore having better control over the types of information received. The disadvantages are that the interview data may be deceptive as the interviewee may try to provide answers that they think the researcher wants to hear, or that the presence of the researcher may affect how the interviewee responds. Furthermore, the interviewee's responses may not be articulate, clear or perceptive. To mitigate these disadvantages the interviewer reassured the interviewee that there were no correct or incorrect answers to the questions asked and that all information provided by the interviewee would be kept confidential and that their names would not be attached to the interview. Moreover, if the interviewee did not provide a complete answer, follow-up questions were asked to elicit the desired information from the interviewee. Next, the last data collection instrument, namely student self-reflection reports will be argued.

#### 4.4.2.3 Student's self-reflection reports

Students' self-reflection reports are a means of collecting QUAL data for research and are considered to be an effective way to acquire information regarding a person's feelings (Bashan & Holsblat 2017). Self-reflection reports reflect the lives, experiences and motivations of participants through which the researcher can get

an insight into the participants' own descriptions of themselves (Turner 2016), and participants can express their thoughts and the changes they experienced as part of their learning experience (Bashan & Holsblat 2017). As the study investigates students' perceptions of their autonomous learning and experiences through PjBL, the self-reflective reports provided the researcher with QUAL data to evaluate the contribution of PjBL to autonomous learning, and students' experiences and self-reflection in completing the project. Furthermore, Mukan et al. (2021) and Saienko and Lavrysh (2020) argue that self-monitoring and assessment skills are fundamental skills for personal and educational autonomy.

Self-reflective reports represent a good source for text data where participants have usually given thoughtful attention to them, and can be ready for analysis without the necessary transcription that is required from interview data (Creswell & Guetterman 2021; Creswell 2014b). The data also enables the researcher to 'evaluate the contribution or success of the process or change' (Bashan & Holsblat 2017: 4). The present study wanted to further establish the importance and value of students' reflective reports in promoting LA in hospitality students. In doing so, this study could provide teaching strategies to educators through a framework for PjBL in promoting LA in a TVET environment.

Furthermore, self-reflection is recognised as an important component of EL as it allows students to reflect on their experiences in order to draw out the meaning in them and then use that meaning as a guide in future experiences (Kolb & Kolb 2017). Self-reflection also allows students to reflect on the experience as it assists with the development of knowledge, applying theory to practice, and is seen as an opportunity to learn and apply skills (Roland 2017).

#### 4.4.2.4 Pilot study on this study's questionnaire and semi-structured interview questions

A pilot study is a small-scale research project performed before the main research study (Creswell & Guetterman 2021; Ismail, Kinchin & Edwards 2018) with a sample from the intended test population (Barker 2003). The pilot study helps the researcher identify how best to conduct the final research study and ensures that

errors of whatever nature can be rectified immediately and inexpensively (Ismail et al. 2018; De Vos et al. 2015). The importance of piloting both quantitative and qualitative studies is argued by Creswell and Guetterman (2021), Ismail et al. (2018), and De Vos et al. (2015). A pilot study of the questionnaire and semi-structured interview instruments is informal, and it allows the researcher to focus on specific areas that may be unclear or to test questions/statements within the questionnaire and questions asked in the interview.

For this study, a focus group discussion was held on the 29<sup>th</sup> of September 2021 using ten voluntary participants, with their consent, on the questionnaire and the semi-structured interview questions used in this study. These individuals had the same characteristics as the population of this study, but they were not part of the study. The input from the focus group was audio recorded and the participants provided written comments on any concerns they had with both instruments. The main concern that the pilot study participants had was the interpretation of words/terminologies used within the questionnaire and interview questions. Participants highlighted that it was important for the researcher to explain certain words and terminologies used in the questionnaire and for the interview questions when completing the main study. The researcher, therefore, made notes of the words and terminologies that needed explanation.

Moreover, two voluntary students, with consent, were informally interviewed to allow the researcher to practise his interviewing technique and be better informed and prepared to face any challenges that were likely to arise in the main study (Malmqvist et al. 2019). The researcher also tested to see how participants would answer the questions and whether the answers to questions would meet the aim of the study.

To mitigate any of the above concerns raised by participants during the pilot study, the researcher went through the questionnaire during fieldwork with the respondents and explained each point to ensure the clarity and meaning of each statement. The respondents were also allowed to ask questions if they did not understand a statement. Within the interview, the participants could ask the researcher to further explain any question, words or terms that they did not

understand or wanted further clarity on. In the last section of the research methods, data analysis will be discussed.

#### **4.4.3 Data analysis**

This section will elaborate on the methods employed for the data analysis of the QUAN data using a questionnaire, and the QUAL data for the semi-structured interviews and students' self-reflection reports. Data analysis, according to Noori (2021), is the process by which data is organised to better understand patterns of behaviour within the target population. Moreover, data analysis is the umbrella term that refers to several forms of analysis such as thematic analysis, content analysis, and so on. This study applied descriptive, simple linear regression, and multiple regression analyses for the QUAN data analysis, and content, thematic and narrative analyses for the QUAL data analysis as seen in Table 4.10.

Table 4.10: The type of data collected, data collection instruments, data analysis and computer programme software used

<b>Type of data</b>	<b>Data collection instrument</b>	<b>Data analysis</b>	<b>Computer programme software used for analysis</b>
Quantitative (QUAN) data	Questionnaire	<ul style="list-style-type: none"> <li>• Descriptive analysis</li> <li>• Simple linear regression analysis</li> <li>• Multiple regression analysis</li> </ul>	IBM SPSS version 26
Qualitative (QUAL) data	Semi-structured interview	<ul style="list-style-type: none"> <li>• Content analysis</li> <li>• Thematic analysis</li> <li>• Narrative analysis</li> </ul>	Atlas.ti 22
	Student's self-reflective report	<ul style="list-style-type: none"> <li>• Content analysis</li> <li>• Document analysis using Hatton and Smith's (1995) reflective writing framework</li> </ul>	

The first data analysis that will be discussed is for the QUAN phase of this study.

#### 4.4.3.1 Data analysis of quantitative data

The analyses of QUAN data are done via a number of steps. Creswell and Guetterman (2021) state that the first step is to prepare the data for analysis which involves assigning numerical scores to the data, assessing the types of scores used, selecting a statistical programme, inputting the data into the statistical programme, and then cleaning up the database for analysis. After the last QUAN data was received on 18 August 2022 and captured using Google Forms, the complete dataset was downloaded in IBM SPSS version 26 format for analysis. This study utilised the IBM SPSS programme to capture the data, clean up the database, and used it to conduct both descriptive and inferential methods of data analysis. IBM

SPSS is seen as an appropriate and recommended programme to analyse data for QUAN data (Pallant 2020).

The descriptive method provides descriptive statistics which presents information that assists a researcher to describe and summarise responses to each question in a database and determines the overall trends and the distribution of the data (Creswell & Guetterman 2021; Pallant 2020; Cohen et al. 2018). Descriptive statistics generally consist of measures of the average values of variables (i.e. Mean (*Mn*) which represents the average of data values, while Median (*Mdn*) represents the middle value, and mode represents the value that occurs most frequently) and measures of the dispersion of variables (i.e. variance, Standard Deviation (SD), or range) (Collins & Hussey 2021; Creswell & Guetterman 2021; Noori 2021; Cohen et al. 2018; Saunders et al. 2015). Mukan et al. (2021) and Kostoulas (2014) recommend that the *Mdn* be calculated for ordinal data, while Danko (2019) states that the *Mdn* is the most suitable measure for descriptive analysis as this study does not include participant group comparisons. For each statement within the questionnaire, the researcher indicated the frequency, percentage and cumulative percentage of responses achieved on the 5-point and 7-point Likert scale as well as the *Mn* and *Mdn*.

Moreover, descriptives are used to show the skewness and kurtosis. The former of the two 'indicates the symmetry of the distribution', while the latter 'provides information about the 'peakedness' of the distribution' (Pallant 2020: 57). These are considered univariate statistics as they provide analytical information regarding one variable (Collins & Hussey 2021; Noori 2021; Singh 2007) and are displayed in the form of charts and tables for further analysis. In this study, for the descriptive analysis, the researcher commenced with a univariate analysis in which he discussed the demographics of the target population. He then indicated the perceptions of respondents' personal and educational autonomy, and the respondents' experiences and perceptions of their PjBL. It is important to note that in some instances the cumulative percentage may add up to 100.1% although not indicated within the tables. This was unavoidable as percentages are rounded off to the nearest first decimal digit. Moreover, the researcher analysed the univariate statistics and reported on them in Chapter 5, Section 5.3.1.1 of this study.



After the univariate analysis, the researcher commenced with bivariate analysis, which is the analysis of two variables simultaneously to determine empirical relationships between them. Bivariate statistics is a type of inferential statistics that deals with the relationship between two variables and is used to draw conclusions, inferences or generalisations from a sample to a general population (Creswell & Guetterman 2021; Noori 2021; Salkind 2018; Allen 2017). It is therefore likely that the results from the sample are similar to results that would have been obtained from the entire population. This study aimed to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students in a TVET environment and to develop a framework for PjBL in promoting LA. Therefore, it was important to draw inferences between PjBL and LA to see whether a correlation exists between the two variables.

As part of inferential statistics, the data was analysed using both parametric and non-parametric statistical methods. Regression analysis, analysis of variance (ANOVA), and covariance analysis were all utilised as statistical methods for data analysis. To find out if the data was multicollinear, correlation analysis was utilised. The first regression analysis that was performed was a simple linear regression analysis. Simple linear regression is a regression model that estimates the relationship between two variables (a dependent and an independent variable) using a straight line (Noori 2021; Hinton, McMurray & Brownlow 2014). Simple linear regression analysis was employed to determine whether there was a relationship between the personal autonomy scale and the EL scale, as well as between the educational autonomy scale and the EL scale.

Next, multiple regression analysis was carried out to explore the relationship between one continuous, dependable variable and a set of independent variables (Pallant 2020). Multiple regression is based on correlation but allows a more sophisticated exploration of the interrelationship within a set of variables. For this study, the researcher wanted to determine whether there was a relationship between the personal autonomy scale and the sub-scales of EL, as well as the educational autonomy scale and the sub-scales of EL.

#### 4.4.3.2 Data analysis of qualitative data

##### (i) Data analysis of the semi-structured interviews

As mentioned in Section 4.4.2, the purpose of the QUAL data collection in the convergent MM's approach is to collect the QUAL data simultaneously with the QUAN data and then merge the data, compare the findings and explain any similarities and discrepancies (Creswell & Guetterman 2021). The QUAL data in this study carried the same weighting as the QUAN data as its purpose was to facilitate an understanding of the phenomenon and process being studied (Creswell & Guetterman 2021). Through the semi-structured interview QUAL data collection, the researcher wanted to understand students' perceptions and beliefs of LA through PjBL in planning, implementing and monitoring their project. This understanding was vital to answering the main research question and investigating what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment.

The data collected through face-to-face semi-structured interviews was recorded using an audio recorder and then transcribed verbatim. All interviews were transcribed within 24 hours of the interview taking place to ensure the accuracy and context of the data. Once data was transcribed in Microsoft® Word, the transcription was then uploaded to Atlas.ti 22 to store and organise the data, compare codes and produce visual representations i.e. word clouds of the QUAL data. Next, the protocols and transcripts were coded (Busetto et al. 2020). Coding is the QUAL process whereby the researcher makes sense of the text data, divides it into text segments, labels the segments, then examines the codes for overlapping and redundancy, and finally collapses these codes into themes (Creswell & Guetterman 2021; Busetto et al. 2020). The codes obtained through an inductive logical process were followed to form categories with similarities and differences, and then the categories were compared. Furthermore, 'meaningful and holistic categories' were then combined to form themes (Demir & Pismek 2018: 128). The themes that were found are provided under various subheadings in Chapter 5.

Demir and Pismek (2018) state that direct quotes may represent participants' views. Where needed, direct quotes from participants from the interview were used to reflect their views more explicitly and to depict the phenomenon more clearly. To choose the correct quotes for this study, the researcher considered a repetition of ideas, the use of meaning intensifiers, and the number of participants expressing similar ideas, and examined their level of emphasis and tone of voice while listening to the voice recordings.

(ii) Data analysis of the students' self-reflection reports

The students' self-reflection reports were used to determine the levels of reflection of a total of 43 self-reflection reports, 13 NATED and 30 NC(V), upon their experiences in completing their PjBL. In total, 129 pages and 331 sentences were analysed for the NATED students' 15 questions on two pages and the NC(V) students' six questions on one page. To analyse the data, Hatton and Smith's (1995) four-level reflective writing framework as discussed in Section 2.3.2.2 was used. The reason for utilising Hatton and Smith's (1995) reflective writing framework was due to the developmental nature of reflective writing and its value in incrementally developing students' knowledge, understanding and skills (Donohoe et al. 2022). Their reflective framework is also often used and sought after in education literature.

In order to analyse the self-reflection reports, the reports were first grouped according to their faculties. Then each report was read and each sentence was given a code of 'descriptive' or 'reflective'. The second coding phase of data analysis was to label the reflective sentences with appropriate levels of reflection based on Hatton and Smith's (1995) reflective writing framework which is either descriptive reflection, dialogic reflection, or critical reflection. Finally, the frequencies of each level were calculated separately for each of the faculties investigated in the study.

#### **4.5 RELIABILITY, VALIDITY AND MEASURES FOR TRUSTWORTHINESS**

In a MMs research approach, the data collected from both QUAN and QUAL research methods must be reliable, valid and trustworthy. Elo et al. (2014) and Maree (2011) define trustworthiness as how one can persuade the audience that

the findings in the study are noteworthy and that the research is of high quality. For the quantitative data, the researcher will ensure that both the reliability and the validity of the data are achieved (Collins & Hussey 2021; Creswell & Guetterman 2021; Babbie 2017; Ary et al. 2010) and the credibility, transferability, dependability, and confirmability of the qualitative data (Collins & Hussey 2021; Cohen et al. 2018; Elo et al. 2014). The trustworthiness of both QUAN and QUAL data will be discussed in the following sub-sections.

#### **4.5.1 Reliability and validity of quantitative data**

Reliability is defined as the extent or degree to which an instrument yields the same or stable scores on repeated trials of the instrument, that they should be free from sources of measurement error and are consistent (Collins & Hussey 2021; Creswell & Guetterman 2021; Noori 2021; Cohen et al. 2018). Two separate questionnaires, namely Bei's et al. (2020) LAS and Clem's et al. (2014) ELS were used as a combined questionnaire for respondents to complete. Although both questionnaires were combined into one questionnaire, no changes were made to the questionnaires that influenced their reliability and validity. According to Cohen et al. (2018), Cronbach's  $\alpha$  provides a co-efficient of inter-item correlation and is useful for multi-item scales. It is the most widely used test to determine the internal consistency of an instrument (Heale & Twycross 2015). The result for Cronbach's  $\alpha$  is a number between 0 and 1. The stronger the item's internal consistency within the scale, the closer the Cronbach's  $\alpha$  value is to 1. Currently, there is still a debate amongst academics as to where the appropriate cut-off points are for reliability (Hinton et al. 2014), therefore for this study, the reliability will be guided as indicated in Table 4.11. Moreover, Cronbach's  $\alpha$  values are quite sensitive to the number of items in a scale with short scales (i.e. fewer than ten items) commonly receiving a low Cronbach's  $\alpha$  value, as well as the sample size (Almunawar, Auzzali, Oseli & Ariff 2022; Pallant 2020).

Table 4.11: Cronbach's Alpha reliability

Source: (Hinton, Brownlow, McMurray & Cozens 2004; Hinton et al. 2014)

<b>Cronbach's <math>\alpha</math></b>	<b>Internal Consistency</b>
0.90 and above	Excellent reliability
0.70 to 0.90	High reliability
0.50 to 0.70	Moderate reliability
0.50 and below	Low reliability

According to Hinton et al. (2014), a Cronbach's  $\alpha$  value of 0.90 or higher indicates excellent internal consistency, 0.70 to 0.90 is high reliability, 0.50 to 0.70 is moderate reliability, and below 0.50 is low reliability. Other studies that employed Hinton's et al. (2014) interpretation of Cronbach's  $\alpha$  reliability values are Almunawar et al. (2022), Carta et al. (2022); Chevalère et al. (2022); Liu, Ye, Yang, Xiang and Liu (2022); Kvedaraite, Gelezelyte, Karatzias, Roberts and Kazlauskas (2021), and Suntharalingam, Rathakrishnan and Safari (2021).

Validity is defined as the extent or degree to which a test measures what the researcher would like it to measure and the data and results are accurate reflections of reality or the phenomena under study (Collins & Hussey 2021; Noori 2021). Furthermore, the evidence produced should demonstrate the intended test interpretation that matches the proposed purpose of the test. This evidence is based on test content, response processes, internal structure, relations to other variables, and the consequences of testing (Creswell & Guetterman 2021). The reliability and validity of both questionnaires will be briefly discussed next.

#### 4.5.1.1 Reliability and validity of the Learner Autonomy Survey

The questionnaire went through two pilot studies, the first was on a random sample of 62 respondents and the second on a random sample of 22 respondents. The questionnaire was then administered to a random sample size of 239 respondents to ensure its construct validity (Bei et al. 2019). Construct validity pursues an agreement between a theoretical concept and a specific meaning device (Noori 2021) and indicates whether the researcher can 'draw inferences about the test scores related to the concept being studied' (Heale & Twycross 2015: 66).

To examine the internal consistency and reliability of each of the sub-scales (i.e. personal and educational autonomy) Cronbach's alpha (Cronbach's  $\alpha$ ) co-efficient was used (Bei et al. 2019). The Cronbach's  $\alpha$ , for Bei's et al. (2020) study, ranged between .623 and .717. According to Bei et al. (2019) and Al-Azawei, Parslow and Lundqvist (2015), these values are considered sufficient for psychometric scales. The reliability and validity of Clem's et al. (2014) ELS will be discussed next.

#### 4.5.1.2 Reliability and validity of the Experiential Learning Survey

The ELS that was developed by, Clem et al. (2014) was tested for reliability and validity in examining experiential education for social work students. Originally the ELS scale consisted of 36 items which were given to an expert panel to rate and provide qualitative feedback on content, clarity and construct-item fit. Based on the experts' responses five items were deleted, therefore 31 items remained. The survey was distributed to 700 students with 553 responses resulting in a 79% response rate. After an analysis of internal consistency, four sub-scales, namely: authenticity, active learning, relevance and utility, as well as the global scale, were reliable. After performing a confirmatory factor analysis between the two groups the scale was reduced to a 28 item-pool.

The ELS's environment (authenticity) subscale received an  $\alpha$  co-efficient of .680, active learning subscale .854, relevance subscale .913, and utility subscale .879. Although the environment subscale received a below conventional range it was decided that the environment subscale would be retained. The global scale, containing all sub-scales, received an  $\alpha$  co-efficient of .947. In addition to the  $\alpha$  co-efficient, a global stratified  $\alpha$  co-efficient was calculated using  $\alpha$  and variances ( $\alpha = .953$ ). Clem et al. (2014) argue that a stratified  $\alpha$  is often a truer estimate of the reliability of a multidimensional scale.

#### 4.5.1.3 Reliability of the quantitative instrument used in this study

To determine whether the QUAN instrument was successful in gathering accurate data on students' perceived LA and EL, this section presents and discusses the

reliability of the data collected. The Cronbach  $\alpha$  was used to evaluate internal consistency and reliability and is illustrated in Table 4.12.

Table 4.12: Table of Cronbach Alpha co-efficient reliability estimates for the personal autonomy scale ( $n=144$ )

<b>Scales</b>	<b>Items</b>	<b>Items left out</b>	<b>Cronbach <math>\alpha</math> co-efficient</b>	<b>Reliability interpretation</b>	<b>Skewness</b>
Personal autonomy	1, 2, 3, 4, 5, 6, 7	None	0.600	Moderate	-0.507
Educational autonomy	8, 9, 10, 11, 12, 13, 14, 15, 16	None	0.507	Moderate	-0.215
Experiential learning	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28	None	0.802	High	-0.897
<b>Sub-scales of Experiential learning scale</b>					
<b>Sub-scales</b>	<b>Items</b>	<b>Items left out</b>	<b>Cronbach <math>\alpha</math> co-efficient</b>	<b>Reliability interpretation</b>	<b>Skewness</b>
Authenticity	1, 2, 4, 5	3	0.626	Moderate	-1.210
Active learning	6, 7, 8, 10, 11, 12	9	0.578	Moderate	-0.622
Relevance	13, 14, 15, 16, 17, 18, 19, 20, 21	None	0.721	High	-0.804
Utility	22, 23, 24, 25, 26, 27, 28	None	0.606	Moderate	-0.897



As the study wanted to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college, the researcher sought to obtain reliability on the global scales of personal autonomy, educational autonomy and EL for both the descriptive statistics as well as the simple linear regression analysis. As seen in Table 4.12, all three global scales received adequate reliability with the personal autonomy scale obtaining a Cronbach  $\alpha$  of 0.600 (moderate reliability), the educational autonomy scale receiving a Cronbach  $\alpha$  of 0.507 (moderate reliability), and the EL scale receiving a Cronbach  $\alpha$  of 0.802 (high reliability).

Next, the sub-scales of the EL were examined for reliability to complete a multiple regression analysis. For the two sub-scales, authenticity and active learning to obtain reliability one item of each subscale was omitted as the items achieved a negative corrected item correlation. Item 3 of the authenticity subscale: “the environment I learn in does not enhance the learning experience” received an item correlation of -0.260, while item 9 of the active learning subscale: “I find this experience boring” received an item correlation of -0.073. The reason why these items received a negative correlation was that the items were negatively stated in the questionnaire containing both positive (regular) and negative (reversed) statements. Scholars that have researched questionnaires that have both positive (regular) and negative (reversed) structured questions and/or statements combined in a single test argue that the reliability of such questionnaires may be significantly negatively affected (Zeng, Wen & Zhang 2020; Chyung, Barkin & Shamsy 2018; Suárez-Alvarez et al. 2018).

After removing the two items as stated above, Cronbach  $\alpha$  for authenticity received a 0.626 (moderate reliability), active learning received 0.578 (moderate reliability), relevance 0.721 (high reliability), and utility obtained 0.606 (moderate reliability). A Cronbach  $\alpha$  of 0.5 and above indicates an acceptable reliability according to Hinton et al. (2014). As a result, it was decided that the three scales and four sub-scales, with Cronbach's  $\alpha$  values ranging from 0.507 to 0.802, were adequate and should be used in this study (Suntharalingam et al. 2021; Hinton et al. 2014).

#### **4.5.2 Measures for the trustworthiness of qualitative data**

According to Collins and Hussey (2021) and Elo et al. (2014), the trustworthiness of qualitative analysis is presented by four criteria as suggested by Lincoln and Guba (1985) which are: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability. To gather the QUAL data for this study, the researcher used interview questions that were designed to answer the research question under study and to better understand and explain the research problem. Therefore, to ensure that the interview questions for the semi-structured interview were trustworthy, the researcher ensured that all four criteria were conformed to. The four criteria will be discussed next under each sub-heading.

##### **4.5.2.1 Credibility of the qualitative data**

The credibility of the qualitative data is ensured by the researcher by confirming that participants are identified and described accurately (Elo et al. 2014). In this study, participants were identified through the information that was provided by participants in the questionnaire and their willingness to participate in the interviews. The researcher ensured that persons were selected purposefully according to their gender and age groups, as well as the faculty in which they studied so that the findings from the QUAL data could be generalised to the entire population. QUAL researchers can also use data triangulation to indicate that the research study's findings are credible (Collins & Hussey 2021; Ary et al. 2019). This study made use of a concurrent triangulation research design to collect both QUAN and QUAL data by employing a questionnaire, semi-structured interviews and students' self-reflection reports. The data from both data collection methods was used to combine and compare both QUAN data with QUAL findings for a complete understanding of the research problem (Creswell & Plano Clark 2018) and included purposes of confirmatory, corroboration or cross-validation (Murdock 2021; Tashakkori & Teddlie 2010).

Credibility can further be improved through researchers involving themselves in the study for a prolonged period of time (Collins & Hussey 2021). The researcher was involved since the inception of this study in understanding the research problem in

order for him to employ suitable research methods to collect data to answer the main research question: *What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?* The researcher has also worked as a lecturer within the TVET environment and within the hospitality department for approximately five years so he understands the behaviours and perspectives of students studying hospitality through TVET institutions (Billups 2014). The researcher also attended various workshops that were presented by the Unisa's College of Graduate Studies to empower himself in the knowledge and skills of research so that the current study addresses the aim and objectives that are expressed in Chapter 1.

This is supported by Elo et al. (2014) who argue that credibility deals with the confidence in how well the data addresses the intended focus of the study. The researcher furthermore approached his promoter to provide input and feedback on the questions that were developed for the interview. This was to ensure that the answers that would be received from participants would assist with addressing the research problem. The interview questions were then piloted to a focus group of ten participants to ensure the understandability of the questions asked and whether participants would be able to answer the questions. Moreover, the researcher set certain criteria, as stated in Section 4.4.1, for the selection of participants for this study which ensured that the participants could provide answers to the questions asked during the interview.

Lastly, Kumar (2019) states that credibility is judged by the extent to which participants agree that what was stated during the interview was transcribed correctly. Participants were allowed to validate and approve the information transcribed during the interview as being correct.

#### 4.5.2.2 Transferability of the qualitative data

Transferability refers to the 'potential for extrapolation' (Elo et al. 2014: 2) in which the findings can be generalised or transferred to other groups or settings (Collins & Hussey 2021; Ary et al. 2019; Kumar 2019; Elo et al. 2014). As stated in Section 4.5.2.1 participants for the QUAL data collection using an interview were selected

purposefully so that the data input from participants could be generalised and transferred to persons, places and phenomena under similar conditions with similar participants (Ary et al. 2019; Billups 2014), as with this study, within a TVET teaching and learning environment for hospitality education. Moreover, Kumar (2019) posits that although it is often difficult to establish transferability through the QUAL research, researchers can achieve this if they extensively and thoroughly describe the research process followed for replication. The researcher sought throughout this study to fully describe and explain the research process as discussed in Chapter 4.

#### 4.5.2.3 Dependability of the qualitative data

Dependability refers to whether the research processes are rigorous, systematic and well-documented (Collins & Hussey 2021) and whether the findings are stable and consistent over time and across conditions (Ary et al. 2019; Billups 2014). In this study, the researcher continuously asked his promoter to review the research process and continually discussed the findings with her to see whether the same or similar findings would have been achieved. Furthermore, a detailed record of the research process was kept so that other researchers could replicate it if needed (Kumar 2019). Furthermore, Ary et al. (2019) reiterate that triangulation is also used, as with credibility, to establish the dependability of qualitative research.

#### 4.5.2.4 Confirmability of the qualitative data

Confirmability focuses on whether the research process has been described and it is possible to assess whether the findings emerge from the data (Collins & Hussey 2021). While Elo et al. (2014) postulate that objectivity is maintained through the agreement of two or more persons on the accuracy of data, its relevance or meaning. Objectivity was maintained through the assistance of the researcher's promotor as well as a colleague to ensure that the research was free of bias in the procedures and the interpretation of findings (Ary et al. 2019). Ary et al. (2019) and Billups (2014) suggest two strategies to attain confirmability which are audit trails and reflexivity. The former was achieved through the storing of all data and documentation collected in this study. Persons wishing to review, authenticate or

evaluate the data against the findings or scholars wanting to replicate this study, could do so. For reflexivity, during the interview process, the researcher audio recorded the interview so that he could continuously refer back to the recordings and transcripts during analysis, therefore, ensuring that objectivity was maintained. Where needed, verbatim transcript material was edited to make the meaning understandable, however, the meaning intended by the participant was not changed (Thorne 2020).

#### **4.6 ETHICAL CONSIDERATIONS**

It is imperative that research is conducted professionally and conforms to the ethical standards adopted by the HEI that the researcher is studying with (Collins & Hussey 2021; Saunders et al. 2019; Bell & Waters 2018; Creswell & Plano Clark 2018). Ethics refers to the principles or moral values that form the basis of a code of conduct. Therefore, before the research was conducted, the researcher applied for ethical clearance from Unisa's College of Education Ethics Review Committee as set out in Unisa's *Policy on Research Ethics*. Ethical clearance was received on 8 September 2021 with the reference number 2021/09/0859273763/05/AM (see Appendix A). Ethical approval was granted for a maximum of five years ending on 8 September 2026. The researcher then applied to the TVET college to conduct research using their Hospitality and Catering N6 and NC(V) Hospitality L3 students as human research subjects. Approval to conduct research was granted on 27 September 2021 for the pilot study and on 30 September 2021 for the main study (see Appendix B). The anonymity of the TVET college name and identity was maintained throughout the study process (Saunders et al. 2019).

During all the stages of the research, the researcher ensured that ethical practices were abided by (Collins & Hussey 2021; Saunders et al. 2019; Bell & Waters 2018; Cohen et al. 2018). The following ethical practices, as suggested by Collins and Hussey (2021) and Saunders et al. (2019), were followed by the researcher while conducting research as well as the safekeeping of data collected:

- 1) All respondents and participants, in the study, were provided with sufficient information (see Appendix C) about their voluntary participation and that they

had to provide informed consent before commencing. Students who did not provide consent in the QUAN data collection returned the paper-based questionnaire to the researcher without being penalised for doing so.

- 2) Only respondents who indicated on their questionnaire that they were willing to participate in the interview process were contacted.
- 3) All responses to the questionnaire were anonymous unless the respondent provided their contact details to be contacted for participating in the interview. Respondents who indicated on their questionnaire that they were willing to participate in the interview process were contacted by the researcher himself, therefore not providing any other person with their personal details. The personal data from both respondents and participants was kept confidential and anonymity was guaranteed to all students that participated in the QUAN and QUAL data collection.
- 4) All persons associated with the analysis of data had to sign a confidentiality agreement to ensure that the data obtained was kept confidential. Furthermore, a written confirmation was obtained from the statistician confirming that once the data analysis was completed that all data and information had been returned to the researcher then any data or information associated with the study would be permanently deleted from their electronic device i.e. laptop, and that no data or information would remain on their electronic device or within the programme used for the analysis. The data on the researcher's laptop will be kept for five years within a password-protected folder and the paper-based consent forms and questionnaires will be filed safely within a locked filing cabinet. After five years, the researcher will then delete all electronic information and will shred all paper-based documents.
- 5) A bursary was received from Unisa for the current study. However, the provision of a bursary did not influence how the research was conducted, what results and findings the researcher should look for or what findings should be suppressed, or what should or should not be reported.
- 6) Lastly, the researcher strived to be honest, respectful and sympathetic towards all respondents and participants by continually conducting the research according to the policy of Unisa's College of Education Ethics Review Committee (Unisa 2016). The researcher also strived to report the results and findings objectively and honestly thereby avoiding any

misunderstanding, misleading, misrepresenting or falsely reporting of the research findings.

#### **4.7 CHAPTER SUMMARY**

Chapter 4 has set out the research methodology used for this study. The study followed a concurrent triangulation research design to answer the main research question: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college? A pragmatist research paradigm was adopted in which a convergent MMs approach was utilised where both QUAN and QUAL data was collected simultaneously through a case study research strategy. The case study was based on a TVET college that is situated in the Gauteng province, South Africa in which hospitality students from both Hospitality and Catering Services N6 and NC(V) Hospitality L3 programmes were solicited as both the subjects CTP N6 and HS L3 offer PjBL.

The data collecting instruments that were used for this study were a questionnaire, semi-structured interviews, and students' self-reflection reports. A sample size of  $n=144$  respondents from a total population of  $N=181$  students was achieved for the QUAN data collection, while for the QUAL data collection,  $n = 18$  participants volunteered for the semi-structured interview and  $n = 43$  provided permission for the researcher to evaluate their self-reflection reports. Next, the procedure for analysing the QUAN and QUAL data was outlined. The chapter concluded with the reliability, validity and measures for trustworthiness for both the QUAN and QUAL data analysis and finally ended with the ethical considerations for this study. In the next chapter, the data analysis and interpretation will be discussed.

## CHAPTER 5

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### DATA ANALYSIS AND INTERPRETATION

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#### 5.1 INTRODUCTION

As stated in Chapter 1, this empirical study aimed to investigate what is involved in project-based teaching and learning within TVET hospitality education in order to promote LA so that students could develop work-related skills and competencies to furnish them for future work. Therefore, developing a framework for PjBL to promote LA could assist educators to develop the meaningful learning experiences needed to develop students to acquire work-related skills, understandings, personal attributes, and experience to make them employable for the hospitality industry.

Before investigating the essence of teaching and learning in TVET, Chapter 2 expanded on the contextual and conceptual framework of LA and PjBL. Furthermore, Chapter 3 discussed Kolb's ELT theoretical framework which was utilised to analyse and interpret the data that was gathered through the research methodology, which was explained in Chapter 4, to be presented in Chapter 5.

In Chapter 5 the QUAN and QUAL data will be analysed and interpreted as guided by the study's three research sub-questions as indicated in Section 1.5.2 to answer the main research question: *What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?* The three research sub-questions stated in Section 1.5.2 are:

- How do students experience autonomy through PjBL in TVET?
- How does PjBL, as an EL pedagogy, influence hospitality students' work skills and competencies?
- How can project-based teaching be improved to promote LA in hospitality students?



The QUAN results and QUAL findings are presented in Chapter 5 as illustrated in Figure 4.3. Within Chapter 5, Section 5.2 will discuss the research process for the three research instruments used for this study. Next in Section 5.3, the data analysis for both QUAN and QUAL data will be presented commencing with the QUAN data analysis (Section 5.3.1) that was obtained from the results of the questionnaire. The descriptive statistics (Section 5.3.1.1) will explain the demographic profile of the study population, followed by the analysis of data in the same sequence as it appears in the questionnaire. Furthermore, in Section 5.3.1.2 the inferential statistics using simple linear regression and multiple regression will be reported.

Moreover, in Section 5.3.2 the QUAL data analysis will discuss what was acquired from the findings of the semi-structured interviews followed by the QUAL data obtained from the findings of the students' self-reflective reports (Section 5.3.3). The analysis of data obtained from the semi-structured interview will be reported in the same order as it appears in the interview schedule.

Next, in Section 5.4 the data for both the QUAN results and QUAL findings will be merged for comparison. The results and findings will be used to determine whether the two analyses produce results that are comparable or dissimilar. Then Chapter 5 will conclude with a summary of the chapter (Section 5.5) and concluding remarks (Section 5.6).

## **5.2 RESEARCH PROCESS**

The research process reports on the procedure that was followed in the fieldwork of this case study. The fieldwork was conducted by the researcher and started on 6 October 2021 after ethical clearance was received from Unisa's College of Education Ethics Review Committee and approval from the TVET college where the fieldwork took place (Section 4.6). The fieldwork concluded on 19 October 2022 and the QUAN and QUAL data was finalised for analysis.

The researcher utilised three data collection instruments namely: a questionnaire, a semi-structured interview guide, and students' self-reflection reports. As stated in Section 4.4.2.4 a pilot study was conducted before the main data collection

fieldwork commenced to ensure reliability, validity and measures for trustworthiness (Section 4.5). It can be reported that the fieldwork went well with minimal challenges experienced, especially as most of the data collection took place during the Covid-19 pandemic. The researcher ensured that all Covid-19 protocols were followed, as requested by the TVET college, as well as the ethical considerations as stated by Unisa's College of Education Ethics Review Committee and Unisa's *Policy on Research Ethics* (Section 4.6).

### **5.2.1 The questionnaire research process**

The researcher made an appointment with both the head of departments of Report 191 Business Studies and NC(V) to set up an appointment with the lecturers offering the two subjects used within this study. Through the subject lecturers, it was organised that students would gather in a venue on an agreed date so that the researcher could gain access to and address the students. A paper-based information sheet (see Appendix C), a consent form (see Appendix D) and a questionnaire (see Appendix E) were given to students as explained in Section 4.4.2.1. The researcher discussed the three documents with the students. Moreover, the researcher explained specific points in the questionnaire that was highlighted during the pilot study. Students were also encouraged to ask any questions if they did not understand or needed further clarity.

The return result of a total of  $N=181$  administered questionnaires was 79.56% (see Table 4.4). This result showed that the students were willing to voluntarily complete the questionnaire and partake in the study. All data from the paper-based questionnaire was then captured by the researcher using Google Forms so that the data could be exported and then imported into IBM SPSS version 26 by the statistician for analysis.

### **5.2.2 The semi-structured interview process**

Data for the semi-structured interviews was collected through F2F individual interviews. Names of the voluntary participants for the interviews, were collected when the researcher collected the QUAN data. The researcher explained to

students that he was looking for voluntary participants for the interview process and that willing students could fill in Section E of the questionnaire (see Appendix E) if they were interested. The response was that 32 students were willing to participate in the interview process and provided their contact information.

Once the QUAN data was collected from a group of students, the researcher contacted the students to enquire about their availability to attend the interview. The researcher informed students about the interview process and what to expect during the interview process. Students were allowed and encouraged to ask any question(s) regarding the interview process. Following the telephone calls, an interview schedule was compiled with all the relevant participants' information (see Appendix F) and the dates on which the interview would take place. The participants were chosen according to their gender, age, the subject they were completing, and their availability. The researcher wanted to ensure that the findings were representative of the population and that the findings could be generalised to the entire population and thereby meet the selection criteria.

There were some students who did not arrive for their appointments. The researcher contacted the students to enquire if they wanted to reschedule their appointments. Some students indicated that they were no longer interested in participating in the interview and some students did not answer their phones. As the participation is voluntary, these students' names were removed from the interview schedule. Fortunately, there were enough participants who volunteered for the QUAL data to reach data saturation.

To ensure that participants understood their role in the interview, the researcher first summarised the study's goal and then enquired whether the participant still wanted to participate in the interview. Participants were also informed that the interview would be recorded and the researcher explained the purpose of recording the interview. If participants agreed to the former, they were then given a consent form to sign. Participants were made comfortable and were placed at ease with general conversation before commencing the interview. The researcher ensured that the participants remained comfortable throughout the interview process.

The questions that were used in the interview can be viewed in the interview schedule (see Appendix G). Although the questions were predetermined, the researcher did use follow-up questions with some participants for clarification of their answers. The researcher recorded the participants with an audio recorder and then transcribed the conversation himself to ensure that all the details expressed by the interviewees were documented accurately. Participants also had the option to take a break during the interview if they required it. The duration of each interview lasted between 20 and 30 minutes and all interviews took place at the TVET college for easy access by students, as well as the college being familiar to students.

### **5.2.2 The student's self-reflection report process**

Once lecturers had completed marking the project assessment and the assessments had been viewed by the students, the researcher requested that students voluntarily submit their self-reflection reports for document analysis. Students who agreed to submit their self-reflection reports were given a consent form to sign. Copies were then made of the self-reflection reports as the original had to remain with the lecturer or remain in the student's portfolio of evidence.

The CTP N6 subject did not have a self-reflection report as part of the project requirement. However, one lecturer provided her own self-reflection report for students to complete which carried no weighting towards the final mark of the students. The HS L3 subject had a service report where students self-reflect on their experience with the counter service and then rate their own service. The service report consists of 10 marks (20%) out of a total of 50 marks for the project.

In the next section, the data analysis for this case study will be explained in two parts commencing with the QUAN data results and then followed by the QUAL data findings.

## **5.3 DATA ANALYSIS**

The data analysis section will present the QUAN data results (Section 5.3.1) obtained from the questionnaire (see Appendix E) and QUAL data findings (Section

5.3.2) that were collected using the semi-structured interviews (see Appendix G) and the student's self-reflection report (Section 5.3.3). Firstly, the QUAN data will be presented.

### **5.3.1 Quantitative data analysis obtained from the results of the questionnaire**

The QUAN data will be presented in the same sequence as it appears in the questionnaire (see Appendix E). Firstly, the descriptive statistics will be explained as seen in Section 5.3.1.1 starting with the demographic profile of the respondents (Section [i]), then the personal autonomy scale (Section [ii]) and the educational autonomy scale (Section [iii]) will be discussed, concluding with EL scale (Section [iv]). Next, Section 5.3.1.2 will discuss the inferential statistics to test the relationship between the personal autonomy scale and EL scale (PjBL), and the educational autonomy scale and EL scale (PjBL) using simple linear regression analysis (Sections [i] and [ii]). Then the results of the multiple regression analysis (Sections [iii] and [iv]) conducted to test the relationship between the personal autonomy scale and the sub-scales of EL and the educational autonomy scale and the sub-scales of EL will be discussed.

#### **5.3.1.1 Descriptive statistics obtained from the quantitative data analysis of the questionnaire**

The descriptive statistics on the demographic profile are discussed in the next section.

##### **(i) Demographic profile for the quantitative data obtained from the questionnaire**

This section's objective is to describe the characteristics of the sampled TVET hospitality students and the sample's representativeness. 144 TVET hospitality students completed the survey from a total population of  $N=188$  obtaining a confidence level=99.0 with a  $E=4.87\%$  for this study. Three demographic classifications were requested from respondents, namely: gender, age and faculty. The reason for requesting the demographic information was to determine the

representativeness of the sample. Table 5.1 indicates the demographic distributions according to gender, age and faculty.

Table 5.1: Demographic profile of respondents for the questionnaire ( $n=144$ )

Demographic	Values	Frequency	Percentage	Cumulative Percent
Gender	Female	114	79.2	79.2
	Male	29	20.1	99.3
	Prefer not to say	1	0.7	100.0
Age	18-19	6	4.2	4.2
	20-21	29	20.1	24.3
	22-23	52	36.1	60.4
	24-25	30	20.8	81.3
	26-27	13	9.0	90.3
	28 +	14	9.7	100.0
Faculty	NATED N6	49	34.0	34.0
	NC(V) L3	95	66.0	100.0

From Table 5.1, it can be seen that 79.2% of the respondents were female and 20.1% were male, while one respondent (0.7%) preferred to not identify their gender. This outcome of gender, where the majority of students registered are female, is common among students that are registered in both NATED and NC(V) TVET hospitality programmes. In terms of age, 77.0% of respondents were between the age group of 20-25 years. This again is a true reflection of the age group that studies within the TVET environment as students who register for NC(V) first attempt to complete their grade 12 through the general education route. Students who register for NATED need to first complete their grade 12 or NC(V) L4 before registering for the NATED hospitality and catering programme. The majority of respondents of 66.0% were from the NC(V) faculty, while 34.0% were from the NATED faculty.

Overall, the demographic profile of the sample for this study represents the total population for the 2021 and 2022 cohorts of hospitality students who were registered at the TVET college. Next, the personal autonomy results from the LAS will be discussed.

(ii) Personal autonomy scale data analysis

Section B of the questionnaire (see Appendix E) requested respondents to answer seven statements for personal autonomy. Personal autonomy relates to the student's perception of their autonomy regarding their personal responsibility, personal control, self-awareness, active involvement, internal motivation, and insistence. Personal autonomy consists of two sub-scales: autonomy in managing difficulties (items 1-4) and self-awareness (items 5-7). Each of the two factors will be discussed separately. Although the two sub-scales are presented below, the inferential data analysis employed the global scale for personal autonomy.

(a) Personal autonomy: Autonomy in managing difficulties

In Table 5.2, statements were used to determine the student's autonomy in managing any difficulties that they may encounter. The successful management of difficulties is a 'basic characteristic' of students' personal autonomy dimension (Bei et al. 2019: 140). The autonomy in managing difficulties subscale consists of four items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.2: Personal autonomy: Autonomy in managing difficulties (n=144)

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
1	I can solely manage any new problem that may emerge in my studies	Strongly disagree	6	4.2	4.2	3.56	4.00
		Disagree	8	5.6	9.7		
		Neither agree nor disagree	46	31.9	41.7		
		Agree	67	46.5	88.2		
		Strongly agree	17	11.8	100.0		
2	I seek alternative solutions when a difficult problem arises in my studies	Strongly disagree	3	2.1	2.1	3.98	4.00
		Disagree	6	4.2	6.3		
		Neither agree nor disagree	27	18.8	25.0		
		Agree	62	43.1	68.1		
		Strongly agree	46	31.9	100.0		
3	I face the difficulties in my studies as a challenge	Strongly disagree	6	4.2	4.2	3.64	4.00
		Disagree	20	13.9	18.1		

		Neither agree nor disagree	26	18.1	36.1		
		Agree	59	41.0	77.1		
		Strongly agree	33	22.9	100.0		
4	I can easily adapt to difficult situations	Strongly disagree	9	6.3	6.3	3.49	4.00
		Disagree	21	14.6	20.8		
		Neither agree nor disagree	36	25.0	45.8		
		Agree	46	31.9	77.8		
		Strongly agree	32	22.2	100.0		

The responses for Table 5.2 show that most students agreed with the four statements in the autonomy in managing difficulties as all four statements received a *Mdn* of 4. The responses indicate that the majority of students (58.3%) agreed and strongly agreed that they can solely manage any new problems that may arise in their studies, however, 46 (31.9%) of students emphasised that they were undecided by selecting neither agreed nor disagreed. Moreover, 108 (75.0%) sought alternative solutions when faced with a difficult problem that may arise in their studies, while 27 (18.8%) neither agreed nor disagreed with finding alternative solutions. 92 (63.9%) students agreed and strongly agreed that they face difficulties in their studies as a challenge and 78 (54.1%) can easily adapt to difficult situations. However, 26 (18.1%) and 36 (25.0%) of students neither agreed nor disagreed with facing difficulties in their studies as a challenge, and that they can easily adapt to difficult situations.

Furthermore, the questionnaire responses show that 14 (9.8%), 9 (6.3%), 26 (18.0%), and 30 (20.9%) students strongly disagreed and disagreed that they could solely manage new problems that they arise in their studies, seek alternative solutions when difficult problems may arise, face difficulties in their studies as a challenge, and that they can easily adapt to difficult situations.

(b) Personal autonomy: Self-awareness autonomy

Table 5.3 provides the data for self-awareness autonomy. Self-awareness is a 'core parameter' of the personal autonomy of students (Bei et al. 2019: 140). The self-awareness autonomy subscale consists of three items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a



Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.3: Personal autonomy: Self-awareness autonomy ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	<i>Mn</i>	<i>Mdn</i>
5	I am aware of my abilities as well as my limits in relation to my studies	Strongly disagree	0	0.0	0.0	4.35	4.50
		Disagree	6	4.2	4.2		
		Neither agree nor disagree	10	6.9	11.1		
		Agree	56	38.9	50.0		
		Strongly agree	72	50.0	100.0		
6	I can solely rely on me throughout my studies	Strongly disagree	3	2.1	2.1	4.05	4.00
		Disagree	11	7.6	9.7		
		Neither agree nor disagree	18	12.5	22.2		
		Agree	56	38.9	61.1		
		Strongly agree	56	38.9	100.0		
7	I know well which learning style suits me best	Strongly disagree	1	0.7	0.7	4.38	5.00
		Disagree	4	2.8	3.5		
		Neither agree nor disagree	12	8.3	11.8		
		Agree	49	34.0	45.8		
		Strongly agree	78	54.2	100.0		

The three statements on self-awareness autonomy received a high *Mn* of 4.35, 4.05 and 4.38 and a *Mdn* of 4.50, 4.00 and 5.00 respectively. This indicates that the students agreed and strongly agreed with the three statements of self-awareness autonomy. The majority of students indicated that they agreed and strongly agreed that they are aware of their abilities and their limitations in relation to their studies (128 students, 88.9%), and that they can rely solely on themselves throughout their studies (112 students, 77.8%), and that they know which learning style suits them best (127 students, 88.2%). A small number of students indicated that they strongly disagreed and disagreed with the three statements as shown by the amounts of 6 (4.2%), 14 (9.7%), and 5 (3.5%) respectively.

(c) Personal autonomy: Global score

The global score for personal autonomy is illustrated in Table 5.4. The personal autonomy global scale consists of seven items in which students needed to rate

how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.4: Personal autonomy scale global score

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		27.4653
Mode		30.00
Std. Deviation		3.68500
Minimum		15.00
Maximum		35.00

The minimum and maximum score that could have been achieved was between zero and 35. The results indicate that the minimum score achieved was 15 and the maximum was 35 with a *Mn* of 27.47 (*Mn*=3.92 out of 5) and *SD*=3.69. Next, the educational autonomy scale data analysis will be discussed.

(iii) Educational autonomy scale data analysis

Section C of the questionnaire (see Appendix E) requested respondents to answer nine statements for educational autonomy. Educational autonomy relates to the educational dimension of autonomy in relation to the educational programme. Educational autonomy includes items relevant to the awareness of learning needs, the organisation, monitoring and assessment of the learning process, and the extent to which students expect their lecturer to transfer the control of the educational procedure to them. Educational autonomy consists of two factors: autonomy in planning (items 1-4) and autonomy in action (items 5-9). Each of the two factors will be discussed separately. Although the two sub-scales are presented below, the inferential data analysis employed the global scale for educational autonomy.

(a) Educational autonomy: Autonomy in planning

In Table 5.5, statements were used to determine the student's educational autonomy in planning. The autonomy in planning subscale consists of four items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.5: Educational autonomy: Autonomy in planning ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
1	I set realistic learning goals that meet my needs	Strongly disagree	4	2.8	2.8	3.76	4.00
		Disagree	20	13.9	16.7		
		Neither agree nor disagree	22	15.3	31.9		
		Agree	58	40.3	72.2		
		Strongly agree	40	27.8	100.0		
2	I choose the time and place of my study according to my personal needs.	Strongly disagree	1	0.7	0.7	4.19	4.00
		Disagree	4	2.8	3.5		
		Neither agree nor disagree	15	10.4	13.9		
		Agree	71	49.3	63.2		
		Strongly agree	53	36.8	100.0		
3	I plan in detail the steps to pursue my goals	Strongly disagree	5	3.5	3.5	3.58	4.00
		Disagree	28	19.4	22.9		
		Neither agree nor disagree	23	16.0	38.9		
		Agree	55	38.2	77.1		
		Strongly agree	33	22.9	100.0		
4	I can evaluate my learning in total	Strongly disagree	1	0.7	0.7	4.03	4.00
		Disagree	9	6.3	6.9		
		Neither agree nor disagree	18	12.5	19.4		
		Agree	73	50.7	70.1		
		Strongly agree	43	29.9	100.0		

The responses from the questionnaire were used to determine the extent to which students planned for their studies while completing their hospitality programme. The *Mdn* for all four statements was 4.00. The responses indicate that the majority of students agreed that they planned for their studies therefore the hospitality programme, through PjBL, created good conditions for LA. 98 (68.1%) of

respondents indicated that they agreed and strongly agreed that they set realistic goals that met their needs, however, 24 (16.7%) strongly disagree and disagreed and 22 (15.3%) lacked the certainty of setting goals. The combined percentage of the latter shows that 32.0% of respondents lacked absolute certainty or did not set realistic learning goals. Although 68.1% of respondents indicated that they agreed and strongly agreed that they set realistic goals, 88 (61.1%) respondents agreed and strongly agreed that they planned in detail the steps to pursue their goals.

Furthermore, most students indicated that they chose the time and place for their studies according to their personal needs as the responses show that more than three-quarters, 124 respondents (86,1%) agreed and strongly agreed with the statement. The *Mn* achieved was 4.19. Finally, 116 (80.6 %) respondents stated that they agreed and strongly agreed that they could self-evaluate their learning in total. A high *Mn* of 4.03 was achieved. However, 10 (7.0%) disagreed and strongly disagreed that they could self-evaluate. Although this amount is small, all students must have the knowledge, skill and methods to self-evaluate. Moreover, 18 (12.5%) respondents were uncertain whether they could self-evaluate their learning by indicating that they neither agreed nor disagreed.

(b) Educational autonomy: Autonomy in action

In Table 5.6, statements were used to determine the student's educational autonomy in taking action in choosing the content, resources and methods of their learning in addition to the opportunities of self-acting that their lecturers offer (Bei et al. 2019). The autonomy in action subscale consists of five items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.6: Educational autonomy: Autonomy in action ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
5	I want to choose the content and method of my studies	Strongly disagree	10	6.9	6.9	3.85	4.00
		Disagree	9	6.3	13.2		
		Neither agree nor disagree	25	17.4	30.6		
		Agree	48	33.3	63.9		
		Strongly agree	52	36.1	100.0		
6	I want to choose the means and resources for my studies	Strongly disagree	1	0.7	0.7	3.97	4.00
		Disagree	10	6.9	7.6		
		Neither agree nor disagree	27	18.8	26.4		
		Agree	61	42.4	68.8		
		Strongly agree	45	31.3	100.0		
7	I am acquainted with the use of a variety of information resources	Strongly disagree	2	1.4	1.4	3.93	4.00
		Disagree	9	6.3	7.6		
		Neither agree nor disagree	27	18.8	26.4		
		Agree	65	45.1	71.5		
		Strongly agree	41	28.5	100.0		
8	I want my lecturer to let me act on my own	Strongly disagree	26	18.1	18.1	2.92	3.00
		Disagree	38	26.4	44.4		
		Neither agree nor disagree	29	20.1	64.6		
		Agree	24	16.7	81.3		
		Strongly agree	27	18.8	100.0		
9	I want my lecturer to help me when it is absolutely necessary	Strongly disagree	0	0	0	4.65	5.00
		Disagree	1	0.7	0.7		
		Neither agree nor disagree	8	5.6	6.3		
		Agree	31	21.5	27.8		
		Strongly agree	104	72.2	100.0		

The results revealed that 100 (69.4%) students agreed and strongly agreed that they wanted to choose the content and method of their studies. However, 19 (13.2%) students disagreed and strongly disagreed with choosing the content and method of their studies, therefore they wanted the lecturer to choose the content and method of study for them. The *Mn* achieved for items 6 and 7 were 3.97 and 3.93. In addition, most students, 106 (73.6%) agreed and strongly agreed in choosing the means and resources for their studies and that the same number of responses were acquainted with the use of a variety of information resources.

Furthermore, although the majority of students agreed and strongly agreed to choose the means and resources to study, just under half of the respondents, 64 (44.5%), disagreed and strongly disagreed that they wanted their lecturers to let them act on their own. In addition, 29 (20.1%) were uncertain by indicating that they neither agreed nor disagreed. Therefore, a combined percentage of 64.6%, wanted some or total guidance from their lecturers while 51 (35.5%) respondents wanted total autonomy by agreeing and strongly agreeing on wanting their lecturers to let them act on their own. Moreover, 135 (93.7%) respondents overwhelmingly agreed and strongly agreed that they wanted their lecturers to help them when it was absolutely necessary.

(c) Educational autonomy: Global score

Next, Table 5.7 presents the global score for educational autonomy. The educational autonomy global scale consists of nine items in which students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree).

Table 5.7: Educational autonomy scale global score

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		34.8750
Mode		34.00 and 36.00
Std. Deviation		4.10164
Minimum		23.00
Maximum		45.00

The minimum and maximum score that could have been achieved was between zero and 45. The results indicate that the minimum score achieved was 23 and the maximum was 25 with a *Mn* of 34.88 (*Mn*=3.87 out of 5) and *SD*=4.10. In the following section the data analysis for the EL scale will be discussed as asked in Section D of the questionnaire (see Appendix E).

(iv) Experiential learning scale data analysis

In Section D of the questionnaire (see Appendix E), students were asked to rate how strongly they disagree (1) to how strongly they agreed (7), using a Likert-type scale, on their experience during the planning, implementation and monitoring of PjBL. The EL scale is divided into four sub-scales, namely authenticity (items 1-5), active learning (items 6-12), relevance (items 13-21), and utility (items 22-28). This section will then conclude with the global score for the EL scale. Clem et al. (2014) postulate that the sub-scales can be scored by summing up the numbers associated with responses from the EL scale and may be interpreted individually, where high scores show a high-level of the perceived value of the project.

(a) Experiential learning: Authenticity

Authenticity refers to how information is provided to students and ensures that the activities and consequences of PjBL are understood by the students as relevant to their lives. The project provides meaningful experiences within the context of their outlook on life (High Quality Project Based Learning 2018; Clem et al. 2014; Carver 1996). The EL authenticity subscale consists of five items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree). Table 5.8 shows the results for EL: Authenticity.

Table 5.8: Experiential learning: Authenticity ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
1	The setting where I learn helps me understand the learning material better	strongly disagree	0	0.0	0.0	5.72	6.00
		disagree	4	2.8	2.8		
		somewhat disagree	6	4.2	6.9		
		neither agree nor disagree	8	5.6	12.5		
		somewhat agree	31	21.5	34.0		
		agree	55	38.2	72.2		
		strongly agree	40	27.8	100.0		
2	I expect real-world problems to come up during this learning experience	strongly disagree	3	2.1	2.1	5.61	6.00
		disagree	6	4.2	6.3		
		somewhat disagree	6	4.2	10.4		
		neither agree nor disagree	7	4.9	15.3		
		somewhat agree	28	19.4	34.7		
		agree	51	35.4	70.1		
		strongly agree	43	29.9	100.0		
3	The environment I learn in does not enhance the learning experience	strongly disagree	17	11.8	11.8	4.28	5.00
		disagree	19	13.2	25.0		
		somewhat disagree	10	6.9	31.9		
		neither agree nor disagree	22	15.3	47.2		
		somewhat agree	29	20.1	67.4		
		agree	31	21.5	88.9		
		strongly agree	16	11.1	100.0		
4	The learning experience requires me to interact with people other than students and lecturer	strongly disagree	4	2.8	2.8	5.65	6.00
		disagree	9	6.3	9.0		
		somewhat disagree	7	4.9	13.9		
		neither agree nor disagree	5	3.5	17.4		
		somewhat agree	22	15.3	32.6		
		agree	39	27.1	59.7		
		strongly agree	58	40.3	100.0		
5	I expect to return to an environment similar to the one where this learning experience occurs	strongly disagree	4	2.8	2.8	5.78	6.00
		disagree	3	2.1	4.9		
		somewhat disagree	7	4.9	9.7		
		neither agree nor disagree	10	6.9	16.7		
		somewhat agree	17	11.8	28.5		
		agree	45	31.3	59.7		
		strongly agree	58	40.3	100.0		



Table 5.8. shows that the majority of students agreed ( $Mdn=6.00$ ) to items 1, 2, 4, and 5 and somewhat agreed ( $Mdn=5.00$ ) to item 3 that PjBL presents environment authenticity. The questionnaire responses show that 95 (66.0%) respondents agreed and strongly agreed, whereas 31 (21.5%) respondents agreed somewhat that the setting where they learn helps them understand the learning material better. However, 47 (32.6%) indicated that the environment they learn in does not enhance the project and 29 (20,1%) respondents stated to some extent that the environment they learn in does not enhance the project.

Most students 94 (65.3%) agreed and strongly agreed that they expected real-world problems to be present in the project and 28 (19.4%) agreed to some extent ( $Mn=5.61$ ). 15 respondents (10.5%) somewhat disagreed, disagreed and strongly disagreed that real-world problems would be present in the project. Moreover, 22 (15.3%) somewhat agreed and 97 (67.4%) agreed and strongly agreed that the learning experience required them to interact with people other than students and the lecturer ( $Mn=5.65$ ). Finally, nearly three-quarters, 103 (71.3%) respondents expected to return to an environment that was similar to the project, while 17 (11.8%) to some degree expected to return to a similar environment ( $Mn=5.78$ ). However, 7 (4.9%) did not expect to return to a similar environment. Table 5.9 presents the total score for the five statements on the construct of EL: authenticity.

Table 5.9: Experiential learning: Authenticity totals

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		26.4722
Mode		28.00 and 29.00
Std. Deviation		3.96831
Minimum		13.00
Maximum		35.00

The minimum and maximum score that could have been achieved was between zero and 35. The results indicate that the minimum score achieved was 13 and the maximum was 35 with a  $Mn$  of 26.47 and  $SD=3.97$ .

(b) Experiential learning: Active learning

Active learning is concerned with the level of engagement the students have with the learning material. The activities should address 'mental and physical involvement' and ensure the student is an active participant in the project (Clem et al. 2014; Carver 1996). The EL active learning subscale consists of seven items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree). Table 5.10 indicates the results for EL: Active learning.

Table 5.10: Experiential learning: Active learning ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
6	I am stimulated by what I am learning	strongly disagree	0	0.0	0.0	6.07	6.00
		disagree	1	0.7	0.7		
		somewhat disagree	2	1.4	2.1		
		neither agree nor disagree	9	6.3	8.3		
		somewhat agree	23	16.0	24.3		
		agree	48	33.3	57.6		
		strongly agree	61	42.4	100.0		
7	The learning experience requires me to do more than just listen	strongly disagree	0	0.0	0.0	6.44	7.00
		disagree	1	0.7	0.7		
		somewhat disagree	2	1.4	2.1		
		neither agree nor disagree	2	1.4	3.5		
		somewhat agree	8	5.6	9.0		
		agree	45	31.3	40.3		
		strongly agree	86	59.7	100.0		
8	The learning experience is presented to me in a challenging way	strongly disagree	8	5.6	5.6	5.08	6.00
		disagree	14	9.7	15.3		
		somewhat disagree	7	4.9	20.1		
		neither agree nor disagree	16	11.1	31.3		
		somewhat agree	20	13.9	45.1		
		agree	42	29.2	74.3		
		strongly agree	37	25.7	100.0		
9	I find this learning experience boring	strongly disagree	70	48.6	48.6	2.35	2.00
		disagree	38	26.4	75.0		
		somewhat disagree	7	4.9	79.9		
		neither agree nor disagree	3	2.1	81.9		

		somewhat agree	7	4.9	86.8		
		agree	9	6.3	93.1		
		strongly agree	10	6.9	100.0		
10	I feel like I am an active part of the learning experience	strongly disagree	1	0.7	0.7	6.07	6.00
		disagree	2	1.4	2.1		
		somewhat disagree	2	1.4	3.5		
		neither agree nor disagree	6	4.2	7.6		
		somewhat agree	19	13.2	20.8		
		agree	54	37.5	58.3		
		strongly agree	60	41.7	100.0		
11	The learning experience requires me to really think about the information	strongly disagree	0	0.0	0.0		
		disagree	2	1.4	1.4		
		somewhat disagree	1	0.7	2.1		
		neither agree nor disagree	11	7.6	9.7		
		somewhat agree	24	16.7	26.4		
		agree	52	36.1	62.5		
		strongly agree	54	37.5	100.0		
12	I am emotionally invested in this experience	strongly disagree	2	1.4	1.4	5.65	6.00
		disagree	3	2.1	3.5		
		somewhat disagree	6	4.2	7.6		
		neither agree nor disagree	17	11.8	19.4		
		somewhat agree	23	16.0	35.4		
		agree	47	32.6	68.1		
		strongly agree	46	31.9	100.0		

The majority of respondents agreed that the project promoted active learning as items 6, 8, 10, 11, and 12 received a *Mdn* of 6.00, while item 7 received a strongly agree. Furthermore, item 9 was stated in the negative, 108 (74.7%) disagreed and strongly disagreed and 7 (4.9%) somewhat disagreed that the project was boring. Therefore, three-quarters of students found the project to be interesting. However, 19 (13.2%) respondents agreed and strongly agreed that the project was boring and 7 (4.9%) respondents found it somewhat boring.

Moreover, the questionnaire responses indicate that 109 (75.7%), 131 (91%), 79 (54.7%), 114 (79.2%), 106 (73.6%), and 93 (64.5%) students agreed and strongly agreed that they were stimulated by what they were learning, the project was presented in a challenging way, they felt that they were an active part of the project, the project required them to really think about the information, and that they were emotionally invested in the project. Moreover, 23 (16%), 8 (5.6%), 20 (13.9%), 19

(13.2%), 24 (16.7%), and 23 (16%) somewhat agreed with the preceding statements in the same order.

Furthermore, a small number of respondents, 3 (2.1%), 3 (2.1%), 29 (20.1%), 5 (3.5%), 3 (2.1%), and 11 (7.6%) somewhat disagreed, disagreed and strongly disagreed that they were stimulated by what they were learning, the project was presented in a challenging way, they felt that they were an active part of the project, the project required them to really think about the information, and that they were emotionally invested in the project. Table 5.11 presents the total score for the seven statements on the construct of EL: Active learning.

Table 5.11: Experiential learning: Active learning totals

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		40.9444
Mode		38.00 and 39.00
Std. Deviation		4.56618
Minimum		27.00
Maximum		49.00

The minimum and maximum score that could have been achieved was between zero and 49. The results indicate that the minimum score achieved was 27 and the maximum was 49 with a *Mn* of 40.94 and *SD*=4.57.

(c) Experiential learning: Relevance

The relevance construct draws on the student's experience and allows the student to internalise and reflect on their past experiences to connect old and new information (Clem et al. 2014). The EL relevance subscale consists of nine items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree). Table 5.12 indicates the results for EL: relevance.

Table 5.12: Experiential learning: Relevance ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
13	I care about the information I am being taught	strongly disagree	0	0.0	0.0	6.42	7.00
		disagree	2	1.4	1.4		
		somewhat disagree	0	0	1.4		
		neither agree nor disagree	4	2.8	4.2		
		somewhat agree	13	9.0	13.2		
		agree	36	25.0	38.2		
		strongly agree	89	61.8	100.0		
14	The learning experience makes sense to me	strongly disagree	2	1.4	1.4	6.29	7.00
		disagree	0	0.0	1.4		
		somewhat disagree	0	0.0	1.4		
		neither agree nor disagree	6	4.2	5.6		
		somewhat agree	12	8.3	13.9		
		agree	48	33.3	47.2		
		strongly agree	76	52.8	100.0		
15	This learning experience has nothing to do with me	strongly disagree	78	54.2	54.2	2.10	1.00
		disagree	34	23.6	77.8		
		somewhat disagree	6	4.2	81.9		
		neither agree nor disagree	8	5.6	87.5		
		somewhat agree	6	4.2	91.7		
		agree	8	5.6	97.2		
		strongly agree	4	2.8	100.0		
16	This learning experience is enjoyable to me	strongly disagree	2	1.4	1.4	6.15	7.00
		disagree	3	2.1	3.5		
		somewhat disagree	3	2.1	5.6		
		neither agree nor disagree	8	5.6	11.1		
		somewhat agree	11	7.6	18.8		
		agree	37	25.7	44.4		
		strongly agree	80	55.6	100.0		
17	I can identify with the learning experience	strongly disagree	0	0.0	0.0	5.93	6.00
		disagree	0	0.0	0.0		
		somewhat disagree	2	1.4	1.4		
		neither agree nor disagree	11	7.6	9.0		
		somewhat agree	27	18.8	27.8		
		agree	59	41.0	68.8		
		strongly agree	45	31.3	100.0		

18	This learning experience is applicable to me and my interests	strongly disagree	0	0.0	0.0	6.28	7.00
		disagree	0	0.0	0.0		
		somewhat disagree	3	2.1	2.1		
		neither agree nor disagree	3	2.1	4.2		
		somewhat agree	21	14.6	18.8		
		agree	41	28.5	47.2		
		strongly agree	76	52.8	100.0		
19	My lecturer encourages me to share my ideas and past experiences	strongly disagree	6	4.2	4.2	5.58	6.00
		disagree	4	2.8	6.9		
		somewhat disagree	5	3.5	10.4		
		neither agree nor disagree	16	11.1	21.5		
		somewhat agree	21	14.6	36.1		
		agree	38	26.4	62.5		
		strongly agree	54	37.5	100.0		
20	This learning experience falls in line with my interests	strongly disagree	2	1.4	1.4	6.00	6.00
		disagree	2	1.4	2.8		
		somewhat disagree	3	2.1	4.9		
		neither agree nor disagree	13	9.0	13.9		
		somewhat agree	14	9.7	23.6		
		agree	43	29.9	53.5		
		strongly agree	67	46.5	100.0		
21	I can think of tangible ways to put this learning experience into future practice	strongly disagree	0	0.0	0.0	6.27	6.50
		disagree	0	0.0	0.0		
		somewhat disagree	0	0.0	0.0		
		neither agree nor disagree	7	4.9	4.9		
		somewhat agree	19	13.2	18.1		
		agree	46	31.9	50.0		
		strongly agree	72	50.0	100.0		

The majority of respondents agreed to the relevance of the project from the results obtained from items 17, 19, 20 and 21 which received a *Mdn* of 6.00, while items 13, 14, 16 and 19 received a strongly agree (7.00). As item 15 was stated in the negative, more than three-quarters of respondents, 112 (77.8%), disagreed and strongly disagreed and 8 (5.6%) somewhat disagreed that the project had nothing to do with them. However, 12 (8.4%) respondents agreed and strongly agreed while 6 (4.2%) respondents somewhat agreed that the project had nothing to do with them.

Moreover, the questionnaire responses revealed that 125 (86.8%), 124 (86.1%), 117 (81.3%), 104 (72.3%), 117 (81.3%), 92 (63.9%), 110 (76.4%) and 118 (81.9%) students agreed and strongly agreed that they care about the information that they are taught, the project makes sense to them, the project was enjoyable for them, they can identify with the project, the project is applicable to them and their interests, the lecturer encourages them to share their ideas and past experiences, the project falls in line with their interests, and they think of tangible ways to put the project into future practices. Moreover, 13 (9%), 12 (8.3%), 11 (7.6%), 27 (18.8%), 21 (14.6%), 21 (14.6%), 14 (9.7%) and 19 (13.2%) somewhat agreed with the preceding statements in the same order.

Furthermore, a small number of respondents, 2 (1.4%), 2 (1.4%), 8 (5.6%), 2 (1.4%), 3 (2.1%), 15 (10.4%) and 7 (4.9%) somewhat disagreed, disagreed and strongly disagreed that they were stimulated by what they were learning, the project was presented in a challenging way, they felt that they were an active part of the project, the project required them to really think about the information, and that they were emotionally invested in the project. Table 5.13 shows the total score for the nine statements on the construct of EL: relevance.

Table 5.13: Experiential learning: Relevance totals

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		54.8264
Mode		58.00 and 59.00
Std. Deviation		6.08027
Minimum		34.00
Maximum		63.00

The minimum and maximum score that could have been achieved was between zero and 63. The results indicate that the minimum score achieved was 34 and the maximum was 63 with a *Mn* of 54.83 and *SD*=6.08.

(d) Experiential learning: Utility

The subscale utility refers to connecting information learned to future opportunities. Students develop habits, memories, knowledge and skills that will be useful to them in future. This involves the formal process of having students reflect on their involvement in activities (Clem et al. 2014; Carver 1996). The EL utility subscale consists of seven items. Students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree). Table 5.14 indicates the results for EL: utility.

Table 5.14: Experiential learning: Utility ( $n=144$ )

No	Item	Response	Frequency	Percentage	Cumulative Percent	Mn	Mdn
22	This learning experience will help me do my job better	strongly disagree	0	0.0	0.0	6.51	7.00
		disagree	0	0.0	0.0		
		somewhat disagree	0	0.0	0.0		
		neither agree nor disagree	6	4.2	4.2		
		somewhat agree	9	6.3	10.4		
		agree	35	24.3	34.7		
		strongly agree	94	65.3	100.0		
23	This learning experience will not be useful to me in the future	strongly disagree	85	59.0	59.0	2.31	1.00
		disagree	26	18.1	77.1		
		somewhat disagree	2	1.4	78.5		
		neither agree nor disagree	3	2.1	80.6		
		somewhat agree	5	3.5	84.0		
		agree	8	5.6	89.6		
		strongly agree	15	10.4	100.0		
24	I will continue to use what I am being taught after this learning experience has ended	strongly disagree	0	0.0	0.0	6.24	7.00
		disagree	3	2.1	2.1		
		somewhat disagree	2	1.4	3.5		
		neither agree nor disagree	5	3.5	6.9		
		somewhat agree	16	11.1	18.1		
		agree	35	24.3	42.4		
		strongly agree	83	57.6	100.0		
25	I can see value in this learning experience	strongly disagree	0	0.0	0.0	6.49	7.00
		disagree	0	0.0	0.0		



		somewhat disagree	1	0.7	0.7		
		neither agree nor disagree	1	.7	1.4		
		somewhat agree	10	6.9	8.3		
		agree	47	32.6	41.0		
		strongly agree	85	59.0	100.0		
26	I believe this learning experience has prepared me for other experiences	strongly disagree	0	0.0	0.0	6.46	7.00
		disagree	1	0.7	0.7		
		somewhat disagree	0	0	0.7		
		neither agree nor disagree	5	3.5	4.2		
		somewhat agree	11	7.6	11.8		
		agree	36	25.0	36.8		
		strongly agree	91	63.2	100.0		
27	I doubt I will ever use this learning experience again	strongly disagree	74	51.4	51.4	2.10	1.00
		disagree	43	29.9	81.3		
		somewhat disagree	3	2.1	83.3		
		neither agree nor disagree	6	4.2	87.5		
		somewhat agree	3	2.1	89.6		
		agree	10	6.9	96.5		
		strongly agree	5	3.5	100.0		
28	I can see myself using this learning experience in the future	strongly disagree	1	0.7	0.7	6.61	7.00
		disagree	0	0	0.7		
		somewhat disagree	1	.7	1.4		
		neither agree nor disagree	1	.7	2.1		
		somewhat agree	7	4.9	6.9		
		agree	29	20.1	27.1		
		strongly agree	105	72.9	100.0		

The majority of respondents strongly agreed to the utility construct of the project as the results showed that items 22, 24, 25, 26 and 28 received a *Mdn* of 7.00. As items 23 and 27 were stated in the negative, more than three-quarters of respondents, 111 (77.1%) and 117 (81.3%) disagreed and strongly disagreed and 2 (1.4%) and 3 (2.1%) somewhat disagreed that the learning experience will not be useful to them in the future and they doubt they will ever use the learning experience again. However, 23 (16%) and 15 (10.4%) respondents agreed and strongly agreed while 5 (3.5%) and 3 (2.1%) respondents somewhat agreed that the learning

experience will not be useful to them in the future and they doubt they will ever use the learning experience again.

Moreover, the questionnaire responses revealed that 129 (89.6%), 118 (81.9%), 132 (91.6%), 127 (88.2%) and 134 (93%) students agreed and strongly agreed that the project will help them do their job better, they will continue to use what they were taught after the project has ended, they can see the value in the project, that the project has prepared them for other experiences in the hospitality industry, and that they can see themselves using the learning experience in the future. Moreover, 9 (6.3%), 5 (3.5%), 16 (11.1%), 10 (6.9%), 11 (7.6%) and 7 (4.9%) somewhat agreed with the preceding statements in the same order.

Furthermore, a small number of respondents 5 (3.5%), 1 (0.7%), 1 (0.7%) and 2 (1.4%), somewhat disagreed, disagreed and strongly disagreed that they will continue to use what they were taught after the project has ended, they can see the value in the project, that the project has prepared them for other experiences in the hospitality industry, and that they can see themselves using the learning experience in the future. Table 5.15 shows the total score for the seven statements on the construct of EL: utility.

Table 5.15: Experiential learning: Utility totals

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		43.8819
Mode		49.00
Std. Deviation		4.86962
Minimum		29.00
Maximum		49.00

The minimum and maximum score that could have been achieved was between zero and 49. The results indicate that the minimum score achieved was 29 and the maximum was 49 with a *Mn* of 43.88 and SD=4.87.

(e) Experiential learning: Global score

The EL global scale consists of 28 items in which students needed to rate how strongly they disagreed or agreed with each of the below statements using a Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree).

Table 5.16: Experiential learning: Global

<i>n</i> =	Valid	144
	Missing	0
<i>Mn</i>		166.1250
Mode		152.00 and 174
Std. Deviation		14.86154
Minimum		116.00
Maximum		194.00

The minimum and maximum score that could have been achieved was between zero and 196 (Table 5.16). The results indicate that the minimum score achieved was 116 and the maximum was 194 with a *Mn* of 166.13 (*Mn*=5.97 out of 7) and *SD*=4.86. Next, the inferential statistics obtained from the quantitative data analysis of the questionnaire will be discussed.

5.3.1.2 Inferential statistics obtained from the quantitative data analysis of the questionnaire

This section analyses the results using both simple linear regression and multiple regression analysis in order to determine the relationship between variables in the study. Figure 5.1 illustrates the dependent and independent variables that will be used to determine whether relationships exist.

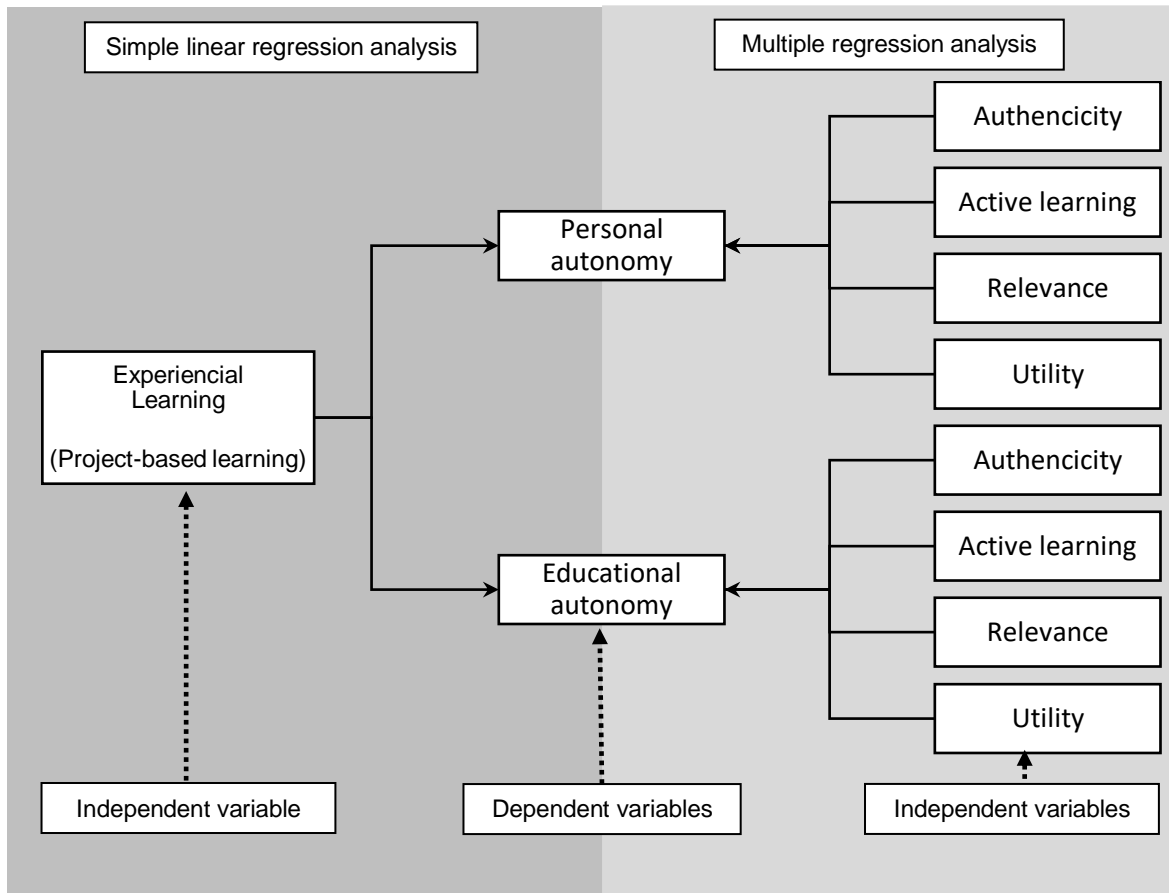


Figure 5.1: A diagrammatic representation of the simple linear regression and multiple regression of the dependent and independent variables

As shown in Figure 5.1, the simple linear regression analysis determines how much the independent variable EL contributes to promoting personal autonomy and educational autonomy (the dependent variables). Next, multiple regression will be used to determine how much the independent variables of EL sub-scales, namely authenticity, active learning, relevance and utility contribute to promoting personal and educational autonomy (the dependent variables). Furthermore, to ensure consistency in scoring, questions 3, 9, 15, 23 and 27 were reverse-coded using a rubric with a high perceived value that corresponds to high scores for the learning experience. However, it is important to note that for the multiple regression analysis, all negatively correlated items (i.e. items 3 and 9, as explained in Section 4.5.1.3) were removed from the sub-scales and totals recalculated. Firstly, the simple linear regression will be discussed.

- (i) Simple linear regression analysis for predicting personal autonomy from experiential learning

A simple linear regression was run to predict personal autonomy from EL. The assumption of linearity was met as assessed by a scatterplot between the independent and dependent variables. There was homoscedasticity, as assessed by visual inspection of a plot of studentised residuals versus unstandardised predicted values. There was a single outlier, as assessed by a standardised residual value of -3.516. However, since this data point was not identified as either a highly influential point or a high leverage value, it was decided not to delete this case from the analysis. In addition, there were no high leverage values or highly influential points, as assessed by no leverage values greater than 0.2 and no Cook's Distance values greater than 1, respectively. The assumption of normality was met, as assessed by a Normal P-P Plot. Table 5.17 shows the simple linear regression model predicting the relationship between personal autonomy and EL.

Table 5.17: Simple linear regression model predicting the relationship between personal autonomy and experiential learning

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.287 <sup>a</sup>	.082	.076	3.54280	1.981

a. Predictors: (Constant), Experiential Learning Scale

b. Dependent Variable: Personal Autonomy Scale

As indicated in Table 5.17, the column highlighted in blue, 7.6% of the variance in personal autonomy scores can be explained by EL. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.981. The ANOVA Table 5.18 below is used to determine whether this result is statistically significant.

Table 5.18: ANOVA analysis determining statistical significance for personal autonomy and experiential learning

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	159.523	1	159.523	12.710	.000 <sup>b</sup>
Residual	1782.303	142	12.551		
Total	1941.826	143			

a. Dependent Variable: Personal Autonomy Scale

b. Predictors: (Constant), Experiential Learning Scale

From the column highlighted blue in 18, it can be seen that the model statistically significantly predicted personal autonomy,  $F(1, 142) = 12.710$ ,  $p < 0.05$ . It can therefore be deduced that the EL scores statistically significantly predicted personal autonomy. To see the magnitude and direction of this relationship, the coefficients in Table 5.19 is consulted.

Table 5.19: Coefficients indicating the relationship between personal autonomy and experiential learning

**Coefficients<sup>a</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	15.659	3.325		4.710	.000	9.086	22.231					
Experiential Learning Scale	.071	.020	.287	3.565	.000	.032	.110	.287	.287	.287	1.000	1.000

a. Dependent Variable: Personal Autonomy Scale

Table 5.19 shows that there was a positive relationship between EL scores and personal autonomy, with a one unit increase in total EL scale scores associated with a 0.071 unit increase in personal autonomy scale scores.

In sum, the model, which included only EL total scores, statistically significantly predicted personal autonomy and explained 7.6% of the variance in personal autonomy ( $F(1, 142) = 12.710, p < 0.05, \text{adj. } R^2 = 0.076$ ). There was a significant positive relationship between EL total scores and personal autonomy, with a one unit increase in total EL scores associated with a 0.071 unit increase in total personal autonomy scores. Therefore, PjBL has a positive relationship with personal autonomy.

- (ii) Simple linear regression analysis for predicting educational autonomy from experiential learning

A simple linear regression was run to predict educational autonomy from the EL. The assumptions of linearity were met as assessed by a scatterplot between the independent and dependent variables. There was homoscedasticity, as assessed by visual inspection of a plot of studentised residuals versus unstandardised predicted values. There were no outliers, as assessed by no standardised residuals greater than  $\pm 3$  standard deviations from the *Mn*. In addition, there were no high leverage values or highly influential points, as assessed by no leverage values greater than 0.2 and no Cook's Distance values greater than 1, respectively. The assumption of normality was met, as assessed by a Normal P-P Plot. Table 5.20 shows the simple linear regression model predicting the relationship between educational autonomy and EL.

Table 5.20: Simple linear regression model predicting the relationship between educational autonomy and experiential learning

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.328 <sup>a</sup>	.108	.101	3.88799	1.659

a. Predictors: (Constant), Experiential Learning Scale

b. Dependent Variable: Educational Autonomy Scale

In the column highlighted in blue in Table 5.20 it can be seen that 10.1% of the variance in the educational autonomy scores can be explained by EL. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.659. To determine whether this result is statistically significant, the ANOVA table, in Table 5.21 is consulted.



Table 5.21: ANOVA analysis determining statistical significance for educational autonomy and experiential learning

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	259.208	1	259.208	17.147	.000 <sup>b</sup>
Residual	2146.542	142	15.116		
Total	2405.750	143			

a. Dependent Variable: Total\_Educational\_Autonomy\_Scale

b. Predictors: (Constant), Total\_Global\_EL\_Scale

Table 5.21 indicates that the model statistically significantly predicted educational autonomy,  $F(1, 142) = 17.147$ ,  $p < 0.05$ . From this result can be deduced that the EL scores statistically significantly predicted educational autonomy. To see the magnitude and direction of this relationship, the coefficients are provided in Table 5.22.

Table 5.22: Coefficients indicating the relationship between educational autonomy and experiential learning

**Coefficients<sup>a</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	19.825	3.649		5.433	.000	12.612	27.038					
Experiential Learning Scale	.091	.022	.328	4.141	.000	.047	.134	.328	.328	.328	1.000	1.000

a. Dependent Variable: Total\_Educational\_Autonomy\_Scale

Table 5.22 indicates that there was a significant positive relationship between EL scores and educational autonomy, with a one unit increase in EL scores associated with a 0.091 unit increase in educational autonomy scores.

In sum, the model, which included only EL total scores, statistically significantly predicted educational autonomy and explained 10.1% of the variance in educational autonomy ( $F(1, 142) = 17.147, p < 0.05., \text{adj. } R^2 = 0.101$ ). There was a significant positive relationship between EL total scores and educational autonomy, with a one unit increase in EL scores associated with a 0.091 unit increase in educational autonomy scores. Therefore, PjBL has a positive relationship with educational autonomy.

- (iii) Multiple regression analysis for predicting personal autonomy from the sub-scales of experiential learning

A multiple regression was run to predict personal autonomy from the EL sub-scales for authenticity, active learning, relevance and utility. All negatively correlated items (i.e. items 3 and 9, as explained in Section 4.5.1.3) were removed from the sub-scales and totals were recalculated for the multiple regression analysis.

The assumptions of linearity were met as assessed by partial regression plots and a plot of studentised residuals against the predicted values. There was homoscedasticity, as assessed by visual inspection of a plot of studentised residuals versus unstandardised predicted values. Moreover, there was a single outlier, as assessed by one case with a standardised residual greater -3 standard deviations from the *Mn*. However, since this case was not a high leverage value or a highly influential point, it was decided to not delete the case prior to running the analysis. In addition, there were no high leverage values or highly influential points, as assessed by no leverage values greater than 0.2 and no Cook's Distance values greater than 1, respectively. Furthermore, there was no multicollinearity, with all tolerance values being greater than 0.1. The assumption of normality was met, as assessed by a Normal P-P Plot. Table 5.23 shows the multiple regression model predicting the relationship between personal autonomy and the sub-scales of EL.

Table 5.23: Multiple regression model predicting the relationship between personal autonomy and the sub-scales of experiential learning

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.342 <sup>a</sup>	.117	.091	3.51240	1.865

a. Predictors: (Constant), Utility, Authenticity (recalculated), Active Learning (recalculated), Relevance

b. Dependent Variable: Personal Autonomy Scale

Table 5.23 indicates that 9% of the variance in personal autonomy scores can be explained by the independent variables combined (i.e. the model as a whole). There

was independence of residuals, as assessed by a Durbin-Watson statistic of 1.865. Next, to determine whether this result is statistically significant, the ANOVA table as shown in Table 5.24 is consulted.

Table 5.24: ANOVA analysis determining statistical significance for personal autonomy and the sub-scales of experiential learning

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	226.989	4	56.747	4.600	.002 <sup>b</sup>
Residual	1714.837	139	12.337		
Total	1941.826	143			

a. Dependent Variable: Personal Autonomy Scale

b. Predictors: (Constant), Utility, Authenticity (recalculated), Active Learning (recalculated), Relevance

Table 5.24 shows that the model as a whole (with all independent variables included) statistically significantly predicted personal autonomy,  $F(4, 139) = 4.600$ ,  $p < 0.05$ . Given this result, it would be expected that at least one of the independent variables statistically significantly predicted personal autonomy. To see which variables made a statistically significant unique contribution to the prediction of personal autonomy, the coefficients table below is consulted (see Table 5.25).

Table 5.25: Coefficients indicating the relationship between personal autonomy and the sub-scales of experiential learning

**Coefficients<sup>a</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
	1 (Constant)	14.304	3.292				4.345	.000	7.794	20.813		
Authenticity (recalculated)	-.040	.085	-.044	-.475	.636	-.208	.128	.129	-.040	-.038	.744	1.345
Active Learning (recalculated)	.231	.090	.268	2.573	.011	.053	.408	.303	.213	.205	.585	1.709
Relevance	.019	.065	.032	.297	.767	-.110	.148	.241	.025	.024	.549	1.823
Utility	.111	.071	.147	1.560	.121	-.030	.252	.228	.131	.124	.717	1.394

a. Dependent Variable: Personal Autonomy Scale

As shown in Table 5.25, only active learning made a statistically significant unique contribution to the prediction of personal autonomy after all other independent variables were controlled for,  $t=2.573$ ,  $p<0.05$ . From the cell highlighted blue in the table above it can be seen that a one unit increase in active learning was associated with a 0.231 unit increase in personal autonomy.

In sum, the model as a whole, with all independent variables included, statistically significantly predicted personal autonomy and explained 9% of the variance in personal autonomy ( $F(4, 139) = 4.600$ ,  $p < 0.05$ ,  $\text{adj. } R^2 = 0.091$ ). Only active learning made a statistically significant unique contribution to the prediction of personal autonomy after all other variables were controlled ( $t=2.573$ ,  $p<0.05$ ), with a one unit increase in active learning associated with a 0.231 unit increase in personal autonomy.

- (iv) Multiple regression analysis for predicting educational autonomy from the sub-scales of experiential learning

A multiple regression was run to predict educational autonomy from the EL sub-scales for authenticity, active learning, relevance and utility. All negatively correlated items (i.e. items 3 and 9, as explained in Section 4.5.1.3) were removed from the sub-scales and totals were recalculated for the multiple regression analysis.

The assumptions of linearity were met as assessed by partial regression plots and a plot of studentised residuals against the predicted values. There was homoscedasticity, as assessed by visual inspection of a plot of studentised residuals versus unstandardised predicted values. There were no outliers, as assessed by no standardised residuals greater than  $\pm 3$  standard deviations from the *Mn*. In addition, there were no high leverage values or highly influential points, as assessed by no leverage values greater than 0.2 and no Cook's Distance values greater than 1, respectively. There was no multicollinearity, with all tolerance values being greater than 0.1. The assumption of normality was met, as assessed by a Normal P-P Plot. Table 5.26 shows the multiple regression model predicting the relationship between personal autonomy and the sub-scales of EL.

Table 5.26: Multiple regression model predicting the relationship between educational autonomy and the sub-scales of experiential learning

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.361 <sup>a</sup>	.130	.105	3.88040	2.053

a. Predictors: (Constant), Utility, Authenticity (recalculated), Active Learning (recalculated), Relevance

b. Dependent Variable: Educational Autonomy Scale

From the column highlighted blue in Table 5.26, it can be seen that 10.5% of the variance in the educational autonomy scores can be explained by the independent

variables combined (i.e. the model as a whole). There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.053. Next, to determine whether this result is statistically significant, the ANOVA table below is consulted (refer to Table 5.27).

Table 5.27: ANOVA analysis determining statistical significance for educational autonomy and the sub-scales of experiential learning

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	312.753	4	78.188	5.193	.001 <sup>b</sup>
Residual	2092.997	139	15.058		
Total	2405.750	143			

a. Dependent Variable: Educational Autonomy Scale

b. Predictors: (Constant), Utility, Authenticity (recalculated), Active Learning (recalculated), Relevance

The model, as presented in Table 5.27, as a whole (with all independent variables included), shows statistically significantly predicted educational autonomy,  $F(4, 139) = 5.193, p < 0.05$ . Moreover, from this result it can be deduced that at least one of the independent variables statistically significantly predicted educational autonomy. Therefore, to see which variables made a statistically significant unique contribution to the prediction of educational autonomy, the coefficients in Table 5.28 are shown.

Table 5.28: Coefficients indicating the relationship between educational autonomy and the sub-scales of experiential learning

**Coefficients<sup>a</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	22.340	3.637		6.142	.000	15.149	29.531					
Authenticity (recalculated)	.124	.094	.121	1.317	.190	-.062	.309	.201	.111	.104	.744	1.345
Active Learning (recalculated)	-.040	.099	-.042	-.408	.684	-.236	.155	.196	-.035	-.032	.585	1.709
Relevance	.240	.072	.356	3.334	.001	.098	.383	.342	.272	.264	.549	1.823
Utility	-.046	.079	-.055	-.585	.559	-.202	.110	.146	-.050	-.046	.717	1.394

a. Dependent Variable: Total Educational Autonomy Scale

As observed from Table 5.28, only the relevance subscale scores made a statistically significant unique contribution to the prediction of educational autonomy after all other independent variables were controlled,  $t = 3.334$ ,  $p < 0.05$ . From the cell highlighted in blue it can be seen that, when all other independent variables are held constant, a one unit increase in the relevance subscale score was associated with a 0.240 unit increase in educational autonomy.



In sum, the model as a whole, with all independent variables included, statistically significantly predicted educational autonomy and explained 10.5% of the variance in educational autonomy ( $F(4, 139) = 5.193, p < 0.05, \text{adj. } R^2 = 0.105$ ). Furthermore, the only independent variable that made a statistically significant unique contribution to the prediction of educational autonomy, after all other independent variables were controlled, was the total for the relevance subscale ( $t=3.334, p<0.05$ ). A one unit increase in relevance was associated with a 0.240 unit increase in educational autonomy. Next, the qualitative findings acquired from the interviews and self-reflection report will be reported.

### **5.3.2 Qualitative data analysis obtained from the findings of the semi-structured interview**

The design of the interview schedule was discussed in Section 4.4.2.3. The qualitative data obtained from the interviews will be discussed in this section. Firstly, in Section 5.3.2.1, the demographic profile of the 18 participants will be provided. Next, the qualitative data will be discussed in the same order as it appeared in the interview schedule (refer to Appendix G for the interview schedule). Moreover, some of the questions and answers are grouped under one heading as they reflect the same theme. This will be illustrated, using a diagram, under each of the three headings of Sections 5.3.2.2, 5.3.2.3 and 5.3.2.4. All the interviews were recorded and transcribed as explained in Sections 4.4.2.2 and 4.4.3.2.

#### **5.3.2.1 Demographic profile for the qualitative data obtained from the interviews**

Table 5.29 illustrates the demographic profile of the participants that participated in the interview. A more detailed demographic profile is available in Appendix F where each participant has been allocated identifiers (Participants [Part] 1 to 18) to differentiate the findings obtained.

Table 5.29: Demographic profile of the participants for the interview ( $n=18$ )

Demographic	Values	Frequency	Percentage	Cumulative Percent
Gender	Female	11	61.1	61.1
	Male	7	38.9	100.00
Age	18-19	2	11.1	11.1
	20-21	5	27.8	38.9
	22-23	5	27.8	66.7
	24-25	5	27.8	94.5
	26-27	0	0.00	94.5
	28 +	1	5.50	100
Faculty	NATED N6	10	55.6	55.6
	NC(V) L3	8	44.4	100.0

As indicated in Table 5.29, 11 (61.1%) females and 7 (38.9%) males participated in the interview. The participants were aged 18-19 (11.1%), 20-21 (27.8%), 22-23 (27.8%), 24-25 (27.8%), and 28+ (5.5%) years respectively which is representative of the students that are registered within both hospitality faculties. Although more students were interviewed in NATED (55.6%) than in NC(V) L3 (44.4%), data saturation was achieved therefore the researcher is assured that increasing the number of NC(V) L3 students would yield no new information or themes. The first part of the questions requested participants to discuss LA in the planning process of PjBL. This will be discussed next.

### 5.3.2.2 Learner autonomy in the planning phase of project-based learning

Nine questions were asked of participants on LA in the planning phase of the PjBL. Figure 5.2 illustrates how questions were combined and placed under each of the subheadings for LA in the planning process of PjBL.

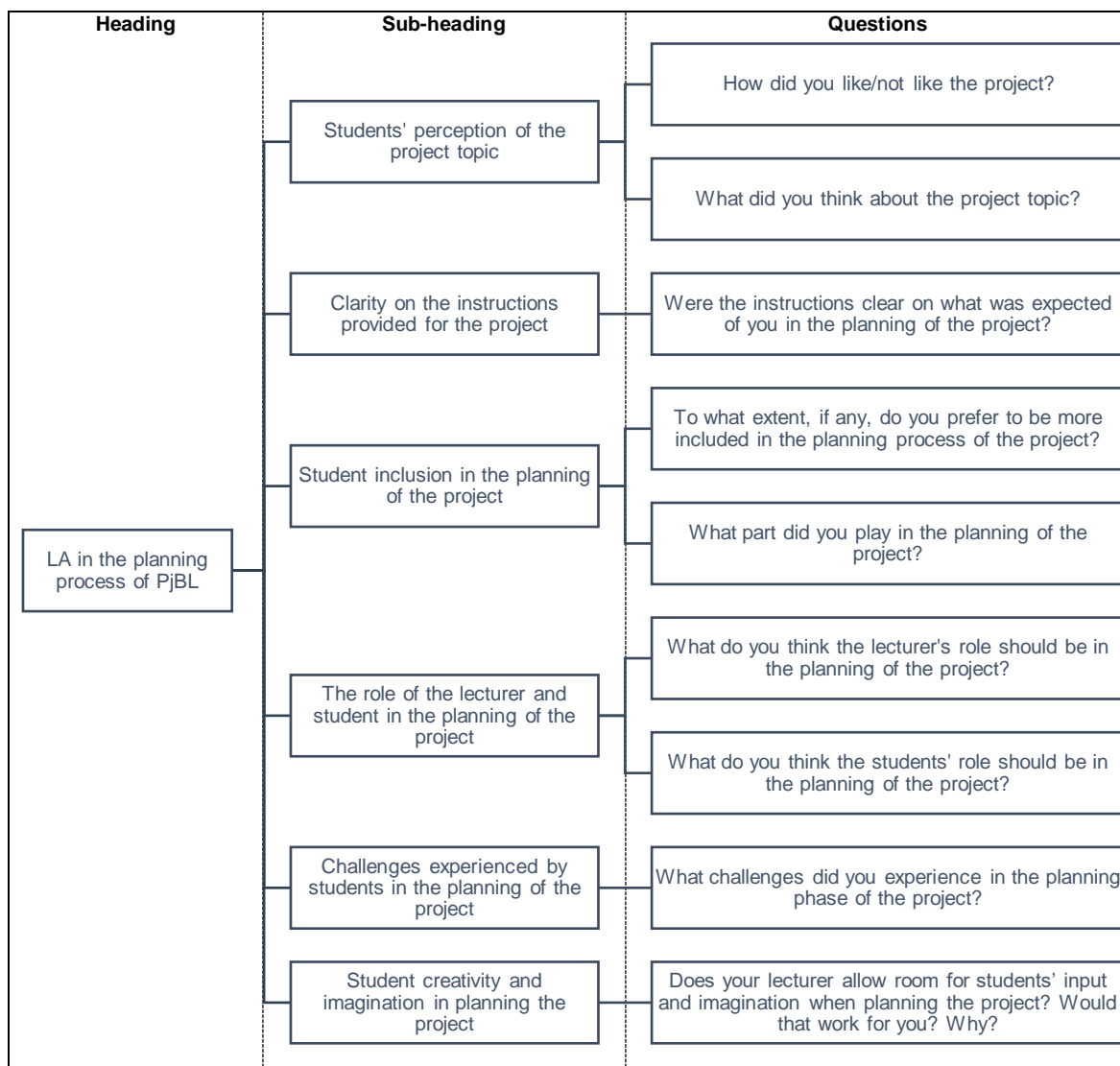


Figure 5.2: A diagrammatic illustration of the question placement within learner autonomy in the planning of project-based learning

Nine (9) questions were asked of participants that relate to LA in the planning process of PjBL and will be discussed below.

(i) Students' perception of the project topic

Students were asked how they liked or did not like the project. The majority of participants agreed that they liked the project as the project provided them with a space to practice what they had learned theoretically in the classroom. For them, it was not the usual lecture of just passively listening to the lecturer, but a practical

task that challenged them, whereby they had to plan and implement a project as part of an assessment.

*I liked the project because it helped me to be a team player and because it was practical. We had to physically plan and implement the project ourselves. It was not the normal theory class or just sitting and listening to our lecturer. (Part12)*

Students also had an opportunity to learn new knowledge, abilities and skills through the project and showcase their skills during the project. Moreover, students stated that the work-related skills and experiences obtained through the project prepared them for the workplace, as they wanted to find work in the hospitality industry after they graduated. These views are expressed in the following quotes:

*I did like the project because I learned a lot through the project. It was the first project I did since I enrolled in hospitality. So for me, it was amazing because I got to learn most of the things that I did in the classroom. I got to learn them practically. (Part1)*

*I liked it a lot because it's something that I've always wanted to try out. To check whether I'm growing and progressing based on the knowledge I've learned from college. (Part2)*

*I did like the project. The reason I liked it, it was challenging in a good way and it gives us a platform in order for us to showcase our skills together with our classmates. (Part7)*

*I liked the project because it gave me experience in the real world with regard to hospitality as I want to find work within the hospitality sector when I'm finished studying. (Part11)*

Although the majority of students liked the project, some students did not like the project. One student noted that he did not like the project as there was little time to plan the project:

*I didn't like the project that much. It wasn't exciting as I thought it would be as there was little planning involved. (Part17)*

A different participant found the project to be boring and would have chosen another topic:

*I thought that the topic was slightly boring and I would have rather chosen another topic which is serving three-course meals not fast food only. (Part13)*

Yet another participant liked the project but stated that the project lacked creativity and it was important for the students to choose their own topic for the project. He stated:

*I liked the project however it lacked creativity. It is important that students should choose their own topic for the project because it gives them ownership to take responsibility for the whole project. (Part18)*

The second question asked participants about their thoughts on the project topic. As with the previous question, the majority of students enjoyed the project topic as the NATED students needed to prepare a function on South African traditions and cultures by preparing traditional cultural food while the NC(V) students needed to open a pop-up fast food stall and sell fast foods. The following quotes illustrate the participants' thoughts on the project topic.

*It was a very nice topic. It was a traditional topic where we had to learn about each other's traditions and cultures. We had to engage with the different cultures of people and then there was a point where we had to cook different food for the different cultures. We had to accommodate almost every person we have in class. (Part1)*

*The project topic was a good idea because I want to own a fast food restaurant when I am done with college. So this helped me to understand what it means to be able to have a fast food restaurant. It was an eye opener as it is not an easy business to be in. (Part12)*

*Selling fast food was an interesting experience and was kind of fun that we got to do it at our college. (Part11)*

Some participants wanted the students to choose their own type of function for the project as it is not stated in the NATED syllabus. Part3 thought that the type of function chosen for the project was not interesting and that the theme had been previously done. Moreover, Part17 thought that if students could choose their own type of function, then the project would have a greater impact on the students' learning. He also did not want the lecturer to choose the topic for them.

*It was the usual, there is nothing wrong with cultures but it is nothing new. If it was a different topic, like maybe a different theme - we had a function about Disney movie themes, something like that ... I didn't really like it, it was really not interesting at all. (Part3)*

*I think that the project topic was not impactful enough because the subject guideline does not state the theme. So the theme was chosen for the students. We as students could have chosen a theme that was more impactful so that we could apply the theoretical knowledge that we learned about events. (Part17)*

(ii) Clarity on the instructions provided for the project

Question 3 sought to discover whether the instructions for the project were clear and whether the students knew what was expected from them in planning the project. The participants explained that the instructions were clear and that the lecturer allowed the students to ask questions if they did not understand what was expected from them for the project. Students were better able to understand the

expectations for the project because of the clear directions and opportunities for questioning that were provided.

*Yes. The instructions were clear as we were told what to do. The lecturer told us what she was expecting from us and then we had to act according to that. So the instructions were clear and they helped us a lot to get through the project. (Part1)*

*Yes, the instructions were clear because ma'am called us in class to explain what is expected from us, and what should be done. This was done a week before the start of the project. Ma'am allowed us to ask questions if we did not understand what was required from us. (Part12)*

Part2 further stated that the lecturer explained the outcomes of the project and allowed the students to take full control of the project.

*Yeah, I think they were. Because she gave us a briefing on what she was expecting before we did the project. So she explained the outcomes that she wanted and whatever must happen. Then she gave us complete control over the whole situation. (Part2)*

(iii) Student inclusion in the planning of the project

The next question asked whether students prefer to be more included in the planning process of the project. All participants explained that they wanted to be included in all aspects of the project planning process as they wanted to learn from the experience and gain knowledge and skills so that they can find work. Moreover, if students are included in the planning process they will be more dedicated and committed to ensuring that the project is a success.

*We were all involved in the planning of the project. Each student had their own responsibilities in getting information together for the project. We got together for three weeks for the planning. (Part16)*

*I think it is important that myself and all students are included in the planning process. If all students are included in the planning process, they will then be more committed and dedicated to the project. Students will also be more engaged in determining the project topic or type of project, and its goals and then implementing the project so that it is successful. (Part18)*

*I would like to be more included in planning, designing and decorating and actually in all activities because I want to learn. I want to learn in case I get a job in a hotel or restaurant. I cannot say I want to work in a specific department because I need skills and I need knowledge in all departments. (Part1)*

Furthermore, in question 5, participants had to state what part they played in the planning of the project. Each participant indicated that each student had a specific part to play in the planning process and that students had to indicate what tasks they were willing to do from a list of tasks that needed to be done. Students were not forced to take on any task. Students were also allowed to provide input and gather information needed to plan for the project.

*So it's everyone's role to decide what they are going to do. We were not going to force you on what to do. Each one decided what they wanted to do. (Part1)*

*Each and every person was allowed to give their input and gather information based on the project. (Part10)*

(iv) The role of the lecturer and student in the planning of the project

Next, the participants had to provide their opinion of the lecturer and students' roles in the planning phase of the project. With the use of Atlas.ti 22, a word cloud was created to visually present the text data of the words most often used to describe the role of the lecturer and student. The most widely expressed opinion is shown by the largest word in Figures 5.3 and 5.4.



In Figure 5.3 participants expressed that the lecturer's role should be to *guide* them or provide *guidance* in the planning of the project, especially when they needed *assistance*, an *answer* to their question, or an *explanation* of something that they did not understand or did not know how to do. Next, participants posit that the lecturer should provide clear *instructions* and *information* on what the project was about and what outcomes were expected. Other common words used to indicate the lecturer's role were to *empower* and *mentor* students through project work in the preparation for the workplace. Lastly, students wanted the lecturer to provide them with continuous *feedback* on their progress throughout the project and assess their work fairly.

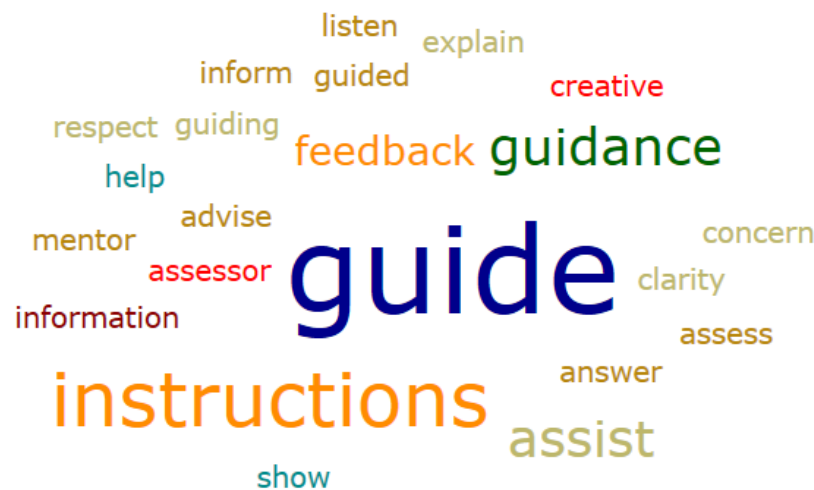


Figure 5.3: Participants' opinions on the role of a lecturer in planning a project

In Figure 5.4 participants indicated that the most important role of students is to *learn* and gain *experience* through the project. For the participants, all students needed to take *responsibility* to ensure that the *planning* of the project was done correctly so that in the end the project was a *success*. Participants also felt that the *communication* between students should be clear, and students should allow each one to voice their opinion. Other common words used to indicate the involvement of students in the project were that students need to be *active* participants and that they need to *apply* their knowledge and skills.



Figure 5.4: Participants' opinions on the role of the student in planning the project

Furthermore, all students must *contribute* towards the planning of the project by providing *ideas*, bringing together the *ideas*, and ensuring that they are *willing* and *dedicated* to producing a well-thought-through project that they can be proud of. Other common opinions were *teamwork*, *engage* and *collaborate*. This highlighted the importance of teamwork in PjBL where engagement and collaboration are essential in planning the project. Moreover, participants stated that students should ensure that proper *research* is done during the planning phase so that the project is *successful*.

The following quote by Part18 explains the role of a student in PjBL:

*The role of the students is to plan and organise the project as a team and bring their knowledge and skills that they learned in class to implement through the project. They should also learn from other students and be more interactive when the team gets together to plan the project. For me, the most important is to gain practical knowledge and skills from the project so that we are work-ready when they graduate from college.*

- (v) Challenges experienced by students in the planning of the project

Participants indicated that they experienced challenges during the planning phase of the project. The challenges that were experienced by participants are illustrated in Figure 5.5.



Figure 5.5: Participants' opinions on the challenges experienced in planning a project

The biggest challenge for participants was the communication barrier, lack of communication or misunderstanding between students during the planning phase of the project. This is illustrated in the following quote:

*There were a lot of communication barriers, like others used to talk in their home language, and we used to communicate in English. Most of the time, the difficulty was that they were not able to understand us. (Part11)*

Participants also stated that there were students who did not actively participate within the group, while others were absent when they had to plan the project. This caused students to become frustrated as the participating students had to complete

the work for the students who did not participate or who were absent from group meetings. Moreover, although some students did not participate in the group and towards the project, they still received the same marks as the participating students. This was found to be unfair.

*The most challenging thing is that people were absent a lot and we weren't agreeing especially in the beginning. (Part3)*

*Some students did not contribute, a lack of attendance, and not participating, and some don't speak up in a group because they feel other students' opinions mattered more. It frustrated me a lot that some students did not participate. (Part9)*

*The challenge that we had was two students from our group did not participate in the project. We had to do things that they were supposed to have done. This made the group frustrated as we had to do the work for them and still the students got the same marks as us. (Part12)*

Furthermore, participants mentioned that there was a lack of time in planning for the project. Participants wished that the lecturers had allowed them more time to plan the project so that they would be better prepared for the project implementation.

*No, I don't think it is long enough time to plan such a project because there were still hiccups on the day of the project that we could have just avoided if we went through it with another meeting. That's if we had one. (Part14)*

*There was not enough time given to us to plan the project. I wish that we were given a month to plan the project properly. (Part18)*

Moreover, participants postulated that there was a lack of research resources available for them to research information on the project, such as a library and computers or computer labs, as many of them had to make use of their mobile

phones. They found it difficult to use their mobile phones due to the size of the screen and also the lack of data.

*We were also frustrated as there was a lack of resources such as a library and computer for us to do our research. We had to use cell phones. It's not easy because we don't have data and it's difficult for us to get money for data. Also, the cell phone is too small to give us the information needed for research. (Part15)*

Lastly, participants indicated that the project group size was too large and should therefore be made smaller. This would allow all students to participate in the planning as well as the implementation of the project. It will also ensure that students participate equally in the project.

*The group was too large and should rather be around four or five, because too many people working together can cause arguments. Also if the group is too large then the students do not do any work or sit back and watch the other students work. This is unfair to the group and also for assessing as students will get marks for doing no work. (Part16)*

Although students faced challenges/problems during the planning phase of the project, some students stated that these challenges/problems assist students in developing problem-solving techniques and skills that can be used when working in the hospitality industry.

*It's good to have those challenges. Sometimes it is good. Why am I saying that, is because we learn from our mistakes with this project. It was a learning project whereby we have to learn when it comes to planning a function. (Part4)*

Another participant stated that it is important to have alternative solutions to problems, especially if one works within the hospitality industry.

*Yes, I think it is especially when working in the hospitality industry you have to be able to have an alternative. So that was good. (Part7)*

(vi) Student creativity and imagination in planning the project

Participants indicated that the lecturer did allow them to use their own creativity and imagination when planning the project. This allowed students to develop their creative thinking skills in order to plan the project as well as plan activities for the traditional cultural function and pop-up fast food stall i.e. recipes, food presentation, décor, posters, etcetera.

*The lecturer allowed us to plan the project. It was nice to use our imagination when we had to plan the project because we came up with new ideas during the planning phase and making the poster. Ma'am just gave us guidelines, but the planning and the design were our imagination and our ideas as a group. (Part10)*

*Yes, everyone in our team was allowed to come up with ideas and that worked for us. To be creative with the marketing poster, researching our own recipes, ordering food, and setting-up the venue. (Part15)*

5.3.2.3 Learner autonomy in the implementation phase of project-based learning

Four questions were asked of participants on LA in the implementation phase of the PjBL. Figure 5.6 illustrates how questions were positioned under each of the sub-headings for LA in the implementation phase of PjBL.

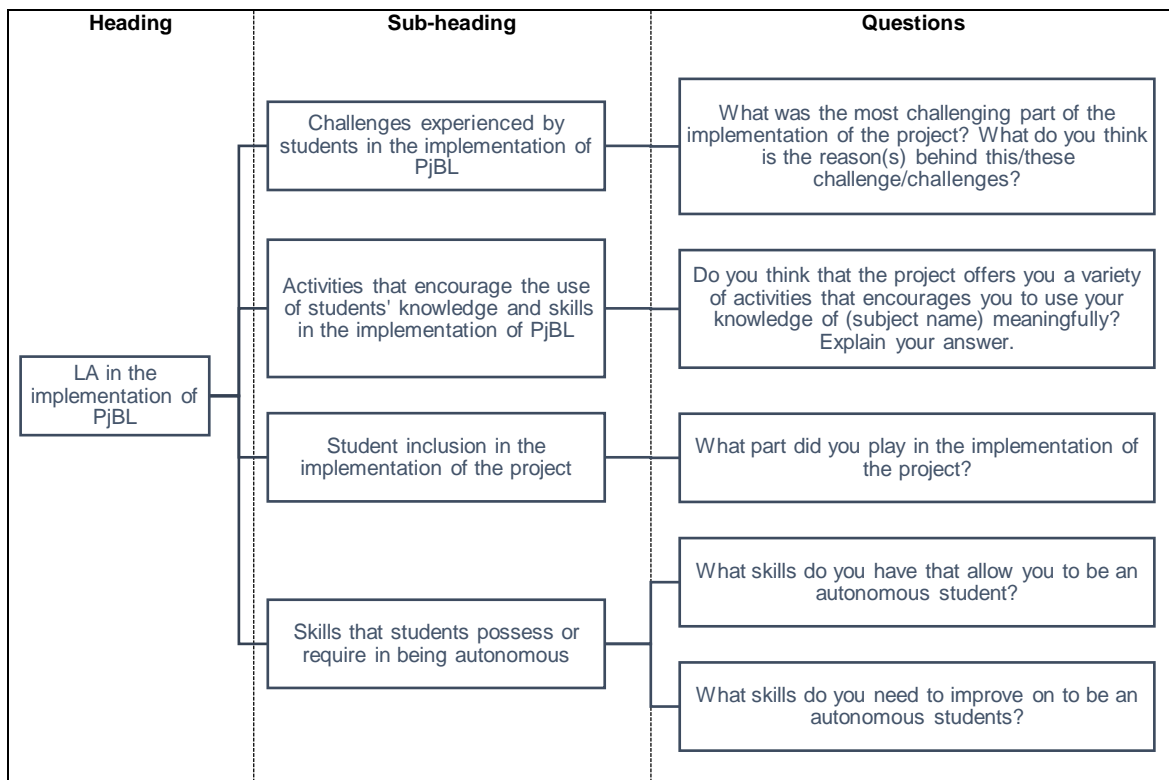


Figure 5.6: A diagrammatic illustration of the question placement within learner autonomy in the implementation of project-based learning

(i) Challenges experienced by students in the implementation of the project

In question 10, participants were asked what challenges they experienced with the implementation of the project. Figure 5.7 illustrates the terms that were often used by participants to explain the challenges experienced during the implementation of the project. The most challenging part experienced by participants was *time management* in managing the project. Quotes from two participants explain how *time* was a challenge for students.

*Time was not on our side. Like I said before, we had different roles so other students came late and then their dishes were taking longer to cook. So we actually ran late during the day of the function. So the cooking took longer than it was supposed to. So that was the most challenging part we had. (Part1)*

*The challenge was time management. We planned but the problem is that we couldn't finish everything on time. (Part4)*



Figure 5.7: Participants' opinions on the challenges experienced in implementing a project

The second challenge that participants stated was *communication*. Some students did not communicate with each other which led to project delays or a lack of *resources* such as ingredients for *food* preparation and cooking, décor for the function, and a lack of equipment for service.

*The students did not communicate. So the problem is communication as we don't communicate with each other. (Part4)*

*I say it's communication because you're supposed to check prior to the function if you actually do have the items or the correct quantity. (Part7)*

The third challenge was a lack of *resources* for the project. Participants posit that they did not have enough décor for the function, ingredients, gas for the stoves and equipment. The lack of resources was due to the lack of communication, as mentioned previously, between students, and between students and the lecturer in organising the resources.



*With our team from the decor side, we didn't have enough resources like chair covers and things like that to make the venue look nice. (Part7)*

*We did not have enough ingredients and equipment to prepare ... (Part10)*

*Firstly it was a lack of gas for the stoves because we did not order enough gas. (Part11)*

Other common words were the lack of *participation* of some students in the implementation of the project as well as students that arrived *late* on the day of the project.

*There was a lack of participation amongst some of the students on the day of the function. (Part18)*

Some participants indicated that they had issues with the *customers* as some customers took a longer time to place their orders, while other customers wanted larger food portions. These are some of the general complaints that are experienced within the hospitality industry. A participant explained that:

*Customers fighting because you are not able to meet their needs on time... Some customers were fighting for a bigger proportion of food. (Part11)*

However, when the participants were questioned about whether they had gained any knowledge and experience from resolving customer-related issues, they stated that they had.

*Yes, it helped me to be able to solve customer problems and meet customer needs. (Part11)*

*But for me I learned a lot. I got to see what is expected of me in the future. (Part4)*

- (ii) Activities that encourage the use of students' knowledge and skills in the implementation of the project

Next, participants were asked whether PjBL offers a variety of activities that encourages them to use their theoretical knowledge learned in either CTP N6 or HS L3 meaningfully. All participants indicated that the project allowed them to apply their theoretical knowledge in practice, which is further enhanced by the knowledge and skills obtained in the context of the project and also as imparted by the lecturer. Students are afforded the opportunity to practically experience and actively engage in a meaningful and real-world project. The following two quotes encapsulate the opinions of participants.

*Yes, it does because now I understand the knowledge learned of counter service, how to deal with customers, recipe planning, and the marketing of fast food – It helped to place the knowledge learned in class into perspective. Now I have a better understanding of the module. (Part16)*

*Yes, I think it was meaningful because we got to learn about large-scale catering and also planning and organising the event itself. So if one day I want to plan an event myself, and make money at least I have a little bit of background knowledge on how to handle the food, the organising and also the implementation of an event. (Part17)*

*Yes, the project helped me understand practically what we had learned in class. During our theory classes, we are taught using the prescribed textbook and information from our lecturer. It is sometimes difficult to understand the theory as we have not worked in the hospitality industry and therefore we can't apply the theoretical knowledge that we have learned. So with the project, one can now apply the theory to practice and one now understands better the different concepts from Catering Theory. But not only Catering Theory, other subjects too such as Food and Beverage and Applied Management. We as students now have a better understanding of how to plan and implement a function. Also, we*

*have learned new skills that we can use when we find work in the industry. (Part18)*

(iii) Student inclusion in the implementation of the project

The participants expressed that students were actively part of the implementation of the project. As with the planning phase, participants indicated their role in ensuring the project was organised and implemented to ensure its success. A typical response from a participant that illustrated their role in the implementation of the project was:

*I had to bake the buns and also, slice and chop the ingredients. I also fried the base of the burger buns. I was just there to prepare the food and call the customers to see what we were selling on that day. (Part10)*

(iv) Skills that students possess or require in being autonomous

In question 13, participants were asked what skills they possess or require improving on to allow them to be autonomous. Figure 5.8 illustrates the most often used words stated by participants to describe the autonomous skills they possess.



Figure 5.8: Participants' opinions on the skills they have that allow them to be autonomous

The most widely used opinion by participants on the skill they possess was *motivation*. Participants postulate that they are motivated in their studies and were motivated in completing the project. Some participants also indicated that they enjoy motivating students within the team.

*Yes, I am a motivated person when I study. (Part8)*

This was followed by *teamwork*. Some participants stated that they work well with team members and within a team environment. Moreover, teamwork allows team members to share the workload and learn collaboratively from each other.

*Oh yes teamwork, I like the group as it makes the work easy and we learn some things from the other people. (Part8)*

Moreover, words that received the same count, as shown in Figure 5.8, were *creative/creativity, leadership, responsibility, planning, organising, and goals*. Participants thought themselves to possess these skills that allowed them to be autonomous in their studies and within PjBL. The following quote illustrates how a participant perceived themselves to have identified skills in being autonomous:

*I am a very positive and motivated person in my social life as well as in my academic life. I love motivating people and my peers in doing well. I set realistic goals for myself at the beginning of each semester that I want to achieve, such as when I'm going to study for my exams, and what I want marks to achieve. I am very independent in my college work and I only need assistance when I struggle to understand concepts. I also take great responsibility for everything that I commit myself to. I am also very confident in my abilities and work ethic. (Part18)*

Other common words utilised were *communication, confidence, decision making, independence, positivity, problem-solving, social interaction, critical thinking, and time management*. This indicates that participants viewed themselves as possessing the aforementioned skills in their studies and while completing the project. All mentioned opinions on skills as seen in Figure 5.8 are skills needed in promoting LA.

However, participants also indicated the skills that they needed to improve on to become autonomous. These are reflected in Figure 5.9.



Figure 5.9: Participants' opinions on the skills they require to improve to be autonomous

Participants stated that *time* management was the skill that they needed to improve on the most. This is in contrast to other participants who found that time

management was a skill that they have that allows them to be autonomous (see Figure 5.8).

*Time management. Sometimes it's bad because I have to balance my work and because we have seven modules so sometimes I have to drop one module to complete the other and we are left behind in the modules. (Part12)*

*What I need to do is to work on managing my time with regard to my studies. (Part13)*

The next opinion words were *communication, leadership* and *teamwork*. This shows that even while participants believed they have these abilities, as shown in Figure 5.8, some believed they needed to develop them further in order to become autonomous.

#### 5.3.2.4 Learner autonomy in the monitoring phase of project-based learning

This section discusses participants' perceptions of the lecturers' and students' monitoring of PjBL. Seven questions were asked of participants on LA in the monitoring phase of the PjBL. Figure 5.10 illustrates how questions were positioned under each of the sub-heading for LA in the monitoring phase of PjBL.

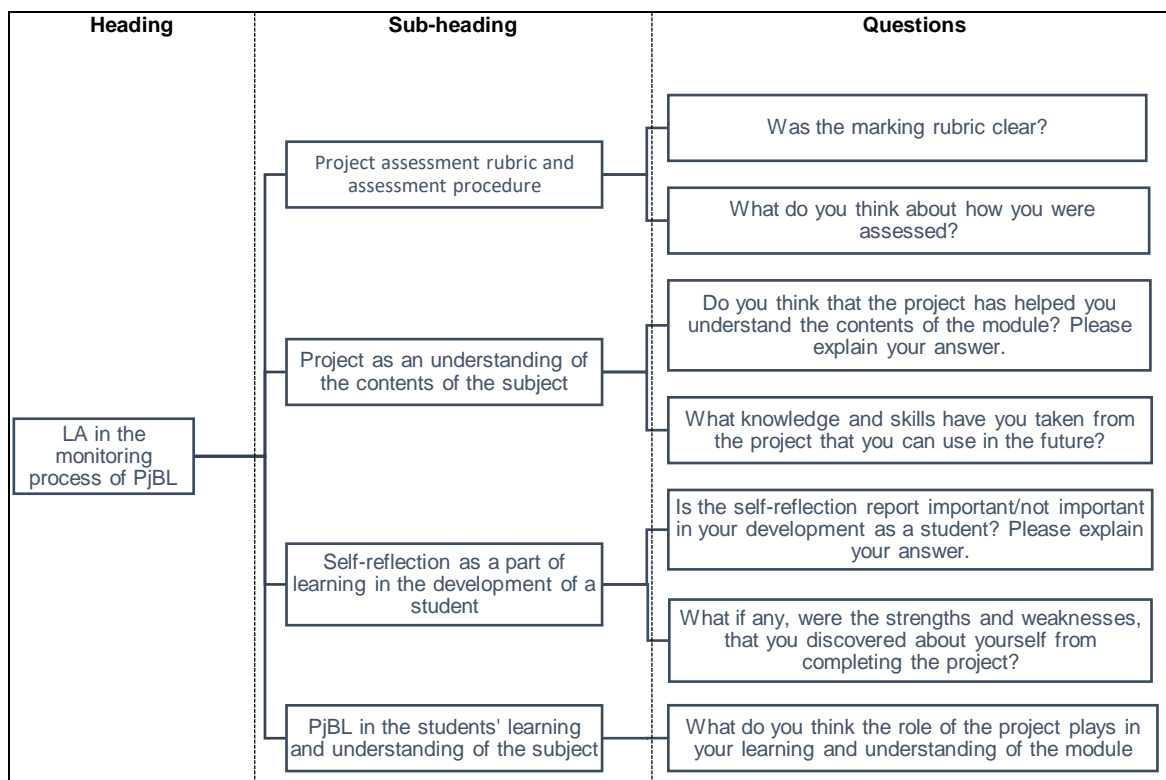


Figure 5.10: A diagrammatic illustration of the question placement within learner autonomy in the monitoring of project-based learning

(i) Project assessment rubric and assessment procedure

The participants were questioned on the clarity of the assessment tool/rubric and marking criteria to determine whether they grasped the project outcomes and what was expected of them. The participants stated that the rubric was clear and they understood what was expected from them. The lecturer provided students with the rubric with the project instructions and explained the expected criteria and outcomes of the project. Students also had an opportunity to ask the lecturer any questions for further clarity. The following quotes illustrate how participants perceived the clarity of the marking rubric:

*Yeah, it was actually clear and for some students that were not clear ma'am actually went through it and explained the parts that some people didn't understand. (Part5)*

*We were given the marking rubric and told about the function and then she explained everything in detail. Then also during the planning process she also reminded us to please go through the rubric to remember what is expected of us. So it was very clear. (Part7)*

*It was clear because ma'am explained it to us and ma'am gave the task to us to go through a week before the project. We could see how the marks were allocated from the rubric. (Part12)*

Moreover, a participant mentioned that the rubric guided him during the project on what to focus on most from the rubric's criteria and marks.

*It was clear enough. It was giving me guidance on what I should focus on the most, what is most important that needs to be done so it was guiding me and it was clear. (Part6)*

Next, participants were asked for their opinion on how they were assessed while completing the project. Participants explained that they were fairly assessed and that feedback was provided throughout the project. Marks were allocated according to the rubric and students were provided with the marks after the completion of the project. Students could therefore see how marks were allocated and achieved for each assessment criterion.

*She gave feedback throughout the whole project from the beginning till the very end. (Part5)*

*I was happy with the feedback from the lecturer. I was happy that our lecturer gave the marks while we were cooking, for everything there. So I was happy that she was working around us, giving us the marks. And she gave us feedback after the project. (Part9)*

*We were assessed fairly by the lecturer and she provided us with feedback on how we were assessed. (Part11)*



*I was being assessed fairly and we were informed of our marks. Our lecturer informed us of how we got our marks from the project and we could see the marking rubric after we were assessed. (Part16)*

One participant stated that the lecturer did not provide her with any feedback and she was only given her project assignment back.

*Ma'am gave us our assignment back but did not explain how we got our marks. I would have liked her to give me feedback in class so that I could understand where I got the marks. (Part14)*

Furthermore, a participant explained that they would want the lecturer to provide thorough feedback on areas they performed well in and areas which required further development. This would assist in their personal development as a person.

*I would have liked the lecturer to provide more feedback on how we were assessed for the project. For me, it is important that the lecturer schedule a meeting with the students and provide feedback on each point of the marking guideline on areas that we did well in as well as the areas that we need to improve on. This feedback is very important to me as it helps me to develop as a person. (Part18)*

(ii) The project as an understanding of the contents of the subject

Interviewees were asked if PjBL assists them in understanding the contents of their subjects. Participants acknowledge that the project allowed them to practically develop content knowledge which they had learned theoretically. This provided them with a better understanding of the subject content for assessment purposes as well as for them to work within the hospitality industry. Moreover, the project permitted them to demonstrate and develop their knowledge and skills.

*Yes, it helped very much because it was a practical project that was much better than theory. It also helped me to gain new skills and knowledge*

*needed for the hospitality industry. It has helped me with my assignment and tests. (Part15)*

*Yes, the project has helped me understand the contents of Catering and Theory as we are taught theoretically in class and it helps to put the theoretical knowledge into perspective as the project provides a practical platform to learn and practice our knowledge and skills. (Part18)*

Furthermore, Part1 added that the project not only assisted her in understanding the contents of the subject, but it also assisted her in actively engaging in real-world and personally meaningful learning. Through the project, she acquired knowledge and skills that she could apply to her personal life in organising events.

*It did help me a lot because most of the time I do not concentrate in class, I lose concentration. I can concentrate for the first 30 minutes and then I lose concentration. I feel like it's going to be much easier for me if I do this practically because, like I said, some of the words I do not understand, I do not know them. But if I can see or hear them and if I can be taught practically, it will help me a lot. Even after the project, I had a function that I had to host on my own. Someone asked me to help her with the baby party. I did that and it came out perfectly and as I'm speaking now I have another big function. I have to cater for 50 people for a graduation next month. So yeah, it really helped me a lot. (Part1)*

In addition to expanding on the aforementioned quote, as stated by Part16, the use of PjBL further teaches students entrepreneurial skills.

*Yes, I think it quite helped us to understand what information is in the syllabus and also how to be an entrepreneur by making food and teaching us how to sell and work with customers. (Part16)*

Next, participants were asked to mention the knowledge and skills they have acquired from the project that they can use in the future. A word cloud, as shown in

Figure 5.11, was used to illustrate the knowledge and skills that students acquired from the project.

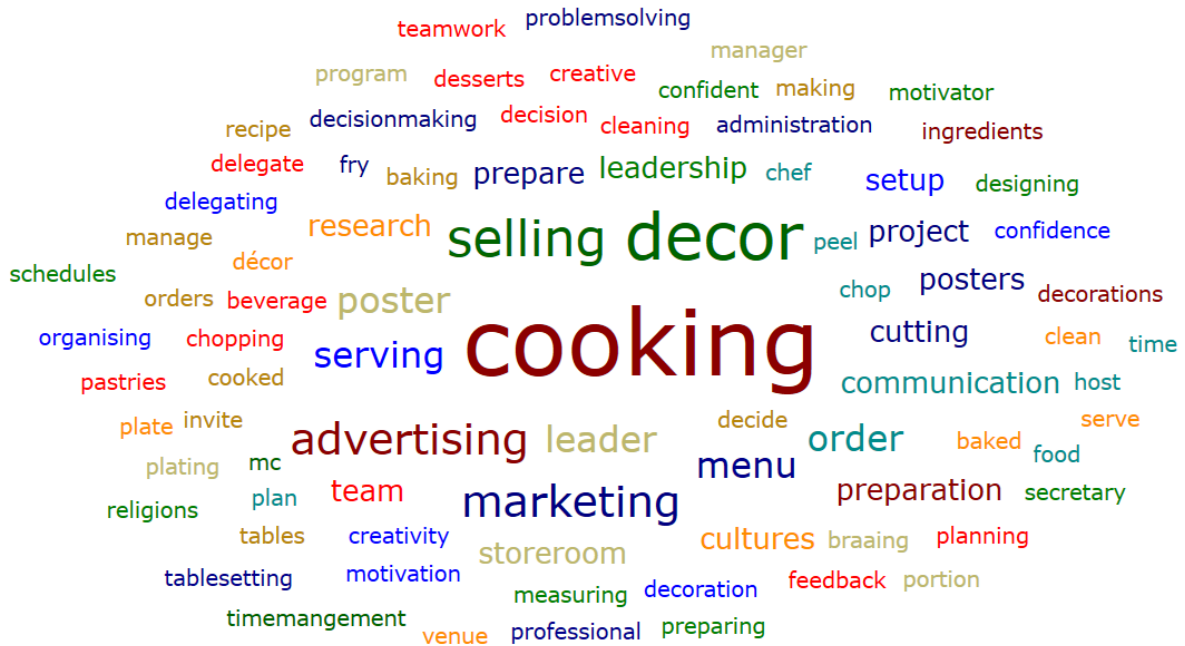


Figure 5.11: Participants’ opinions on the knowledge and skills they acquired through project-based learning

According to Figure 5.11, students acquired and/or developed knowledge and several skills through PjBL. The most widely expressed opinion from participants regarding the skills acquired was *cooking*. Since both projects were situated around the preparation of food for a cultural function and fast-food service it is clear that the main skill and knowledge demonstrated was cooking. This is followed by *décor* which is required for the setting-up of the project and then *marketing* knowledge and skills such as *selling* and *advertising*. Other common words were *leadership* skills, *menu* planning, *ordering* of ingredients, designing *posters* and *invitations*, and the *service* of food. This reflects how PjBL enables students to acquire and demonstrate their knowledge and skills related to hospitality.

(iii) Self-reflection as a part of learning in the development of a student

Next, participants were asked whether self-reflection is important or not important in their development as a student. Participants explained that self-reflection is an

important part of PjBL as it assists students to reflect on how they performed during the project. Students are afforded the opportunity for reflection, criticism, and revision of their ideas, decisions and work. Moreover, they can recognise and articulate the reasons behind their actions and how those actions support their final project. Lastly, participants also indicated that by reflecting, they can identify areas for growth or where they need to acquire new skills.

*Yes, it is important, because you have to give feedback on the reason for the rating, things you find challenging, and what you experienced, what could you have done to sell more products. I gave myself a rating of how I performed at the service. So it is important for me to reflect on what I have done there. I learned something from this. I learned about the challenges I got from the services and the feedback of the customers regarding the service. (Part9)*

*Yes, it is important because the reason is that as a student I need to know what information and skills I have and where I can improve. The questions asked in the self-reflection report made me think of the project planning and implementation. (Part15)*

Although the NATED project did not contain a self-reflection report component, participants still emphasised the importance and value of self-reflection in the development of a student.

*Self-reflection is very important to see if you are making progress or improving in your development as a student. Even though we didn't have a self-reflection report, I think it's important to ensure self-reflection reports are always implemented with a project to develop students. (Part17)*

*Self-reflection is very important as it helps a person develop personally and lets you reflect on your strengths and weaknesses. This in turn assists you to change your weaknesses and develop your strengths. It is*



*important that the self-reflection is done correctly and I have noted that there was no self-reflection report as part of this project. (Part18)*

One participant expressed that she did not think that self-reflection is needed as a component of PjBL. This participant stated that self-reflection imposes a negative emotional experience whereby it causes the person to doubt their capabilities in completing the project. It also does not assist in obtaining a better mark or percentage for the project.

*No, I think it is unnecessary because it does not actually help me get better marks. It just makes me realise what I did wrong. It makes me doubt myself in a way. It should not be included in parts of our assignment. (Part14)*

The next questions asked participants to state any strengths and/or weaknesses that they discovered through PjBL. Table 5.30 indicates the strengths and weaknesses the participants stated that they had discovered through the project.

Table 5.30: Word cloud indicating students' strengths and weaknesses

Word cloud of students' strengths	Word cloud of students' weaknesses
 <p>A word cloud showing various strengths. The most prominent words are 'communication' (red), 'marketing' (blue), and 'cooking' (blue). Other visible words include 'customers', 'planning', 'time', 'teamwork', 'decor', 'baking', 'organising', 'lead', 'confident', 'delegate', 'patient', 'pressure', 'team', 'plating', 'motivator', 'confidence', 'sell', 'clean', 'design', 'people', 'organised', 'problem', and 'teamwork'.</p>	 <p>A word cloud showing various weaknesses. The most prominent word is 'time' (blue). Other visible words include 'delegation', 'procrastination', 'delegation', 'customers', 'group', 'positive', 'orders', 'emotional', 'delegate', 'dance', 'temper', 'communicating', 'shy', 'planning', 'organising', and 'group'.</p>

The most used opinion on the strengths that students discovered were *communication*, *marketing* and *cooking*, while the weaknesses stated were *time management*, *delegation* and *procrastination*.

- (iv) Project-based learning in the students' learning and understanding of the subject

Participants were asked to consider the role they believed the project played in their learning and understanding of the subject CTP N6 or HS L3. All participants acknowledged that PjBL assisted them to learn, comprehend and apply the material covered by the subjects CTP N6 and HS L3. Participants postulated that the project facilitated the learning of new skills that could not be learned theoretically. Moreover, it helped them to gain a deeper knowledge and understanding of the subject in preparation for tests and exams.

*It played a major role. We got to learn a lot. Some of our skills got developed. I can safely say I have learned a lot. (Part1)*

*It helped me to study for my test and exams and to understand the theory work for the subject. I think I would have struggled more because I was applying the practical to the theory we did. (Part10)*

Another participant added that PjBL assists students to prepare for the workplace and their future.

*It allows us to have a broad idea of our syllabus (N6) which would make it easier to study for most of us and implement these practically and theoretically. It also prepares us as students for the workplace. (Part18)*

While two other participants stated that PjBL conjures a passion for entrepreneurship and hospitality. This is exemplified in the following quotes.

*It helped me realise that I have a passion for entrepreneurship and hospitality. It also helped me understand the theory of the subject. (Part11)*

*This project helped me to understand and encourage me to have my own fast food business in future. (Part12)*

Next, the qualitative data analysis obtained from the findings of the student's reflective reports will be discussed.

### 5.3.3 Qualitative data analysis obtained from the findings of the student's reflective reports

The students' reflective reports were analysed to assess the levels of reflection according to Hattan and Smith's (1995) levels of reflective writing. Table 5.31 illustrates the frequency of each level of reflective writing as it appears in students' reflective reports.

Table 5.31: Frequency of the level of reflection found in the Catering Theory and Practical N6 and Hospitality Services L3 self-reflection reports

	Catering Theory and Practical N6	Hospitality Service L3
<b>Sentences</b>	<b>Frequency</b>	
Descriptive writing	154	133
Descriptive reflection	31	13
Dialogic reflection	0	0
Critical reflection	0	0

It was found that most sentences from the self-reflection reports were on the descriptive writing level for CTP N6 (154 sentences) and HS L3 (133 sentences). The students described the events that occurred in the project and no attempt was made to provide reasons for the events. Examples of quotations from the NATED student's reflection reports that described the function's success were: 'The function was a success in the end because the goal was reached' and 'Yes, it was a success because we managed to complete and perform most of the tasks for the function'.

For the descriptive reflection level, the frequency achieved was 31 sentences for CTP N6 and 13 sentences for HS L3. Students referred to describing the event and made some attempts to provide reasons/justification for the event or action. An example of a sentence written at the descriptive reflection level is where the

students were asked if there was any conflict between group members, and the answer was: 'Yes. More than once. We had to understand and deal with those conflicts internally, promptly and effectively by setting our differences aside towards each not to waste time and energy on the conflicts'. Another student stated that 'we never understood one another and it felt so unfair that we had to agree and use experienced members ideas, but unexperienced members ideas were never taken seriously. So, the conflict was resolved through the lecturer having to talk to us. Sometimes we had to keep quiet to avoid more conflict'.

For the descriptive reflection level, the frequency achieved was for CTP N6 31 sentences and HS L3 13 sentences. Students made reference to describing the event and made some attempts to provide reasons/justification for the event or action. An example of a sentence written at the descriptive reflection level is where the students were asked if there was any conflict between group members, and the answer was: 'Yes. More than once. We had to understand and deal with those conflicts internally, promptly and effectively by setting our differences aside towards each not to waste time and energy on the conflicts'. Another student stated that 'we never understood one another and it felt so unfair that we had to agree and use experienced members ideas, but unexperienced members ideas were never taken seriously. So, the conflict was resolved through the lecturer having to talk to us. Sometimes we had to keep quiet to avoid more conflict'.

On whether the project prepared the student for future functions, a student replied, 'yes, I will be having the knowledge and skills to complete functions like this and I will be able to fix/solve all problems or challenges I will be faced with'. Lastly, on whether students had enough time and resources to prepare and plan for the project, a student replied: 'yes, it was enough, but the problem was that we as a team were not always working or communicating with each other to prepare well. We planned but did not act according to the plan. So, the time and resources were enough, but we failed to act on the time'. Although sentences were found to be on the descriptive and descriptive reflective levels, no sentences or statements were found to be categorised under the dialogic reflection and critical reflection levels. Next, the interpretation of the analysis of both QUAN and QUAL data will be discussed.



## 5.4 DATA INTERPRETATION

In Section 5.3, both the QUAN data and QUAL data were analysed and reported on sequentially starting with the QUAN data from the questionnaire, followed by the QUAL data from the semi-structured interviews and the section concluded with the QUAL data from the students' reflective reports. As the study employs a convergent MM research approach both the QUAN and QUAL data will be merged, as shown in Figure 4.3 and discussed in Section 4.3.2.2, for the interpretation of how the findings of the QUAL data explain the QUAN data results. The results and findings from both the QUAN and QUAL investigations will be used to ascertain whether the two analyses produce results that are comparable or dissimilar. Therefore, the purpose of this section is to discuss the interpretation of both QUAN data results and QUAL data findings that will address the primary research question:

*What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college?*

Moreover, this section will report on the data interpretation under each of the secondary research questions.

### 5.4.1 What are the students' perceptions of learner autonomy through project-based teaching and learning?

The LAS is a 5-point Likert-type-style 16-question survey that asks students to measure their own perception of LA under the two sub-scales of personal autonomy (questions 1 to 7) and educational autonomy (questions 8 to 16) as discussed in Section 4.4.2.1 and illustrated in Tables 4.8 as well as the data analysis Section 5.3.1.1 (ii) and (iii). In this study, TVET hospitality students who were registered in both NATED N6 and NC(V) L3 were surveyed to measure their personal and educational autonomy. As developed by Bei et al. (2019), a higher score within the two sub-scales implies a higher perceived value for personal and educational autonomy. This study's results indicate that students perceived a high overall value for both personal autonomy and educational autonomy as a *Mn* of 27.47 out of 35 (*Mn*=3.92 out of 5) and 15.56 out of 20 (*Mn*=3.87 out of 5) respectively (Sections

5.3.1.1 [ii] [c] and 5.3.1.1 [iii] [c], and Tables 5.6 and 5.11). The interpretation of how students experience autonomy through PjBL in TVET will be discussed separately hereunder.

#### 5.4.1.1 Students' perceived experience of personal autonomy in managing difficulties

Holec (1981: 3) viewed autonomy as 'the ability to take charge of one's own learning' and be responsible for their own learning. This can include the student being able to identify and manage difficulties that may arise in their studies. Respondents believed that they could handle whatever challenges they faced in terms of personal autonomy (Section 5.3.1.1 [ii] [a] and Table 5.2) receiving a *Mdn* of 4.00 for all statements. The term 'managing difficulties' refers to a student's ability to deal with any new issues that might come up while they are studying, to look for alternate solutions when challenging issues arise, to accept challenges as they come, and to adjust to difficult circumstances (Bei et al. 2019). The respondents agreed that autonomy is related to their ability for adapting to challenging circumstances and seeking alternative solutions in line with their unique personal characteristics as acknowledged by Bei et al. (2019). Similar findings were observed in the studies of Ding and Yu (2021) and Macaskill and Taylor (2010). According to Ding and Yu (2021), having autonomy in managing difficulties can help students become more independent and self-sufficient learners, and can lead to better academic performance and overall success. Moreover, Li and Li (2021) argue that dealing with challenges is a key concept in experiential education that assists students to acquire knowledge, behaviours, and abilities through the difficulties they face and enables students to become proficient by practising and overcoming these obstacles or challenges. This in turn creates autonomy conditions.

The QUAN results were confirmed through the QUAL findings where participants commented on the challenges that they had experienced in both the planning (Section 5.3.2.2 [v]) and implementation (Section 5.3.2.3 [i]) of PjBL. These challenges can be seen in the word cloud as illustrated in Figures 5.5 and 5.7. Some of the main challenges that were experienced by the students were communication barriers, time management, lack of team commitment, lack of participation of team

members, and a lack of resources. Similar challenges were experienced by students who had completed projects in other studies by Wilson and Essel (2021), Guo et al. (2020), Aldabbus (2018), Kokotsaki et al. (2016), and Mansor et al. (2015), and discussed in Section 2.3.2.3 (i).

However, although students found these challenges stressful, they also stated that the challenges assisted them in developing problem-solving techniques and skills and critical thinking skills (Section 5.3.2.2 [v]) which are essential skills needed for the job market. This finding is in line with Stehling and Munzert (2018) who assert that PjBL is an approach that allows the full use of students' potentials to raise motivation and develop independent learning, analytical, problem-solving and critical thinking skills and teamwork. Additionally, when students are able to overcome challenges and manage difficult situations on their own, they are more likely to develop a sense of independence and self-reliance through a process of experimentation (Al-Khawlani 2018). This can lead to a greater sense of autonomy, as the students become more confident in their ability to make decisions and take control of their own learning (Ding & Yu 2021; Tomasouw & Marantika 2020; Thanh 2019; Little et al. 2017; Palfreyman 2014; Little 2006; Holec 1981). Furthermore, managing difficulties can also help students develop important skills which can further enhance their autonomy and ability to learn independently.

Lastly, although the majority of respondents were able to manage the difficulties they faced during their studies, there were respondents who stated that they were undecided or could not manage new problems on their own (41.7%), nor could they seek alternative solutions (25.1%) see difficulties as a challenge (36.2%), or adapt to difficult situations (45.9%) (Section 5.3.1.1 [ii] [a] and Table 5.2). Duarte (2020) in her study, indicated that students have periods of stagnation and regression dependent on the demands and challenges placed on them, therefore students will need activities that adequately support their learning. Moreover, using PjBL, where students are placed in a collaborative learning environment with the guidance and support of the educator, can assist students to overcome such challenges (Budhai & Skipwith 2022).

#### 5.4.1.2 Students' perceived experience of personal autonomy in self-awareness autonomy

Vasiliene-Vasiliauskiene et al. (2020) argue that PjBL should be seen as an instructional model based on a constructivist approach to learning, in which knowledge is constructed from multiple perspectives within a social activity, allowing for self-awareness of learning in a context-dependent scenario. In this study, the majority of respondents posit that they are aware of their abilities as well as their limitations in relation to their studies, that they can solely rely on themselves throughout their studies, and that they know which learning style suits them best (Section 5.3.1.1 [ii] [b] and Table 5.3). Students who are self-aware are aware of their own learning and knowing. They have a better understanding of their strengths, weaknesses, interests, and goals, which enables them to make more informed decisions about their own learning and development. In turn, this assists students to take ownership of their own learning and take charge of their own education, rather than relying on their educator or other external sources to dictate their learning path (Bei et al. 2019; Macaskill & Taylor 2010). This is supported by Sheerin (1997: 59-60, as cited in Benson 2013) who defined student development as: 'cognitive and affective development involving increasing awareness of oneself as a learner and an increasing willingness and ability to manage one's own learning'.

This is further supported by the QUAL findings as discussed in Section 5.3.2.4 (iii) and Table 5.30 where participants stated the strengths and weaknesses that they discovered through PjBL. As participants could indicate their strengths and weaknesses, this demonstrates that participants are aware of their abilities and limitations in completing a project and they are therefore better able to make decisions about what they are capable of and where they need assistance. The Cheng et al. (2020) study revealed that students' autonomous characteristics could assist students to identify their weaknesses and to take appropriate steps to improve on their skills.

Moreover, the majority of respondents (88.2%) (Table 5.3) stated that they knew which learning style suited them best. For students, knowledge of their learning

styles assists them to be aware of the learning process and the appropriate use of learning strategies needed for the learning activities and tasks and the educational environment (Passarelli & Kolb 2020; Kolb & Kolb 2017). As part of Nunan's (1997, as cited in Khaerudin & Chik 2021) five-level model of LA (see Table 2.1 in Section 2.2.3), in promoting LA, students must first be made aware of the goals and content of the materials (i.e. for the subject or/and project) before they can identify their own preferred learning styles in completing the tasks at hand. It is therefore important for students to understand their own learning styles in order to be able to effectively learn and retain new information and retrieve the information at a later stage (Zaidi et al. 2020). Furthermore, the Ng and Confessore (2010) study provided evidence that students who are flexible in using different learning styles according to their needs and situation were found to be more autonomous.

#### 5.4.1.3 Students' perceived experience of educational autonomy in autonomy in planning

The responses indicate that the majority of respondents agreed that they planned for their studies, therefore the hospitality programme, through PjBL, created the conditions for LA (Section 5.3.1.1 [iii] [a]). This is consistent with statements by Kashefian-Naeeini and Kouhpeyma (2020) and Van Loi (2017) that using the curriculum-based approach (Section 2.2.5.5) is an effective approach to promote LA. In Table 5.5, 68.1% of respondents stated that they set realistic learning goals that meet their needs while 61.1% of respondents plan in detail the steps needed to pursue their goals. Goal setting is seen as an important part of Nunan's (1997, as cited in Khaerudin & Chik 2021) five-level model of LA (Section 2.2.3) where students are encouraged to be involved in selecting their own goals, materials and tasks from a range of alternatives offered to them. Students are also allowed to 'intervene or modify and adapt' their learning goals, the content of materials and tasks (Khaerudin & Chik 2021: 43). Furthermore, as postulated by Dash (2021), Agadzhanova (2020), Smith (2019), and Little et al. (2017), one of the learning skills that students require to become autonomous is the ability to identify and set learning goals.

The QUAN results correlate with the QUAL findings as participants had to indicate during the interviews which skills they had that allowed them to be autonomous. As seen in Section 5.3.2.3 (iv) and Figure 5.8 one of the skills that participants stated was goal setting. Moreover, one participant stated that they set realistic goals that they wanted to achieve for themselves at the beginning of each semester. However, although most respondents indicated that they set realistic goals, 31.9% neither agreed nor disagreed and disagreed that they do not set goals nor do 38.9% respondents plan in detail the steps to pursue their goals (Table 5.5). It is therefore imperative that educators (as explained in Section 2.2.5.6) assist students to assess their needs, help them to set goals (Kashefian-Naeeni & Kouhpeyma 2020), and equip students with appropriate learning strategies to successfully take control of their own learning (Jose et al. 2020).

In Section 3.2.2.3, as part of the core concept of Kolb's ELT, Kolb expresses the importance of LSs in the experience of the student in EL (Kolb & Kolb 2013, 2017). LSs exist in the experiences of students and are formed by objective factors in particular the physical setting and time available for learning, and by subjective factors, for instance expectations and learning preferences (Passarelli & Kolb 2020). In Table 5.5, 86.1% of respondents indicated that they choose the time and place of their study according to their personal needs (i.e. physical LS). This is in conjunction with the psychological LS, where 88.2% (see Table 5.3) of respondents stated that they know well which learning styles suit them best, which indicates that respondents have the capacity for understanding their unique learning preferences and capabilities (Passarelli & Kolb 2020).

In Section 5.3.1.1 (iii) (a) and Table 5.5, the QUAN results for the question 'I can evaluate my learning in total' show contradicting evidence coupled with the QUAL findings in Section 5.3.2.4 (iii) from the interview and students' self-reflection reports (Section 5.3.3). It was therefore decided to discuss respondents' and participants' perceptions of self-evaluation of their learning under a separate sub-heading.

(i) Students' perception of self-evaluation of their learning

Self-evaluation of learning refers to the process in which students assess their own understanding and progress of their learning (Bei et al. 2019). This type of evaluation can be an important tool for students to reflect on the learning areas where they may need to improve. According to Section 5.3.1.1 (iii) (a) and Table 5.5, 80.6% of respondents state that they can evaluate their learning in total. This is in line with one of the criteria set by SAQA for a learning programme on a NQF level 6 that states: 'students must be able to demonstrate a capacity to evaluate their own learning and identify their learning needs within a structured learning environment' (SAQA 2005: 83). Moreover, for students to be able to self-evaluate assists them in developing self-awareness, self-regulation and metacognitive skills. Shelton-Strong (2018) argues that by providing opportunities for self-evaluation as a means to reflect on both learning and performance, students not only exercise autonomy in doing so, but also take the important first steps towards the development of metacognitive awareness which can aid in furthering the capacity for autonomy.

As part of the interview, students were asked if self-reflection was important/not important in their development as a student and to explain their responses (Section 5.3.2.4 [iii]). The majority of participants replied that self-reflection was important in their development as a student and in the acquired knowledge and skills they gained through the project. One participant (Part18) also stated that *self-reflection is very important as it helps a person develop personally and lets you reflect on your strengths and weaknesses. This in turn assists you to change your weaknesses and develop your strengths.* As part of Kolb's ELT, reflection forms an important component of the learning process as it involves thinking about and reviewing the experience that the student had (Section 3.2.2). Through critical reflection, students can draw connections between their experiences and their knowledge, and they begin to develop new understandings and insights (Bell & Bell 2020; Passarelli & Kolb 2020; Kolb & Kolb 2017). Studies that have linked the importance of reflective thinking to PjBL are Ar, Palau-salvador, Belda and Peris (2020), Funny, Ghofur, Oktiningrum, Luh and Nuraini (2019), Janse van Rensburg and Goede (2019), and Kim (2019).

However, during the evaluation of students' self-reflection reports (Section 5.3.3) it was observed that the majority of reflections noted by students were only on the descriptive writing level, while a small amount of reflections were on the descriptive reflection level (see Table 5.31). A similar finding was found in both the İlin (2020) and Funny et al. (2019) studies on reflective writing styles, which revealed that student teachers used a descriptive or habitual action (first level out of four levels) tone in writing their journals rather than a reflective one. This low-level outcome can be attributed to students not fully understanding how to self-reflect, lacking motivation to complete the self-reflection thoroughly, not fully understanding the advantages of self-reflection, or distrusting the probability of the educator reading their self-reflection reports (İlin 2020). This can be seen from the response of participant Part14 (Section 5.3.2.4 [iii]) which states that self-reflection imposes a negative emotional experience where it causes the person to doubt their capabilities in completing the project, and it also did not assist her in obtaining a better mark or percentage for the project. Funny et al. (2019) therefore states that educators must assist students in improving their capacity for reflective thinking skills.

(a) Students' perception of whether the marking rubric was clear

In Section 5.3.2.4 (i), participants stated that the rubric was clear, and they understood what was expected from them. The lecturer provided students with the rubric with the project instructions and explained the expected criteria and outcomes of the project. Students also had an opportunity to ask the lecturer any questions for further clarity. The response by participants ties in with Sections 5.3.2.2 (iv) and 5.4.1.4 (iii) on the role of the educator. As part of Dam's (2011, as cited in Baranovskaya & Shaforostova 2018) principles in the development of LA, Dam states that students need clear guidance of what is expected of them in order for them to feel secure enough in the project. This can be through the guidelines provided by the educator, the assessment guidelines and/or marking rubric.



(b) Students' perception of how they were assessed during project-based learning

Participants explained that they were fairly assessed for the project and that feedback was provided throughout the project. Marks were allocated according to the rubric and students were provided with the marks after the completion of the project (Section 5.3.2.4 [i]). Students could therefore see how marks were allocated and achieved for each assessment criterion. However, there was a participant who stated that no feedback was provided to her, and another participant explained that they would want the educator to provide thorough feedback on areas they performed well in and areas that required further development. This would assist in their personal development. Lubis (2020) asserts that the educator's role enables students to be more autonomous in initiating, monitoring and evaluating processes. He claims that constant guidance and feedback from educators are crucial to maintain students' motivation in learning autonomously.

5.4.1.4 Students' perceived experience of educational autonomy in autonomy in action

The results and findings of students' perceived experiences of educational autonomy in action will be discussed in three parts. The first part will discuss the respondents' perceptions of them wanting to choose the content and method of their studies. The second part will look at them wanting to choose the means and resources for studying, and their acquaintance with the use of a variety of information resources, and the third is how respondents and participants perceive their educators' support during teaching and learning.

(i) Students' perceived experience with them wanting to choose the content and method of their studies

In Table 5.6, 69.4% wanted to choose the content and method of their studies. In Section 2.2.2.5, Pham (2021), Kashefian-Naeeni and Kouhpeyma (2020), and Nguyen and Gu (2013) postulate that the curriculum-based approach to promote LA emphasises the idea of student control and the negotiation between educators

and students over the curriculum as a whole. Moreover, students feel a sense of value when their choices and decisions are considered, which in turn will increase their motivation and willingness to partake in the learning process (Kashefian-Naeeni & Kouhpeyma 2020; Van Loi 2017). However, 30.9% of respondents were undecided and disagreed with wanting to choose the content and method of their studies. This is in agreement with studies by Wirapatni et al. (2021), Yasmin et al. (2020), Yasmin and Sohail (2018), and Alonazi (2017) whose studies found that some students are passive in their learning and dependent on their educator, which is further explained in Section 2.2.7.

Kashefian-Naeeni and Kouhpeyma (2020) and Van Loi (2017) state that using the curriculum-based approach (Section 2.2.5.5) is an effective approach to promote LA as students feel that when their choices and decisions are valued they will show more motivation and enthusiasm to partake in the learning process.

- (ii) Students' perceived experience on wanting to choose the means and resources for studying with their acquaintance with the use of various information resources

In Section 5.3.1.1 (iii) (b) and Table 5.6, 73.6% of respondents indicated that they wanted to choose the means and resources for studying. This high percentage result is consistent with the previous Section 5.4.1.4 (i)'s discussion of respondents wanting to choose the content and method of their studies, which obtained a majority percentage of 69.4%. Moreover, 73.6% of respondents stated that they are acquainted with the use of a variety of information resources. Section 2.2.5.1 discusses the importance of using the resource-based approach in promoting autonomy. Students that are au fait with using various resources are likely to be autonomous as they are better able to identify the resources they need to support their learning (Farr 2015) and are more likely to be successful in their learning endeavours (Pham 2021).

These results signify that the majority of respondents have control over their learning (Section 2.2.2.2). This control, as postulated by Benson (2011, as cited in Chang 2020), shows how students assess their learning needs, attempt to solve

learning problems, evaluate their progress, identify suitable learning strategies, and seek learning resources. All this combined with the previously stated results in Sections 5.3.1.1 (ii) (a) and (b), and 5.3.1.1 (iii) (a) demonstrates that the respondents have a sense of control over their learning and therefore have a higher likelihood of being autonomous (Chang 2020; Rohani et al. 2019; Van Loi 2017).

(iii) Students' perception of educator support during teaching and learning

In Section 5.3.1.1 (iii) (b) and Table 5.6, only 35.5% of respondents agreed that they wanted the educator to let them act on their own, while 20.1% were uncertain and 44.5% disagreed. It is not uncommon for students to feel more comfortable when an educator is present and providing guidance during teaching and learning. This may be due to a variety of reasons, as stated in Section 2.2.7 by Yasmin et al. (2020), Yasmin and Sohail (2018), Barnard and Li (2016) and Alonazi (2017), such as, socio-cultural, psychological, lack of self-confidence and students coming from an educator-centred teaching environment. However, it is important to note that the results do not indicate that students are not autonomous (as discussed in Sections 2.2.2.2 and 2.2.4) as Little (1991) emphasises that although students take control over their learning, it does not mean that the educator will relinquish all initiative and control (Marsevani 2021), or that their role as an educator becomes redundant during the teaching and learning process.

The aforementioned notwithstanding, it is evident that despite the large number of respondents stating the previous, most respondents (93.7%) agreed that they want their educator to help them when it is absolutely necessary. Thus, it is evident that the educator should provide support and guidance while still giving students the opportunity to work independently and take ownership of their learning. This may involve setting clear expectations and providing resources or tools to help them succeed, as well as offering guidance and support when needed (Li & Li 2021). Furthermore, according to Bhattarai (2021), Marsevani (2021) and Alonazi (2017), for students to be active and take charge of their learning, the educator's role should be that of a facilitator, counsellor, manager and resource.

The QUAN results are further supported by the QUAL findings detected through the interview. Refer to Section 5.3.2.2 (iv) where participants responded to two questions on what the role of the lecturer and student should be in PjBL. Firstly, participants expressed that the educator's role should be to *guide* or provide *guidance* and then to provide *instructions* or *information* on the project and to assist them when needed (see Figure 5.3). This is in line with previous studies by Budhai and Skipwith (2022), Yu et al. (2018), Kokotsaki et al. (2016), and Güven and Valais (2014) who used the same or similar descriptions of the role of the educator in promoting LA and PjBL (Section 2.3.2, 2.3.2.1, and 2.3.5).

Moreover, the participants' main opinion regarding the student's role is to *learn*, gain *experience*, and take *responsibility* to ensure that the *planning* of the project is done correctly through team collaboration to ensure the *successful* completion of the project (see Figure 5.3). Within both theories of LA and Kolb's ELT, the terms expressed by respondents' opinions emphasise the importance of active learning, taking control, gaining experience and taking responsibility in the learning process. By taking an active role in their learning and taking responsibility for their own success, students can gain valuable experience and skills that will help them succeed in their studies and in lifelong learning (Ding & Yu 2021; Saeed 2021; lamudom & Tangkiengsirisin 2020; Passarelli & Kolb 2020; Tomasouw & Marantika 2020; Thanh 2019; Little et al. 2017; Palfreyman 2014; Holec 1981).

Finally, based on the results achieved for both personal (Section 5.3.1.1 [ii]) and educational autonomy (Section 5.3.1.1 [iii]) scales, the results show that students have a positive perception about LA and its importance. The same result was found in a studies by Duarte (2018) and Crockett's et al. (2019).

#### **5.4.2 What are the students' perceptions of project-based learning in hospitality education?**

The ELS is a 7-point Likert-type-style 28-question survey that asks students to measure their own perceptions of EL, in this instance PjBL, during the planning, implementation and monitoring of the project. The ELS is separated into four sub-scales, namely authenticity (items 1-5), active learning (items 6-12), relevance

(items 13-21), and utility (items 22-28) as discussed in Section 4.4.2.1 and illustrated in Table 4.8 as well as the data analysis Section 5.3.1.1 (iv). In this study, TVET hospitality students who were registered in both NATED N6 and NC(V) L3 were surveyed to measure their experience-based instruction. As developed by Clem et al. (2014) a higher score for the global scale of ELS indicates high student perceptions of a global perceived value to EL within their subject of study (Danko 2019; Clem et al. 2014). The global score obtained for the ELS as a whole was a *Mn* of 166.13 out of 194, which relates to a *Mn* of 5.97 out of 7 (Section 5.3.1.1 [iv] [e] and Table 5.16). This implies that the respondents perceived PjBL as a valuable instructional approach designed to develop knowledge and skills through an engaging project (ESEI 2021; Indrawan et al. 2020; Stehling & Munzert 2018; Stefanou et al. 2013; Martin & Devenish 2007). The interpretation of how students experience PjBL, as an EL pedagogy, and how it influences work-related skills and competencies are discussed under the four sub-heading of authenticity, active learning, relevance and utility hereunder.

(i) Students' perceptions of authenticity within project-based learning

Authenticity refers to how information is provided to students and whether the activities and consequences of PjBL are understood by the students as relevant to their lives. Therefore, the project should provide meaningful experiences within the context of their outlook on life (Clem et al. 2014; Carver 1996). All four of the items (items 1, 2, 4 and 5) received a high *Mdn* of 6.00 (Section 5.3.1.1 [iv] [a] and Table 5.8) out of a possible 7, except for item 3 which was removed from the subscale for authenticity (see Table 4.12) for the inferential statistics of multiple regression that received a *Mdn* of 3.00 (reverse-coded), therefore, although it was removed from the subscale, it was kept in the global ELS and will be discussed in relation to the ELS global scale.

In PjBL, students work collaboratively to explore a topic in-depth by gathering information and creating a final product or presentation that demonstrates their learning. High Quality Project Based Learning (2018), Clem et al. (2014) and Carver (1996) state that for PjBL to be authentic, the activities and consequences are perceived by students as relevant to their lives. In this study, the majority of

respondents (84.7%) agreed to some extent that they expected real-world problems to occur during PjBL and 83.4% of respondents expected to return to an environment similar to the one where the project occurred (Section 5.3.1.1 [iv] [a] and Table 5.8). The respondents were able to infer from the results that the project enabled them to apply their knowledge and skills to real-work situations and problems, offering them meaningful experiences within the context of their outlook on life (O'Scanaill 2020; Bates 2019; High Quality Project Based Learning 2018; Clem et al. 2014; Carver 1996).

Moreover, 82.7% posit that the project required from them to interact with people other than students and educators. The incorporation of external stakeholders or having a public product (i.e. customers) is seen as beneficial to the project as students improve the quality of their work knowing that customers will be involved, it demonstrates students' knowledge and skills, and students have an opportunity to receive feedback and develop their social and emotional skills (Section 2.3.2.1) (High Quality Project Based Learning 2018; JMC 2018; Thomas 2000). Thomas (2000) asserts that one method that PjBL can satisfy the authenticity criterion is by developing a product for a relevant audience. Through the QUAL findings (Section 5.3.2.3 [i]), participants stated that being involved with the public (i.e. customers) helped them to solve customer-related problems and see what would be expected of them in future work.

In Table 5.8, 87,5% of respondents indicated that the setting where they learn assists them to understand the learning material better, however, more than half of the respondents (52.7%) indicated that the environment in which they learn does not enhance the learning experience. This high percentage of respondents could be attributed to the answers provided through the QUAL findings in Section 5.3.2.2 (v) where participants stated as a challenge, the lack of resources made available to them for research purposes such as a library, computer labs, and computers. This study's findings are related to a study by Aldabbus (2018) in which he highlights challenges experienced by some students who don't own or have access to technology, which inhibits them from conducting research for their projects. Furthermore, a participant stated that the group for the project was too large which prevents fairness among group members in planning and implementing the project.

Studies by Zourez (2019), Aldabbus (2018), and Mansor et al. (2015) posit that large groups of students can hinder progress within a project and suggest using smaller groups for working on projects. The various challenges that may hinder the application of PjBL are highlighted in Section 2.3.2.3 (i) and also in the QUAL findings of Sections 5.3.2.2 (v) and 5.3.2.3 (i). Zourez (2019) emphasises the importance of educators ensuring that materials and resources are made available to students to ensure that they can perform their tasks. The importance of using resources (Section 2.2.5.1) and technology (Section 2.2.5.2) as an approach to promote LA is also highlighted.

(ii) Students' perceptions of active learning within project-based learning

Active learning, as described by Clem et al. (2014) and Carver (1996), is concerned with the level of physical and/or mental engagement the students have with the learning material and the active involvement in the learning process (Budhai & Skipwith 2022). The QUAN results, as explained in Section 5.3.1.1 (iv) (b) and presented in Table 5.10, show that respondents were actively engaged and involved in the project as all items received a high *Mdn* of 6 (items 6, 8, 10, 11, and 12) and 7 (item 7) out of a possible 7. Although item 9 (reverse-coded) received a *Mn* of 6 and was removed from the subscale active learning for inferential statistics for multiple regression analysis (see Table 4.12), it was kept in the global ELS indicating that the respondents agreed that the project was not boring.

All three theories, LA, PjBL and Kolb's ELT, used within this study emphasise the importance of student involvement and hands-on learning in the educational process, and they all recognise the importance of students taking an active role in their own learning (Saeed 2021; Swatevacharkul & Boonma 2021; lamudom & Tangkiengsirisin 2020; Oxana et al. 2020; Passarelli & Kolb 2020; Kolb & Kolb 2018; Roessingh & Chambers 2011). Therefore, as this study received a high score for all items under active learning, this indicates that the respondents perceived themselves to be actively involved in the project and had a positive perception of their level of involvement in the planning and implementation of the project. This suggests that they felt that they were able to contribute and have an impact on the project and that they had an opportunity to take an active role in the learning

process. This interpretation is supported by the QUAL findings of questions 1, 2, 3, 4, 5, 9, and 12 (see Appendix G) and the QUAL data analysis findings in Sections 5.3.2.2 (i), (ii), (iii), (vi), and Section 5.3.2.3 (iii).

The majority of participants liked the project topic and enjoyed partaking in the project, although two participants thought the project could have been more exciting and that another topic could have been chosen (Section 5.3.2.2 [i]). Moreover, participants stated that the educator provided enough clarity on the instructions for the project and that they understood the expectations for the project because of the clear directions and opportunities for questioning that were provided (Section 5.3.2.2 [ii]). Furthermore, participants stated that they were actively involved in the planning (Section 5.3.2.2. [iii]) and implementation (Section 5.3.2.3 [iii]) of the project where the educator gave participants full control over the project. One participant (Part12) (Section 5.3.2.2 [i]) stated that:

*I liked the project because it helped me to be a team player and because it was practical. We had to physically plan and implement the project ourselves. It was not the normal theory class or just sitting and listening to our lecturer.*

As explained in Section 5.4.1.4 (iii), the role of the educator was to provide instruction and guide students through the project. Finally, the educator allowed students to use their creativity and imagination when planning and creating the project by incorporating different activities and tasks that students needed to complete (Section 5.3.2.2 [vi]). These findings are emphasised in Section 2.3.2 and illustrated in Figure 2.3 in the understanding of the PjBL approach.

(iii) Students' perceptions of relevance within project-based learning

The relevance construct draws on the student's experience and allows the student to internalise and reflect on their past experiences to connect old and new information (Clem et al. 2014). Most respondents indicated that PjBL is relevant to their current learning experience, their lives and their future, especially in finding future work (Section 5.3.1.1 [iv] [c] and Table 5.12) as the items for the relevance



subscale received a high *Mdn* of 6 or 7 (item 15 reverse-coded). The respondents perceived that the project's experiences were relevant and applicable to both their academic studies and the actual world. This is consistent with UNESCO's (2016a, 2021c) argument that in order for students to be prepared for the workforce, they must acquire the necessary knowledge, skills, attitudes and competencies. In a related study, Danko (2019) found that students perceived a high overall value of EL which suggested that they believed the experience to be relevant to real-world applications. Moreover, Sebby and Brown (2020) argue the importance of industry-related relevance in hospitality management PjBL for students to attain work experience and stronger skill sets.

The QUAN results were substantiated by the QUAL findings where participants highlighted in Sections 5.3.2.3 (ii), 5.3.2.4 (ii), and (iv) that the project allowed them to apply their theoretical knowledge into practice, which is further enhanced by the knowledge and skills obtained in the context of the project and also as imparted by the educator (Wilson & Essel 2021; Liu 2019). Moreover, students were given the opportunity to put their theoretically obtained content knowledge into practice. As a result, they had a greater comprehension of the subject content knowledge for both their assessments and their ability to work in the hospitality industry (Wilson & Essel 2021; Juliet 2020; High Quality Project Based Learning 2018). Additionally, the project gave them the chance to showcase and advance their knowledge, skills and abilities. All participants agreed that PjBL helped them learn, understand, and apply the information covered by their subjects. Participants postulated that the project made it easier to master new knowledge and skills that couldn't be conceptually learned (Daher 2021; Ghosheh et al. 2021; Wilson & Essel 2021; Liu 2019; Shpeizer 2019). Furthermore, it aided students in developing a more thorough comprehension of the subject in order to better prepare for assessments.

(iv) Students' perceptions of utility within project-based learning

The subscale utility refers to connecting information learned to future opportunities. Students develop habits, memories, knowledge and skills that will be useful to them in future, through the formal process of having students reflect on their involvement in activities (Clem et al. 2014; Carver 1996). For this study over three-quarters of

respondents perceived the value of the project in obtaining experience that can be used in the present and for future endeavours with all responses for items receiving a *Mdn* of 7 (items 23 and 27 reverse-coded) (Section 5.3.1.1 [iv]) [d] and Table 5.14). When students can connect information learned to future opportunities, it assists them to understand the relevance (Section 5.4.2 [iii]) and practical application of what they are learning, which increases their motivation and engagement in their studies (Budhai & Skipwith 2022; Saeed 2021; lamudom & Tangkiengsirisin 2020; Larmer et al. 2015) and develops lifelong learning (Saeed 2021; lamudom & Tangkiengsirisin 2020). By connecting what they are learning with real-world situations and potential career paths, students can also begin to see how their education can lead to meaningful and fulfilling opportunities in the future (Kokotsaki et al. 2016; Clem et al. 2014; Krajcik & Shin 2014; CHE 2011).

Furthermore, encouraging students to think about the future implications of their learning, through PjBL, can help them develop critical thinking skills and the ability to make connections between different subjects and disciplines. This can be especially important in helping students understand how their education fits into a larger context and see the value and potential impact of their learning (Wilson & Essel 2021; Juliet 2020; High Quality Project Based Learning 2018). From the QUAL findings participants highlighted the various knowledge and skills they acquired and developed through the project that they can use in the future. These knowledge and skills are illustrated in Figure 5.11 and discussed in Section 5.3.2.4 (ii). The QUAL findings relate to studies by Mirah Sertia Dewi (2020), Washburn and Olbrys (2019), Fini et al. (2018) and Brunazzi et al. (2017) that associate PjBL as a highly effective approach for acquiring relevant knowledge and skills needed for the world of work and citizenship, as students engage (Section 5.4.2 [ii]) with real-world problems and challenges (Section 5.4.2 [i]), and apply their knowledge and skills in meaningful, authentic (Section 5.4.2 [i]) and relevant ways (Section 5.4.2 [iii]).

#### **5.4.3 What is the relation of project-based learning in the promotion of learner autonomy amongst hospitality students?**

In Section 5.3.1.2 a simple linear regression and a multiple regression analysis were conducted to see whether there was a correlation between PjBL and LA. The results

from the simple linear regression showed that PjBL has a positive and significant influence on personal autonomy (Section 5.3.1.2 [i]) and educational autonomy (Section 5.3.1.2 [ii]). Therefore, it can be deduced that PjBL has a positive and significant influence on LA. This study's results align with studies by Pham (2021), Mirah Sertia Dewi (2020), Zaidi et al. (2020), Boggu and Sundarsingh (2019), Rostom (2019); Yuliani and Lengkanawati (2017); Jilani and Yasmin (2016); and Stefanou et al. (2013) that all found a positive relation between EL or PjBL and LA. The students had a high perception of the value of PjBL in promoting LA within hospitality education.

Next, a multiple regression analysis was used to better understand which of the four ELS sub-scales of authenticity, active learning, relevance and utility had a relationship with personal autonomy and educational autonomy (Sections 5.3.1.2 [iii] and [v]). The results of the multiple regression analysis showed that two positive and significant relationships existed. The first positive and significant relationship was between active learning and personal autonomy (Table 5.25). According to the respondents, their level of involvement in the project increased their sense of personal autonomy. The more actively involved students are in the project on both a mental and physical level (Clem et al. 2014; Carver 1996), the more likely it is that they will be able to explore their own interests and feel in control of their own learning (O'Scanaill 2020; Danko 2019; Clem et al. 2014). Furthermore, the extent to which participation in a project increases personal autonomy will depend on the specific characteristics of the project and the level of involvement in it.

The second was relevance which had a positive and significant relationship with educational autonomy (Table 5.28). For respondents, the idea is that learning is more meaningful and effective when it is connected to the student's own experiences and interests. When students are able to see the relevance of the material they are learning to their own lives and their future, they are more likely to be motivated to engage with the material and to retain it over time (Teng 2019; Clem et al. 2014). This is because students are more likely to invest time and effort in learning when they believe that the material is important or useful to them (Deffor et al. 2019; Krajcik & Shin 2014). Therefore, PjBL is seen as an effective way to promote relevance because it allows students to apply the knowledge and skills

they are learning to real-world problems or challenges (O'Scanaill 2020; Kokotsaki et al. 2016; Clem et al. 2014; Krajcik & Shin 2014; CHE 2011). Therefore, the use of PjBL in the hospitality education curriculum is seen as a teaching and learning pedagogy in which students learn by actively engaging in real-world and personally meaningful projects (O'Scanaill 2020; Clem et al. 2014) which promotes LA.

## **5.5 CHAPTER SUMMARY**

This chapter discussed the results and findings of the case study that took place at a TVET college. The chapter commenced with a brief anecdotal account of what transpired during the fieldwork in collecting both QUAN and QUAL data. The data analysis section was organised by the three types of data collection: the QUAN data analysis obtained from the results of the questionnaire (Section 5.3.1), the QUAL data analysis obtained from the findings of the semi-structured interviews (Section 5.3.2), and the QUAL data obtained from the findings of the students' reflective reports (Section 5.3.3). In Section 5.3.1, the QUAN data analysis consisted of descriptive analysis in which the demographic profile of the sample population was described, followed by the descriptive analysis of the LAS and ELS. The section concluded with inferential statistics using both simple linear regression and multiple regression analysis to predict relationships of scales and sub-scales.

Next, in Section 5.3.2 the demographic profile was presented of the sample population from the semi-structured interviews. The QUAL data was explained in three parts as it appeared on the interview schedule, namely: LA in the planning phase of PjBL, LA in the implementation phase of PjBL, and LA in the monitoring phase of PjBL. This was followed by Section 5.3.3 where the students' reflective reports were analysed using Hattan and Smith's (1995) levels of reflective writing.

Following the analysis of both QUAN and QUAL data, the results and findings were merged for comparison to determine if the two databases yielded similar or dissimilar results. Next, in Chapter 6 the research findings for both QUAN and QUAL will be synthesised, and a summary of the research findings presented. This will then be followed by the research conclusions and recommendations.

## 5.6 CONCLUDING REMARKS

The aim of the study was to investigate what is involved in PjBL in order to promote LA in hospitality students at a TVET college. Through a convergent MM approach, the researcher used three data collecting instruments to collect QUAN and QUAL data to answer the main research question. According to the QUAN descriptive data results, students perceived themselves to have high levels of personal and educational autonomy by scoring high on the personal autonomy global score and the educational autonomy global score *Mn*. The high *Mn* score on the ELS global scale, combining the four sub-scales, indicates that students valued PjBL within the hospitality curriculum for acquiring and applying knowledge and skills learned to real-world problems and challenges.

The QUAN results were substantiated by the QUAL findings although some discrepancies were revealed. The first was that students stated that they valued self-evaluation and self-reflection, however, the findings from the QUAL data from students' self-reflection reports showed that students lacked the skills to self-reflect. Secondly, some students stated that although they were fairly assessed, that feedback on their project outcomes was not provided to them by their educator. To them, this was important to ensure further development.

Furthermore, through simple linear regression, it was found that there was a positive and significant relationship between PjBL and personal autonomy, and PjBL and educational autonomy. Therefore, if students are actively engaged in the project their personal and educational autonomy will increase. Multiple regression analysis revealed two positive and significant relationships: active learning and personal autonomy, and relevance and educational autonomy.

## CHAPTER 6

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### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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#### 6.1 INTRODUCTION

This chapter presents the summary of research findings in Section 6.2 by discussing the key scholarly review findings (Section 6.2.1) and key empirical findings (Section 6.2.2). The research conclusions are explained under the three secondary research questions to address the main research question: What is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college? The next section will provide recommendations (Section 6.4) to the DHET and Umalusi, the TVET college and the educator. This is followed by possible avenues for further research in Section 6.5 in which the researcher will recommend areas for scholars in LA, PjBL and hospitality education to pursue. Then, in Section 6.6 both the limitations and delimitations of the study will be highlighted, and the chapter will conclude with closing remarks for this thesis (Section 6.7).

Before commencing with Chapter 6 a brief review of the preceding chapters is provided. As stated in Chapter 1, this empirical study aimed to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment. In Chapter 2, the contextual and conceptual frameworks of LA and PjBL were explored. Thereafter, Chapter 3 covered Kolb's ELT theoretical framework, which was used to analyse and evaluate the data acquired through the convergent MMs approach employing a questionnaire, semi-structured interview and students' self-reflection reports, as described in Chapter 4 and interpreted in Chapter 5. Next, the summary of the research findings will be presented.

## **6.2 SUMMARY OF RESEARCH FINDINGS**

This section provides a summary of key scholarly review findings (Section 6.2.1) for Chapters 2 and 3, and key empirical (Section 6.2.2) findings for Chapter 5. Using the study findings and a convergent MMs approach (Section 4.3.2) in accordance with the pragmatism research paradigm (Section 4.3.1), the researcher sought to address the primary research question (Section 1.5.1) and sub-questions (Section 1.5.2). Next, the key scholarly review findings will be presented in the same order as what they appear in this study.

### **6.2.1 Key scholarly review findings**

LA refers to the degree to which a student is able to take charge of their own learning process (Section 2.2.1), as Holec (1981: 3) defines LA as “the ability to take charge of one’s own learning”. It involves the ability to set learning goals, select and use learning activities and resources, monitor and evaluate progress, and reflect on one’s learning (Section 2.2.2.1). Students should take charge and have the confidence to accept responsibility for their own learning outcomes (Sections 2.2.2.2 and 2.2.2.4) and have the motivation and willingness to learn (Section 2.2.2.3). Moreover, students must have the freedom to take control of many of the processes that are normally associated with the role of an educator. However, the educator does not relinquish total control over the learning process. The educator's role is an important part of the teaching and learning process and should be that of a facilitator or counsellor who provides support and guidance to students (Section 2.2.4). This study provides a definition for LA as a student’s willingness and ability to take responsibility to set goals, plan, implement, monitor and evaluate their own learning (Little 2020; CHE 2014) with tasks that are constructed in negotiation with and support from the educator (Alrabai 2017; Trabelsi 2016; Nguyen 2014) (Section 2.2.4).

The five-level model by Nunan (1997, 2013) is emphasised in Section 2.2.3. The different levels of autonomy implementation include raising awareness, encouraging involvement, intervention, creation, and transcendence. By employing the five-level model, educators can design or adapt learning materials to assist in

creating the required conditions for LA development. Next in Section 2.2.5, there are six approaches to promoting LA as stated by Benson (2011a) which are often combined and are arguably interdependent. These six approaches are resource-based, technology-based, learner-based, classroom-based, curriculum-based and educator-based approaches. Promoting LA can have several benefits which are highlighted in Section 2.2.6; however, there are factors that can negatively impact the promotion thereof (Section 2.2.7).

From Section 2.3, a theoretical perspective was provided of PjBL. PjBL is an instructional approach that focuses on student learning through the completion of a real-world project. In this approach, students work on a project over an extended period of time, during which they research a topic, gather and analyse information, and then use the information to create a product or presentation. The project is normally centred around a specific theme or problem, and students are given the opportunity to explore and discover solutions on their own with the support and guidance from their educator (Section 2.3.2 and Figure 2.3). In Section 2.3.2.1 the best practices or guidelines are provided in the successful implementation of PjBL. Some of the best practices mentioned in the section are a meaningful project, challenging question or problem, acquiring of multiple skills (Section 2.3.4), relevance, and active engagement in the project.

Furthermore, in Section 2.3.2.2, PjBL provides students with a real-world justification for actively reflecting on what they are doing, asking for and receiving feedback, and then revising and changing their project to make it better. Reflection is seen as a person's evaluation of the current circumstances based on their experiences, arriving at a new and original conclusion based on their own perspectives by making sense of the circumstance (Orakçı 2021). Moreover, reflection does not only take place at the end of the project but throughout the project. Hatton and Smith's (1995) reflective writing framework was used for this study to determine the level of reflection by students. Next, in Section 2.3.2.3 factors that impede the application of PjBL from the perspective of students and educators were discussed.



PjBL is seen as a teaching and learning approach that promotes LA, as it encourages students to take an active role in their own learning and develop the skills and confidence to work independently and collaboratively. In a PjBL environment, students are normally given a lot of control over their own learning process, including how they approach a problem, what resources they use, and how they demonstrate their understanding (Section 2.3.5).

TVET is viewed as an integral part of the educational environment in providing students with the practical skills, knowledge and competencies needed to work in a specific trade, occupation or field (Section 2.4). The TVET environment can be especially beneficial for students who are interested in pursuing careers that require specific technical skills, or who prefer a more hands-on experience. Additionally, TVET programmes can be an important source of skilled labour for industries and businesses, as they help prepare students for the demands of the modern workforce. Many countries view TVET as an important component of their educational systems and invest in developing and supporting TVET programmes as a way to meet the needs of their citizens and their economies.

In Chapter 3 Kolb's ELT was discussed which explains how people learn and develop through experience. His ELT consists of three parts which are the EL cycle (Section 3.2.2.1), learning styles (Section 3.2.2.2), and EL spaces (Section 3.2.2.3). According to Kolb, the four-stage cycle (CE, RO, AC and AE) of learning is continuous and people may go through it multiple times in order to fully understand and internalise new information. Kolb's ELT is often applied in education and training (i.e. hospitality education) (Sections 3.4 and 3.5) to design EL activities that allow people to learn through hands-on experience.

## **6.2.2 Key empirical findings**

This section will summarise the main empirical findings of this study, which can be found in Sections 5.3 and 5.4. and will be highlighted in the same order as the previous sections. First, the main findings of three focus areas of personal autonomy, educational autonomy and PjBL will be presented, and secondly, the summary of the main findings under each of the aforementioned sections will be

illustrated in tabular format. The findings from the inferential statistics, Sections 5.3.1.2 and 5.4.3 will not be included in the table as they will form part of the proposed framework for PjBL in promoting LA as shown and discussed in Section 6.3.3.

The results of this study showed that most students perceived themselves to possess personal autonomy through PjBL (Section 5.3.1.1 [ii], Table 5.4, and Section 5.4.1) regarding managing difficulties (Section 5.3.1.1 [ii] [a], Table 5.2, and Section 5.4.1.1) and self-awareness (Section 5.3.1.1 [ii] [b], Table 5.3, and Section 5.4.1.2). With regard to educational autonomy, the majority of students perceived themselves to be aware of their educational programme with awareness of learning needs, the planning, monitoring and assessment of the learning process, and the extent to which students expect their lecturer to transfer the control of the educational procedure to them (Section 5.3.1.1. [iii], Table 5.7, and Sections 5.4.1.3 and 5.4.1.4).

Regarding PjBL in TVET hospitality education, the majority of students indicated high student perceptions of the value of PjBL within the hospitality programme context (Section 5.3.1.1 [iv], Table 5.16, and Section 5.4.2) and a valuable instructional approach designed to develop knowledge and skills through an engaging project. Moreover, the majority of students perceived PjBL to be authentic (Section 5.3.1.1 [iv] [a], Table 5.8, and Section 5.4.2 [i]), to provide for students to be actively engaged with the learning material (active learning) (Section 5.3.1.1 [iv] [b], Table 5.10, and Section 5.4.2 [ii]), to be relevant (Section 5.3.1.1 [iv] [c]), Table 5.12, and Section 5.4.2 [iii]), and to allow students to connect past experiences to the future (utility) (Section 5.3.1.1 [iv] [d], Table 5.14, and Section 5.4.2 [iv]).

A summary of the main findings under each of the main sections will be illustrated in Table 6.1.

Table 6.1: Summary of main findings for personal autonomy, educational autonomy and project-based learning

Section	Main findings	Cross-reference
<b>Personal autonomy</b>		
Managing difficulties	<ul style="list-style-type: none"> <li>• Most students believed themselves to be able to handle any challenge they faced during a learning event or a project.</li> <li>• The majority of students were able to seek alternative solutions when a difficult problem or challenge arose.</li> </ul>	Section 5.3.1.1 (ii) (a) Table 5.2 Section 5.4.1.1
	<ul style="list-style-type: none"> <li>• When students were faced with challenges and overcame the challenges, they developed important skills such as problem-solving and critical thinking skills. These skills are critical for their academic success as well as the essential skills required for the job market.</li> </ul>	Section 5.3.2.2 (v) Section 5.4.1.1
	<ul style="list-style-type: none"> <li>• Some students emphasised that they were undecided or disagreed they could manage difficulties or handle challenges and were unable to seek alternative solutions when a difficult problem or challenge arises.</li> </ul>	Section 5.3.1.1 (ii) (a), Table 5.2, Section 5.4.1.1
Self-awareness autonomy	<ul style="list-style-type: none"> <li>• The majority of students understood their strengths and weaknesses in relation to their studies which enabled them to make more informed decisions about their own learning and development.</li> <li>• Most students knew which learning styles best suited their learning needs.</li> </ul>	Section 5.3.1.1 (ii) (b) Table 5.3 Section 5.4.1.2
<b>Educational autonomy</b>		
Autonomy in planning	<ul style="list-style-type: none"> <li>• The majority of students agreed that they planned for their studies therefore the hospitality programme, through PjBL, created the conditions for LA.</li> <li>• Most students set realistic goals that met their needs and planned in detail the steps to pursue their goals.</li> </ul>	Section 5.3.1.1 (iii) (a) Table 5.5 Section 5.4.1.3

	<ul style="list-style-type: none"> <li>• Some students indicated that they were either undecided or did not set realistic goals or plan their goals in detail.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Most students indicated that they could self-evaluate their learning and thought it important to self-reflect in their development as a student. However, the majority of reflections noted by students were only on the descriptive writing level. The student, therefore, lacked self-reflection skills.</li> </ul>	<p>Section 5.3.1.1 (iii) (a) Table 5.5 Section 5.4.1.3 (i)</p>
Autonomy in action	<ul style="list-style-type: none"> <li>• The majority of students acknowledged having control over their LSs (i.e. time, physical environment, learning content, and method).</li> <li>• The majority of students acknowledged having some degree of control over their means and resources for their studies, and they were familiar with using a range of information sources.</li> <li>• The majority of students did not want total autonomy in their studies; instead, they wanted the educator to support and guide them.</li> </ul>	<p>Section 5.3.1.1 (iii) (b) Table 5.6 Section 5.4.1.4</p>
<b>Project-based learning</b>		
Authenticity	<ul style="list-style-type: none"> <li>• Most students agreed to some extent that they expected real-world problems to occur during PjBL and that they expect to return to a similar working environment within the hospitality industry.</li> <li>• PjBL required student interaction with external stakeholders, which helped to create a realistic work environment and supported the development of customer-related skills.</li> <li>• The majority of students indicated that the setting where they learn assists them to understand the learning material better, however, the environment in which they learn does not enhance the learning experience.</li> </ul>	<p>Section 5.3.1.1 (iv) (a) Table 5.8 Section 5.4.2 (i)</p>
Active learning	<ul style="list-style-type: none"> <li>• Through PjBL, students were actively participating in the learning process and were both physically and mentally engaged with the learning material.</li> </ul>	<p>Section 5.3.1.1 (iv) (b) Table 5.10</p>

		Section 5.4.2 (ii)
Relevance	<ul style="list-style-type: none"> <li>• The majority of respondents indicated that PjBL is relevant to their current learning experience, their lives and their future, especially in finding future work.</li> <li>• PjBL allowed students to apply their theoretical knowledge into practice, which was further enhanced by the knowledge and skills obtained in the context of the project.</li> </ul>	Section 5.3.1.1 (iv) (c) Table 5.12 Section 5.4.2 (iii)
Utility	<ul style="list-style-type: none"> <li>• The majority of students perceived the value of the project in obtaining experience that can be used in the present and for future endeavours.</li> <li>• PjBL allowed students to acquire and develop various skills through PjBL that they can use in the future.</li> </ul>	Section 5.3.1.1 (iv) (d) Table 5.14 Section 5.4.2 (iv) Figure 5.11

In Table 6.1, the key empirical findings were highlighted for each of the main sections and sub-sections as discussed in Sections 5.3 and 5.4.

## **6.3 RESEARCH CONCLUSIONS**

In this section, the answers to the research questions (Section 1.5) posed to direct the investigation were used to derive the research empirical findings for this study. This study investigated what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college. This study found that PjBL, as an instructional approach, promotes both personal and educational autonomy, which results in LA. Moreover, this study developed a framework for PjBL in promoting LA in a TVET environment. The following research conclusions are drawn from the results and findings in Section 5.3 and data interpretation in Section 5.4.

### **6.3.1 How do students experience autonomy through project-based learning in technical and vocational education and training?**

PjBL is an instructional approach that involves students working on a project that addresses a real-world problem or challenge. It is a form of EL that allows students to take ownership of their learning and experience autonomy by making their own decisions about what they will learn and how they will go about learning it. It was discovered through this study that students perceived that they had a high-level of personal and educational autonomy, and as a result, had a high-level of autonomy through PjBL. Students expressed confidence in their ability to handle any difficulties or challenges they encountered during their studies or while working on their project, and their ability to find solutions to manage these problems or challenges. However, some students emphasised that they either were unable to manage the difficulties or challenges while completing the project, or they struggled to do so. Students who struggle to manage the difficulties or challenges while completing their studies or project may be hindered in their ability to complete their studies or project, their overall academic performance, their confidence and motivation, and their ability to acquire or develop their knowledge and skills. This is further supported by the majority of students who acknowledged that they are aware of their abilities as well as their limitations in relation to their studies.

Students who stated that they were able to handle difficulties or challenges postulated that overcoming difficulties or challenges assisted them in developing important skills such as problem-solving and critical thinking. These skills are critical for academic success and allow students to take ownership of their learning by making informed and effective decisions. Moreover, students perceived themselves to be solely responsible for their studies, thereby assuming responsibility for their own learning. Additionally, students affirmed that they knew which learning style best suited their learning needs, thereby being able to effectively learn and retain new information and retrieve the information at a later stage.

Students agreed that they planned for their studies and that the PjBL component of the hospitality programme created the conditions for LA. Most students developed attainable goals that suited their learning needs during the planning process and carefully planned the procedures necessary to achieve those goals. Some students, however, claimed to be unsure, to have not made specific plans for their goals or to have not established any goals at all. Moreover, students indicated that they were able to evaluate their own learning and thought that it is important to self-reflect on their learning in order for them to develop as a student. However, most reflections noted by students, after they had completed their project, were only on the descriptive writing level. Students, therefore, lacked self-reflection skills or faced barriers to self-reflection.

Furthermore, the majority of students acknowledged having some degree of control over their LSs (i.e. time, physical environment, learning content, learning style, and method), means and resources in accordance with their individual needs, demonstrating their capacity for understanding their particular learning preferences. The students' motivation and willingness to participate in the learning process will increase when they feel that their choices and decisions are valued. Lastly, the majority of students did not want total autonomy in their studies; instead, they wanted the educator to support and guide them through PjBL. Students further emphasised that the educator's responsibility is to provide guidance, offer support, and provide clear instructions for the project.

### **6.3.2 How does project-based learning, as an experiential learning pedagogy, influence hospitality students' work skills and competencies?**

In TVET programmes, PjBL can be especially effective in assisting students to develop the knowledge and skills they need to succeed in their chosen field. Through these types of projects, students can learn about various aspects of the hospitality industry and gain practical experience that will be valuable in their future careers. This is reflected in the findings of the study which indicate that the majority of students perceived the value of PjBL within the hospitality programme context in support of their learning processes. Students confirmed that the project provided an authentic learning experience that engaged them in solving a real-world problem or challenge that was relevant to their lives. They also stated that the knowledge and skills gained and developed through the project could be applied in a similar working environment in the hospitality industry. By working on projects that simulate real-world problems or challenges, students can learn how to apply and demonstrate their knowledge and skills in practical, hands-on ways, especially if the project is created for a real audience or external stakeholders. Students postulated, as mentioned in Section 6.3.1, that they learned and developed skills that helped them deal with challenges they encountered when interacting with their customers (Section 5.4.2 [i]) during their service.

Most students claim that PjBL enables them to actively engage in the learning process, both physically and mentally, as opposed to being told what to do or simply listening to the educator. This can be particularly effective and beneficial in helping students develop their work skills and competencies, as it allows them to practise and apply what they have learned in a more realistic and relevant context. Moreover, the majority of the students perceived the value of the project in obtaining experience that can be used in the present and for future endeavours. This increases the likelihood that the knowledge and skills learned by students will be used later, by allowing the student to relate past experiences to the future. Furthermore, PjBL assists students to retain information and develop a deeper understanding of the subject, as it requires them to actively engage with the material and apply what they have learned in a meaningful context. Additionally, students



who find PjBL engaging and relevant to their lives and future work are more motivated to stay focused and motivated throughout the learning process. Lastly, the students mentioned the various skills they acquired through PjBL as shown in Figure 5.11, which in turn helped them develop skills to become autonomous (Figure 5.8).

### **6.3.3 How can project-based teaching be improved to promote learner autonomy in hospitality students?**

In this empirical study, areas for improvement in ensuring that project-based teaching and learning can be made effective for promoting learner autonomy in hospitality students were identified in Sections 5.3 and 5.4. These key areas are highlighted below, and recommendations for these areas of improvement will be made in Section 6.4.

#### **6.3.3.1 The educator provides adequate guidance and support**

According to the findings in Section 5.4.1.1, students face difficulties and challenges in PjBL. Although the majority of students handled the difficulties and challenges well, there were some who were undecided or struggled. As students stated in Sections 5.3.2.2 (iv) and 5.4.1.4 (iii), the educator's role in providing guidance, support, mentorship, empowerment and clear instructions is crucial. Students should feel comfortable to approach the educator whenever needed. Furthermore, the educator's role is not to take control of the project, but to relinquish control to the students and provide guidance only when necessary (Section 5.3.1.1 [iii] [b]).

#### **6.3.3.2 Students' learning styles**

Although 88.2% of students perceived to know which learning styles suited them best, 11.8% were undecided or did not know which learning styles suited them (Section 5.3.1.1 [ii] [b] and Table 5.3). Knowing their own learning styles can help students to understand how they learn best and allow them to tailor their studying and learning techniques to their strengths. This can make learning more efficient and effective, as they are able to use strategies that work best for them.

#### 6.3.3.3 The setting of realistic and achievable goals

The results from Section 5.3.1.1 (iii) (a) and Table 5.5, show that more than a quarter of students did not set goals, nor did they plan in detail the steps to pursue their goals. Students need to set realistic goals in order for them to stay motivated and focused on their studies, as they will then be able to see their progress and feel a sense of accomplishment as they work towards their goals. Moreover, setting goals will assist them to plan and organise their time effectively, allowing them to prioritise their studies and manage their workload more effectively. Setting realistic goals and achievable goals will help students overcome some of the challenges as stated in Figures 5.5, 5.7 and 5.9.

#### 6.3.3.4 Choosing the topic, problem, challenge and/or content for project-based learning

Students indicated in the results and findings for both QUAN (Section 5.3.1.1. [iii] [a] and Table 5.5) and QUAL (Section 5.3.2.2 [i]) that they wanted to be part of the choosing of the project topic, problem and content. Allowing students to be actively engaged and in control of the project increases student engagement and motivation as students are more likely to be interested in and invested in the project that they chose themselves. This can result in higher-quality work and a greater sense of accomplishment.

#### 6.3.3.5 Development of student self-reflection

The results show that students perceived self-evaluation (Section 5.3.1.1 [iii] [a], Table 5.5) and self-reflection (Sections 5.3.2.4 [iii] and 5.3.3) as important in their self-development, however, students were found to lack self-reflection skills. As postulated by Kolb's ELT (Passarelli & Kolb 2020; Kolb & Kolb 2017), students learn and develop best through experience and the reflection on that experience, as it allows them to understand what they have learned and develop a deeper insight and understanding that better equips them to apply their learning in real-world situations.

#### 6.3.3.6 Providing continuous feedback

Regular feedback is essential for helping students improve, develop, reflect, and stay on track in the planning, organising, implementing and monitoring of the project. The findings in Section 5.3.2.4 (i) show the importance of the assessment process in providing continuous feedback to students, rather than only at the end of the project. Moreover, providing feedback is a vital component of PjBL as it assists students to understand how their work compares to established learning standards and exit-level outcomes and provides them with opportunities to improve on their skills and understanding.

#### 6.3.3.7 Encouraging collaboration and teamwork

Hospitality is a team-orientated industry, so it's important to encourage students to work together and collaborate on the project. Collaboration and teamwork are key components of PjBL as they provide students with the opportunity to work together to achieve a common goal or solve a complex problem or challenge. Collaboration and teamwork can also help students to develop understandings, personal attributes and skills (as highlighted in Figures 5.5 and 5.9 and Table 5.30) necessary to work within the hospitality industry and will allow them to learn from each other in sharing ideas and information.

Furthermore, educators must consider the size of the team to ensure that it is not too large, which will prevent students from working together and contributing equally to the project. This was one of the challenges stated by students in Section 5.3.2.2 (v).

#### 6.3.3.8 Availability of resources for the completion of project-based learning

Students argued in Sections 5.3.2.2 (v) that there was a lack of resources for them to research information and complete tasks for their project, such as a library, computer lab and personal computers or laptops. They also found it difficult to use their mobile phones due to the size of the screen and also the lack of data. Moreover, students found that the environment in which they learn does not

enhance the learning experience (Section 5.3.1.1 [iv] [a] and Table 5.8). If students lack the resources needed to complete a project, it can be challenging for them to fully engage in the learning process and achieve the desired learning outcomes. This can be frustrating to students and may lead to decreased motivation and engagement.

#### **6.3.4 What is involved in project-based teaching and learning in order to promote LA in hospitality students at a technical and vocational education and training college?**

The aim of this study was to investigate what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college and to develop a framework for PjBL in promoting LA in a TVET environment. The findings from Sections 5.4 and 5.5 have been consolidated to propose a framework for PjBL in promoting LA in a TVET environment. This framework is based on the synthesis of both QUAN results and QUAL findings. Figure 6.1 presents the proposed framework for PjBL in promoting LA in a TVET environment.

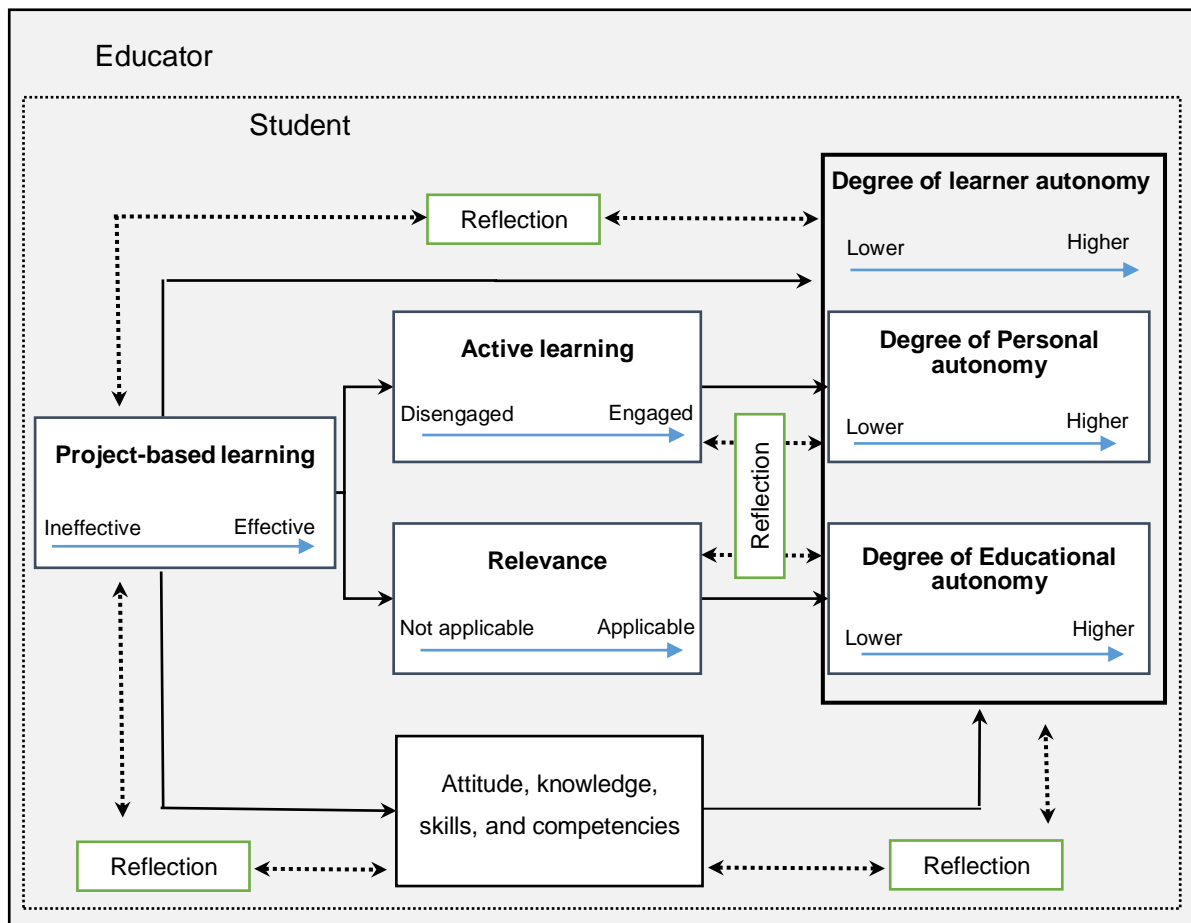


Figure 6.1: Framework for project-based learning in promoting learner autonomy in technical and vocational education and training contexts

There are two main participants in the framework, namely the educator and the students that form a learning partnership. In this study, the educator’s role is to facilitate the learning process for students rather than simply delivering content. The educator should assist students in defining and clarifying project goals, ensure that resources are available to students for PjBL, provide guidance and support as needed, and ensure students stay on track and make progress towards completing the project. The educator also serves as a mentor, fostering an environment in which students can develop the necessary knowledge, skills, attitudes and competencies required for workplace success, academic success and LA. Furthermore, the educator should provide students with continuous feedback on their work, assisting them in refining their ideas and improving the quality of their

projects in order to encourage students to delve deeper into concepts learnt. The educator must evaluate the competency of the students' final product.

The student's role is to own their learning and actively participate in the learning process in order to gain the necessary experience, by reflecting (reflecting-in-action and reflecting-on-action) on their experiences and linking them to future actions. They are further responsible for identifying and researching a topic of interest, developing a plan to learn more about it, and presenting and defending their findings in a final project. Students play an important role in the collaborative aspect of PjBL by brainstorming ideas, sharing resources, reflecting, and providing feedback and support to one another throughout the project. This assists students in developing the necessary knowledge, skills, attitude, and competencies, and allowing them to become autonomous.

A positive and significant relationship was found between PjBL and personal autonomy and educational autonomy (Sections 5.3.1.2 [i] and [ii]). As a result, the more effective PjBL is in its design to achieve the desired outcomes, the greater the degree of personal and educational autonomy among students. Thus, educators and PjBL designers must ensure that the project encourages students to participate actively in real-world problems or challenges that are personally meaningful to them. A positive and significant relationship was found between active learning and personal autonomy (Section 5.3.1.2 [iii]). According to the results, students' levels of engagement in the project increased their levels of personal autonomy. Students are therefore more likely to be able to explore their own interests and feel in control of their own learning when they are both mentally and/or physically engaged in the project.

Relevance and educational autonomy were found to have a positive and significant relationship (Section 5.3.1.2 [iv]). Learning becomes more meaningful and effective when it is linked to the student's own experiences and interests, and they can see the relevance of the material they are learning to their own lives and future. Students are therefore more likely to invest time and effort in learning when they believe that the material is important or useful to them. Moreover, PjBL is seen as an effective way to promote relevance because it allows students to apply the knowledge and

skills they are learning to real-world problems or challenges. Therefore, the incorporation of PjBL into the hospitality education curriculum in TVET is viewed as a teaching and learning pedagogy in which students learn by actively engaging in real-world experiences, reflecting on those experiences, and participating in personally meaningful projects that promote LA.

## **6.4 RECOMMENDATIONS**

In this section, recommendations will be made on the governance and institutional level which have emanated from this study's results and findings. The recommendations are made to promote LA in hospitality students in the TVET environment so that they can take control of the learning process and acquire relevant knowledge, attitudes, skills and competencies for the workplace.

### **6.4.1 Recommendations made on the governance level**

The following four recommendations are directed to the DHET and Umalusi who are the custodians of the two programmes studied through this research.

#### **Recommendation 1**

DHET (for both the NATED and NC[V] programmes) and Umalusi (for the NC[V] programme) should ensure that when a PjBL assessment and/or activity is designed for the hospitality education curriculum, the project is relevant to students and will encourage students to actively engage in the project. The project should be designed to solve real-world problems or challenges, contain clear instructions so that both the educator and the students understand what is expected of them, and allow the students to exercise control and choice over what to do, how to do it, and the results they want to achieve. Furthermore, the project should be challenging enough to require students to think critically and creatively about the project in order for them to acquire relevant knowledge, skills, attitudes and competencies for the hospitality industry.

### **Recommendation 2**

When PjBL assessments and/or activities are designed, each assessment and/or activity must have a student's self-reflection element (i.e. a self-reflection report, student diary, student journal, blogs, etc.) to the project. DHET and Umalusi should ensure that PjBL assessment designers are adequately equipped and trained to use the appropriate self-reflection element to the project that will motivate students to reflect, critique, and revise their thinking and experience in order to achieve deeper reflection.

### **Recommendation 3**

DHET and Umalusi should ensure that external moderators conduct ad hoc moderation on ICASS and/or ISAT PjBL assessments and/or activities to ensure quality control of these assessments and/or activities, compliance with PjBL implementation guidelines, and appropriate record keeping.

### **Recommendation 4**

Training workshops should be provided by DHET for hospitality educators on the application of PjBL within the hospitality curriculum. These workshops could either take place in person or through online platforms (i.e. Zoom, Microsoft Teams, etc.) to reduce the costs of holding such workshops. Another option is for DHET to create a synchronous or asynchronous interactive and practice-based online course to provide educators with the knowledge and skills needed to plan and implement PjBL successfully. The course can provide educators with the most up-to-date information, best practices, and experiences in planning and implementing PjBL.

#### **6.4.2 Recommendations made on the institutional level**

The following recommendations are directed to the TVET college's Academic Management Team (AMT) and the educators presenting the hospitality education PjBL subjects. First the recommendations 5 to 7 will be made to the TVET college's AMT and then recommendation 8 will be directed to the college educators.



### **Recommendation 5**

The TVET college's AMT should provide educators with professional development training and support in PjBL. The AMT should form partnerships with different hospitality establishments and the Culture, Art, Tourism, Hospitality, and Sport Education and Training Authority in order for educators to upskill themselves with the skills needed in the hospitality industry. This will ensure that the education provided to their students is current and relevant to the industry. Hospitality is a dynamic field that is constantly evolving, and educators need to stay up-to-date.

### **Recommendation 6**

Training should be provided to educators, internal examiners, and internal moderators in three areas: namely PjBL, LA and student self-reflection. Firstly, training should address the application and evaluation of PjBL to ensure that the project is being implemented effectively to ensure that students are actively engaged in real-world projects and that students are getting the most out of the learning process. Secondly, educators should also be informed about how to promote LA through PjBL using the proposed framework presented in Section 6.3.4. This can be accomplished through a training session or a workshop in which the framework is presented to educators and also an interactive session where educators can ask questions. This will be useful as it provides a structure for them to follow and helps them understand the steps they can take to help their students become autonomous learners.

Thirdly, as highlighted in Section 6.3.3.5, students often exhibit a lack of self-reflection. Educators need to be trained on how to teach students to self-reflect and they also need training on how to assess students' self-reflection. As shown in Section 5.3.3 of this study, students' self-reflective reports were written on a descriptive writing level, denying students the opportunity to reflect on their learning, experiences, and motivation, which would result in deeper learning.

### **Recommendation 7**

As stated in Section 6.3.3.8, adequate resources for the application of PjBL are critical in the learning process. Together with the AMT, the TVET college campus management should ensure that the project is budgeted for and that all necessary

resources are made available to students. Students may face unnecessary challenges if they do not have enough resources to complete their projects and fully engage in the learning process. Furthermore, providing students with the necessary resources ensures that they have the support they require to succeed in PjBL.

### **Recommendation 8**

This study recommends the following improvements or advice for educators, as highlighted in Section 6.3.3, to ensure that PjBL is effectively applied to the hospitality education curriculum.

- 1) The educator should provide guidance, support and inspiration to students throughout PjBL (Section 6.3.3.1). Many students will be experiencing PjBL for the first time, so educators must strike a balance in assisting students during the PjBL process so as not to take control from students, but rather to guide, support and mentor them to achieve the project's outcomes. The educator should assist students in developing their project plans, identifying available resources, and addressing any challenges that students may encounter along the way. Moreover, the educator should scaffold the learning process by supporting students to break the project into manageable stages or milestones. The educator could also provide scaffolding, such as templates, checklists, and graphic organisers to support students' understanding and progress. They should also gradually release responsibility as students gain confidence and independence, therefore not overwhelming them at the beginning of the project with too much information.
  
- 2) Educators should involve hospitality stakeholders (i.e. hoteliers, restaurateurs, and event planners) who can make a significant contribution to PjBL and the learning experience for students. They can provide students with insight into industry trends, share real-world challenges, and offer their expertise to help design projects that align with industry needs. Stakeholders can serve as mentors for students participating in projects who can provide guidance (other than just the educator), share their experiences, and offer valuable feedback throughout the project. This mentorship can assist students to develop a deeper understanding of the industry and gain practical skills.

- 3) Hospitality industry stakeholders can be invited as guest speakers to share their knowledge and expertise with students. They can provide industry perspectives, share success stories, and discuss current issues and trends. Moreover, arranging visits to hospitality establishments such as hotels, restaurants, and event venues can provide students with first-hand exposure to the industry environment which can assist them in planning their project.
- 4) To maximise student learning and improve teaching effectiveness, educators must be aware of their students' preferred learning styles (Section 6.3.3.2) so that they can tailor PjBL to better meet their students' needs. Educators can refer to Kolb's nine learning styles that have been developed for EL. Moreover, identifying students' learning styles provides information about how students learn and makes it easier for educators to create, modify and develop more efficient projects so that students are motivated to participate in the project.
- 5) The educator should engage with students in selecting the project's topic, problem, challenge, and/or content based on the project structure provided by the DHET. (Section 6.3.3.4). Allowing students the opportunity to choose their own project topic, problem, challenge and/or content can be an effective way to engage students in the learning process and they are thereby more likely to be invested in the project and motivated to complete it.
- 6) Following agreement by both students and educators on the project's topic and outcomes, educators should assist students in developing realistic and measurable goals to achieve through PjBL (Section 6.3.3.3). Setting goals allows students to focus their efforts and gives them a clear picture of what they are working towards and what they are expected to achieve. Furthermore, involving students in the process of setting goals and identifying the next steps during the project, will allow students to take ownership of their learning and development. These goals should be aligned with the marking rubric or project outcome and should be communicated clearly to students so that they understand fully the project requirements.

- 7) Educators should provide students with continuous feedback throughout PjBL and not only at the end of the project (Section 6.3.3.6). Providing continuous feedback can assist students to understand how their work is progressing and identify areas where they need to focus additional effort. It may also help students understand what is expected of them and how they can improve. Educators should meet with students on a regular basis to review their progress, provide feedback on their work, and identify areas for improvement. Moreover, it can be beneficial to provide students with specific and actionable feedback, rather than general comments, so that they can understand exactly what they need to do to improve their work. Educators also need to be timely with feedback so that students have the opportunity to use it to inform their work.

Stakeholders can be involved in evaluating student projects, providing valuable feedback, and assessing the relevance and feasibility of the proposed solutions. This feedback loop helps students understand industry expectations and standards, while also providing stakeholders with an opportunity to identify talented individuals for potential employment or collaboration.

- 8) Educators should form smaller groups of students in PjBL to work collaboratively rather than larger groups (Section 6.3.3.7). Smaller groups facilitate more focused and productive discussions as there are fewer people to manage, and more opportunities for each person to take ownership of their contribution. However, it is important to note that the optimal group size will be dependent on the specific goals and needs of the project, as well as the skills and interests of the group members. Moreover, educators need to be aware of the group's interaction and dynamics to ensure that no one student is interfering with the group's progress or learning environment. When necessary, appropriate action must be taken to maintain a supportive and productive learning environment for students. Educators can also teach students on how to work in groups, resolve conflicts, and leverage each team member's strength. Lastly, the educator must monitor group dynamics and intervene when necessary to ensure equal participation.

- 9) The educator should engage students in reflective activities that allow them to evaluate their learning experience (Section 6.3.3.5). Students should be encouraged to consider what worked well, what challenges they faced, and how they can apply their newly acquired knowledge and skills in a real-world context.

## **6.5 AVENUES FOR FURTHER RESEARCH**

Based on the extent of the study's limitations (Section 6.6) and the assumptions that were made (Sections 5.4, 6.2, 6.3 and 6.4), this section suggests possible directions for further research. As a result of the limitations of my study, I will first identify the areas for additional investigation and then provide recommendations based on the assumptions that were made.

The purpose of this study was to look into what goes into project-based teaching and learning in order to promote LA in hospitality students at a TVET college, as well as to create a framework for PjBL in promoting LA in a TVET environment. As a result, the focus of this study was on two specific areas of PjBL in promoting LA, namely hospitality education and the TVET environment. It would be interesting to look into other fields or programmes within the TVET environment, as well as hospitality education from other types of educational institutions, to see if the results and/or findings would yield the same or a similar framework as this study. According to the findings of this study, PjBL can be used to promote LA among hospitality students. Future research could be conducted to determine whether other types of classroom-based, online, or virtual EL teaching and learning approaches could be used to promote LA amongst TVET hospitality students.

The primary focus of this study was on student perspectives. Given that the successful application of PjBL is important for both students and educators, it will be helpful to contrast this study's findings with their opinions. It will also be interesting to learn how TVET educators are adapting their teaching and learning strategies to include PjBL in the hospitality education curriculum while also taking the study's conclusions into account. Furthermore, further research can be conducted to investigate the level of educator autonomy in TVET, as studies have found a correlation between educator autonomy and LA for students to develop

autonomy, and that autonomy must be mutual (Kashefian-Naeeni & Kouhpeyma 2020).

Students concluded from Section 5.4.1.1 that they lacked the ability to manage difficulties. As a result, it is recommended that further research be conducted using a self-determination theory on designing activities in PjBL that can enhance learning and students' self-motivation for them to feel motivated to take action in solving the problems and/or challenges they face in PjBL. Next, in Section 5.4.1.3 students revealed that they knew which learning style suited them best. It would be interesting to examine the use of learning style assessments as a way to inform the design of LA-supportive learning environments for hospitality students. By understanding students' learning styles an educator can create learning environments that better support students' individual needs and preferences, which may in turn increase the students' sense of autonomy and motivation (Section 6.4.2, recommendation 8 [2]).

Other areas of research concerning student self-reflection could include studying the impact of different types of reflection activities on student learning outcomes and identifying best practices for designing and implementing these activities in the classroom (Section 5.4.1.3 [i] and Section 6.4.2 recommendation 6). It may also be beneficial to investigate the role of educator feedback and support in promoting student self-reflection (Section 6.4.2 recommendation 8 [5]), as well as how students' self-reflection skills can be supported and scaffolded over time.

## **6.6 LIMITATIONS OF THE STUDY**

This study has various limitations that must be taken into account. The study's context is its first limitation. As this study was conducted at a single TVET college, some of the findings may not be generalisable to all TVET colleges internationally and nationally as each TVET college executes its hospitality programmes differently. Moreover, the findings that apply to the TVET hospitality curriculum and the TVET educational environment may not be applicable to other educational environments as each educational institution has its own specifically designed hospitality curriculum, which restricts how widely the findings may be applied.

Furthermore, this study investigated what is involved in project-based teaching and learning in order to promote LA in hospitality students at a TVET college. The study only used the perceptions, experiences, and beliefs of PjBL students to promote LA, and the educator's perspective was excluded. When conducting research, it can be beneficial to consider multiple perspectives, including those of educators and other stakeholders who may be involved in PjBL. By incorporating the perspectives of various groups, one can gain a more complete understanding of the impact of PjBL on LA. As a result, the framework proposed by this study may be improved through the acquisition of perspectives from various groups.

## **6.7 CONCLUDING REMARKS**

As a hospitality lecturer, I was always interested in EL as it forms a vital part of the hospitality education curriculum that allows students to gain valuable experience and skills that will enable them to pursue a career in hospitality. However, when the educational environment was confronted with the Covid-19 pandemic, I became interested in whether alternative EL approaches could be used to gain similar experiences and skills. Also, after reading various academic articles claiming that PjBL could promote LA and skill development in language learning especially English language and English as a foreign language, I wanted to see if PjBL could achieve the same or similar results in hospitality education.

From this study, PjBL has shown to be an effective teaching and learning approach in hospitality education that can promote LA, lead to a deeper understanding of subject matter, and facilitate the development of a variety of important skills and competencies. Students can apply their knowledge and skills in meaningful ways by actively participating in hands-on, real-world activities, which can foster a greater sense of ownership and responsibility for their own learning. This approach also allows students to take the lead in their own learning and make decisions about the direction of their project, which can promote independence and self-direction development. Moreover, this study emphasises the significance of incorporating PjBL into hospitality education programmes to support LA development and prepare students for success in a rapidly changing world. Furthermore, PjBL is recognised

as a valuable alternative to traditional EL methods, such as internship and WpL, and has the potential to promote deeper learning outcomes.



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## APPENDIX A: ETHICAL CLEARANCE CERTIFICATE



### UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2021/09/08

Ref: **2021/09/08/59273763/05/AM**

Name: Mr SL Green

Student No. [REDACTED]

Dear Mr SL Green

**Decision:** Ethics Approval from  
2021/09/08 to 2026/09/08

**Researcher(s):** Name: Mr SL Green

E-mail address: [REDACTED]

Telephone: [REDACTED]

**Supervisor(s):** Name: Prof E.C. du Plessis

E-mail address: [REDACTED]

Telephone: [REDACTED]

**Title of research:**

**Promoting learner autonomy through project-based learning in technical and vocational education and training hospitality education**

**Qualification:** PhD 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 2021/09/08 to 2026/09/08.

*The **low risk** application was reviewed by the Ethics Review Committee on 2021/09/08 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 will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



University of South Africa  
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## APPENDIX B: APPROVAL LETTER TO CONDUCT RESEARCH

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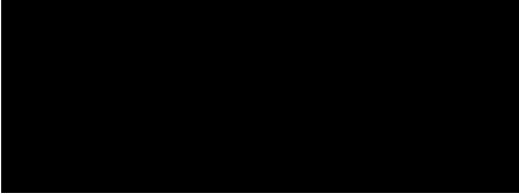
Dear Mr Green

You can start conducting your research at our Campus with the Hospitality students (General Studies and/or NCV) as requested.

We are really happy and excited to have one of our own lecturer studying towards Phd and also conducting research with our students.

You have our support.

Kind regards and stay safe.



Good Afternoon

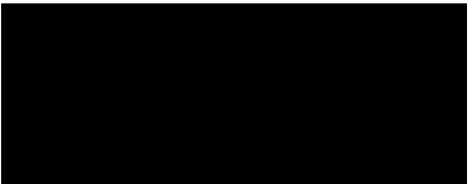


The academic unit acknowledges receipt of Mr Green's letter requesting to conduct research at campus.

Permission is hereby granted on condition that the College will be made privy of the outcome of the research which will also be used to assist the College in determining a suitable approach to address the development of its lecturers' pedagogical practices

All the best with his PHD studies.

Kind Regards.



## APPENDIX C: PARTICIPANT INFORMATION SHEET

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### Participant information sheet

Date: \_\_\_\_\_

Title: ***Learner autonomy through project-based learning in technical and vocational education and training hospitality education***

#### DEAR PROSPECTIVE PARTICIPANT

My name is Shawn Green and I am doing research under the supervision of Prof Elize du Plessis, Curriculum and Instructional Studies: Teacher Education, Unisa towards a Doctor of Philosophy (PhD) in Education at the University of South Africa. We are inviting you to participate in a study entitled: ***Learner autonomy through project-based learning in technical and vocational education and training hospitality education***

#### WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could assist technical and vocational education and training colleges and other higher educational institutions understand how students perceive their autonomy through project-based learning or effectively make use of their autonomy. The study may help improve the design of pedagogical strategies and educational effectiveness of project-based modules within technical and vocational education and training. It may also assist educators in promoting autonomous learning amongst students so that they take responsibility for their own learning.

#### WHY AM I BEING INVITED TO PARTICIPATE?

You are invited because you are currently enrolled at [REDACTED] on the N6 level or NC(V) L 3 and you have completed the Catering Theory and Practical N6 or Hospitality Services L3 project-based assessment.

I obtained your contact details from [REDACTED] after applying to them to conduct research at your College. You have therefore been selected by a simple random sampling strategy from a population of approximately 180 students.

#### WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves you completing a questionnaire that comprises out of the five sections:

- Section A. Demographic Data.
- Section B. Personal autonomy.
- Section C. Educational autonomy.
- Section D. Project-based experiential learning.

- Section E. Interview participation.

The questionnaire contains closed-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 questionnaire has been submitted it will not be possible to withdraw from the study as the questionnaire 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 higher education institutions understand how students perceive their autonomy through project-based learning or how effectively they make use of their autonomy. It is important to establish students' perceived learner autonomy as current trends show that learner autonomy is beneficial for teaching and learning in that it enhances students' motivation and leads to more effective learning, caters for students' individual needs, and leads to academic achievement. The study will also assist educators to promote autonomous learning amongst their students so that students can take responsibility for their own 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 from 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 FINDINGS/RESULTS OF THE RESEARCH?**

If you would like to be informed of the final research findings, please contact Shawn Green on [REDACTED] or e-mail: [REDACTED]. The findings 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 Prof Elize du Plessis on [REDACTED] or e-mail: [REDACTED]

Thank you for taking the time to read this information sheet and for participating in this study.

Thank you  
Shawn Green

PhD student: University of South Africa

**APPENDIX D: LETTER FOR CONSENT TO  
RESPONDENTS/PARTICIPANTS**

---

## **Consent form by respondent/participant**

I, \_\_\_\_\_  
(respondent's/participant's name), confirm that the person asking my consent to take part in this research study has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation in the questionnaire/semi-structured interview.

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 research study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I agree to be a participant in the study:

Yes  No

I have received a signed copy of the informed consent agreement.

Respondent/Participant Name & Surname (please print)

\_\_\_\_\_

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

Researcher's Name & Surname

Shawn Green

## APPENDIX E: QUESTIONNAIRE

### QUESTIONNAIRE

**What is learner autonomy?** A student that takes responsibility for their own learning

#### SECTION A: DEMOGRAPHIC DATA

**1. Please indicate your gender?** (please choose only one option by placing an X)

Male	Female	Prefer not to answer	Others (please state)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**2. Please indicate your age?** (please choose only one option by placing an X)

18 – 19	20 – 21	22 – 23	24 – 25	26 – 27	28 +	Prefer not to answer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. In which faculty are you studying?**

NATED N6	NC(V) level 3
<input type="checkbox"/>	<input type="checkbox"/>

#### SECTION B: PERSONAL AUTONOMY

**Please rate how strongly you disagree or agree with each of the following statements by choosing the appropriate number.** (please place an X)

1=strongly disagree	2=disagree	3=neither agree nor disagree	4=agree	5=strongly agree
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1. I can solely manage any new problem that may emerge in my studies.	1	2	3	4	5
2. I seek alternative solutions when a difficult problem arises in my studies.	1	2	3	4	5
3. I face the difficulties in my studies as a challenge.	1	2	3	4	5
4. I can easily adapt to difficult situations.	1	2	3	4	5
5. I am aware of my abilities as well as my limits in relation to my studies	1	2	3	4	5
6. I can solely rely on me throughout my studies.	1	2	3	4	5
7. I know well which learning style suits me best.	1	2	3	4	5

## SECTION C: EDUCATIONAL AUTONOMY

8. I set realistic learning goals that meet my needs.	1	2	3	4	5
9. I choose the time and place of my study according to my personal needs.	1	2	3	4	5
10. I plan in detail the steps to pursue my goals.	1	2	3	4	5
11. I can evaluate my learning in total.					
12. I want to choose the content and method of my studies.	1	2	3	4	5
13. I want to choose the means and resources for my studies.	1	2	3	4	5
14. I am acquainted with the use of a variety of information resources.	1	2	3	4	5
15. I want my lecturer to let me act on my own.	1	2	3	4	5
16. I want my lecturer to help me when it is absolutely necessary.	1	2	3	4	5

## SECTION D: PROJECT-BASED EXPERIENTIAL LEARNING

The following statements describe some feelings and actions you might have experienced during the project (function/fast food service) completed in your Catering Theory and Practical N6 or Hospitality Services L3 subject.

Please rate how strongly you disagree or agree with each of the following statements by choosing the appropriate number. (please place an X)

1=strongly disagree	2=disagree	3=somewhat disagree	4=neither agree nor disagree	5=somewhat agree	6=agree	7=strongly agree
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1. The setting where I learn helps me understand the learning material better.	1	2	3	4	5	6	7
2. I expect real-world problems to come up during this learning experience.	1	2	3	4	5	6	7
3. The environment I learn in does not enhance the learning experience.	1	2	3	4	5	6	7
4. The learning experience requires me to interact with people other than students and lecturer.	1	2	3	4	5	6	7
5. I expect to return to an environment similar to the one where this learning experience occurs.	1	2	3	4	5	6	7
6. I am stimulated by what I am learning.	1	2	3	4	5	6	7
7. The learning experience requires me to do more than just listen.	1	2	3	4	5	6	7
8. The learning experience is presented to me in a challenging way.	1	2	3	4	5	6	7
9. I find this learning experience boring.	1	2	3	4	5	6	7

10. I feel like I am an active part of the learning experience.	1	2	3	4	5	6	7
11. The learning experience requires me to really think about the information.	1	2	3	4	5	6	7
12. I am emotionally invested in this experience.	1	2	3	4	5	6	7
13. I care about the information I am being taught.	1	2	3	4	5	6	7
14. The learning experience makes sense to me.	1	2	3	4	5	6	7
15. This learning experience has nothing to do with me.	1	2	3	4	5	6	7
16. This learning experience is enjoyable to me.	1	2	3	4	5	6	7
17. I can identify with the learning experience.	1	2	3	4	5	6	7
18. This learning experience is applicable to me and my interests.	1	2	3	4	5	6	7
19. My lecturer encourages me to share my ideas and past experiences.	1	2	3	4	5	6	7
20. This learning experience falls in line with my interests.	1	2	3	4	5	6	7
21. I can think of tangible ways to put this learning experience into future practice.	1	2	3	4	5	6	7
22. This learning experience will help me do my job better.	1	2	3	4	5	6	7
23. This learning experience will not be useful to me in the future.	1	2	3	4	5	6	7
24. I will continue to use what I am being taught after this learning experience has ended.	1	2	3	4	5	6	7
25. I can see value in this learning experience.	1	2	3	4	5	6	7
26. I believe this learning experience has prepared me for other experiences.	1	2	3	4	5	6	7
27. I doubt I will ever use this learning experience again.	1	2	3	4	5	6	7
28. I can see myself using this learning experience in the future.	1	2	3	4	5	6	7

### Section E: Interview participation

Further participation. In the next stage of the study, we would like to talk to individual students to learn more about their views on learner autonomy. Would you be interested in discussing this issue further with us?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If yes, please provide us with your student number and contact details so that we can set up an appointment with you.

Student number/ID number: \_\_\_\_\_

Student Name: \_\_\_\_\_

Telephone number: \_\_\_\_\_

**APPENDIX F: INTERVIEW PARTICIPANTS DEMOGRAPHIC PROFILE**

No	Participant alphabetical lettering	Subject	Interview date	Participant's	
				Gender	Age group
1	Participant 1	CTP N6	20 October 2021	Female	24-25
2	Participant 2	CTP N6	20 October 2021	Female	28+
3	Participant 3	CTP N6	21 October 2021	Female	22-23
4	Participant 4	CTP N6	22 October 2021	Female	24-25
5	Participant 5	CTP N6	25 October 2021	Female	20-21
6	Participant 6	CTP N6	27 October 2021	Male	18-19
7	Participant 7	CTP N6	28 October 2021	Female	20-21
8	Participant 8	CTP N6	4 November 2021	Female	20-21
9	Participant 9	HS L3	28 April 2022	Female	20-21
10	Participant 10	HS L3	29 April 2022	Male	20-21
11	Participant 11	HS L3	5 May 2022	Male	22-23
12	Participant 12	HS L3	9 May 2022	Female	24-25
13	Participant 13	HS L3	13 May 2022	Male	18-19
14	Participant 14	HS L3	20 May 2022	Female	22-23
15	Participant 15	HS L3	12 Aug 2022	Female	24-25
16	Participant 16	HS L3	12 Aug 2022	Male	24-25
17	Participant 17	CTP N6	13 Oct 2022	Male	22-23
18	Participant 18	CTP N6	19 Oct 2022	Male	22-23

## APPENDIX G: INTERVIEW SCHEDULE

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### **Learner autonomy in the planning phase of project-based learning**

1. How did you like/not like the project?
2. What did you think about the project topic?
3. Were the instructions clear on what was expected of you in the planning of the project?
4. To what extent, if any, do you prefer to be more included in the planning process of the project (creating project goals and objectives, designing the project, choosing the type of function, self-assessing)?
5. What part did you play in the planning of the project?
6. What do you think the lecturer's role should be in the planning of the project?
7. What do you think the students' role should be in the planning of the project?
8. What challenges did you experience in the planning phase of the project?
9. Does your lecturer allow room for students' input and imagination when planning the project? Would that work for you? Why?

### **Learner autonomy in the implementation phase of project-based learning**

10. What was the most challenging part of the implementation of the project? What do you think is the reason(s) behind this/these challenge/challenges?
11. Do you think that the project offers you a variety of activities that encourages you to use your knowledge of **(subject name)** meaningfully? Explain your answer.



12. What part did you play in the implementation of the project?
13. What skills do you have that allow you to be an autonomous student? What skills do you need to improve on to be an autonomous student?

**Learner autonomy in the monitoring phase of project-based learning.**

14. Was the marking rubric clear?
15. What do you think about how you were assessed?
16. Do you think that the project has helped you understand the contents of the module? Please explain your answer.
17. What knowledge and skills have you taken from the project that you can use in the future?
18. Is the self-reflection report important/not important in your development as a student? Please explain your answer.
19. What, if any, were the strengths and weaknesses, that you discovered about yourself from completing the project?
20. What do you think the role of the project plays in your learning and understanding of the module **(subject name)**?

## APPENDIX H: LANGUAGE EDITING CERTIFICATE

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### Language Editing

08 February 2023

To Whom It May Concern:

I, Lindsay van Zyl, do hereby confirm that during February 2023 I edited the PhD thesis titled:

*Learner Autonomy through Project-based Teaching and Learning in Technical and Vocational Education and Training Hospitality Education*

by Shawn Green.



Lindsay van Zyl  
BA (Ed) English major

(Contact email: [Lmvzedit@gmail.com](mailto:Lmvzedit@gmail.com))