

**A FLEXIBLE SERVICE-LEARNING MODEL  
FOR  
GENERATION Z STUDENTS AT A UNIVERSITY OF TECHNOLOGY**

by

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Signed: ***S.G. Singh***

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## ABSTRACT

This thesis was motivated by the increasing disconnect between traditional Service-Learning (SL) models and the learning preferences of Generation Z (Gen Z) students at a University of Technology (UoT) in South Africa. The study took place during the COVID-19 pandemic, when restrictions disrupted SL projects and exposed the limitations in traditional models built around face-to-face engagement in communities and onsite project implementation. Using Generational Theory as a guide, the research aimed to create a profile of Gen Z students that reflects their learning preferences, characteristics, motivations, and personal perspectives. The intention was to inform the development of a flexible model that can adapt to generational changes and future disruptions. A qualitative case study was conducted within a pragmatic paradigm. Data were collected through semi-structured interviews, a focus group interview, and an online survey. The Gen Z participants, who grew up in a digitally interconnected environment, shared their engagement with learning, while SL lecturers offered additional context. A central concern was that SL pedagogy has not been specifically adapted to Gen Z students. The results of this research suggest that this group of Gen Z students have diverse learning styles, with no learning style or learning environment being dominant. They described themselves as hardworking, determined, and compassionate, with intrinsic motivation and an optimistic outlook on life. They reported that their participation in SL projects was transformative, with students engaging in both rational discourse and critical reflection. However, the findings revealed that Gen Z students need a deeper understanding of core SL principles. They tend to adopt a 'save the world' mindset that neglects the reciprocal nature of community service. The pandemic further showcased the need for SL models that are digitally adaptive and can continue during crises. In response to these findings, the study proposes a flexible SL model that incorporates advanced digital strategies like Augmented Reality (AR) and Virtual Reality (VR), alongside inclusive teaching approaches such as Universal Design for Learning (UDL). Augmented Reality can be utilised to create simulated community environments for learners who are studying remotely, while VR can facilitate immersive role-playing in socially relevant scenarios. The model also proposes structured reflection processes using a Transformative Learning Review (TLR) guide and encourages transdisciplinary projects supported by Artificial Intelligence (AI) technologies. Mindfulness practices are included to promote students' well-being. This study contributes to the body of knowledge by profiling Gen Z students' learning preferences and characteristics within the South African higher education context, where such research remains scarce. This study advances practice by developing a flexible SL model that utilises advanced digital technologies and which allows students more than one way to engage in learning. The model is designed to enhance continuity and flexibility in SL projects, enabling students to participate meaningfully, regardless of physical limitations and without compromising the relational and reflective

aspects central to SL. The TLR guide is grounded in Mezirow's TL theory, adds a practical tool for SL lecturers in reviewing transformative learning, and promotes sustainable community service. The findings highlight the need for higher education institutional policies that support digital integration into SL initiatives, a move which will require support from university management, deans, and department heads. The COVID-19 pandemic influenced this study, limiting participant engagement and data collection. In light of this, the researcher recommends further studies to compare the proposed flexible SL model with traditional SL models and to assess its effectiveness and long-term outcomes, both for students and communities.

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## **DEDICATION**

I dedicate this thesis to my late mother, Romilla Gobind, who dreamed of completing her studies but never had the chance. Her unwavering belief in the power of dreams has been a guiding light in my journey, inspiring me to pursue my goals with determination.

This work is also dedicated to all those who have embraced the path and purpose set before them with courage and faith, as expressed in Jeremiah 29:11 (paraphrased).

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## LIST OF ABBREVIATIONS

<b>AC</b>	Abstract Conceptualisation
<b>AE</b>	Active Experimentation
<b>AI</b>	Artificial Intelligence
<b>AR</b>	Augmented Reality
<b>BB</b>	Blackboard
<b>CAQDAS</b>	Computer-Assisted Qualitative Data Analysis Software
<b>CCEWIL</b>	The Centre for Community Engagement and Work-Integrated Learning
<b>CE</b>	Community Engagement
<b>CHE</b>	Council on Higher Education
<b>CHESP</b>	Community Higher Education-Service Partnership
<b>COIL</b>	Collaborative Online International Learning
<b>CPUT</b>	Cape Peninsula University of Technology
<b>DHET</b>	Department of Higher Education
<b>ELOM</b>	Early Learning Outcome Measure
<b>ELT</b>	Experiential Learning Theory
<b>EMS</b>	Emergency Medical Services
<b>EPIC-N</b>	The Educational Partnerships for Innovation in Communities Network
<b>Gen Z</b>	Generation Z
<b>ICT</b>	Information and Communication Technologies
<b>JET</b>	Joint Education Trust
<b>LMS</b>	Learner Management System
<b>LSI</b>	Learning Style Inventory
<b>MCQ</b>	Multiple Choice Questions
<b>NDP</b>	National Development Plan
<b>NSEE</b>	National Society for Experiential Education
<b>NSIEE</b>	The National Society for Internships and Experiential Education
<b>POPIA</b>	Protection of Personal Information Act
<b>RO</b>	Reflective Observation
<b>SDGs</b>	Sustainable Development Goals
<b>SL</b>	Service-Learning
<b>TL</b>	Transformative Learning
<b>TLR</b>	Transformative Learning Review
<b>UDL</b>	Universal Design for Learning
<b>UoT</b>	University of Technology
<b>VR</b>	Virtual Reality

# CHAPTER ONE

## Introduction to the Research Study

### 1.1 Introduction

Service-learning has long been positioned as a bridge between higher education and the community, integrating academic study with reciprocal service. However, the traditional effectiveness of the model is being challenged by the emergence of Generation Z (Gen Z) students. This group is shaped by global connectivity, shifting social expectations, and the disruptions of the COVID-19 pandemic. This cohort challenges the sustainability of contact-based approaches. Against this backdrop, this study raises an important pedagogical question: How can a flexible SL model be developed, one that aligns with the Gen Z learning preferences and characteristics and remains responsive during times of disruption?

This research explores SL as an experiential pedagogical approach for engaging Generation Z students at a University of Technology (UoT) in South Africa. Service learning is commonly understood as an educational strategy that integrates community service, linking curriculum to real-world issues, through structured reflection and engagement (Peterson & Osman, 2013; Bringle & Clayton, 2020). Within this framework, students earn academic credit while applying classroom knowledge in community contexts, thereby advancing both learning outcomes and civic responsibility. It connects specific academic outcomes with organised service where reflection serves to link theory and practice (Stover, 2016). Another key component of SL is reciprocity, where students apply classroom knowledge to real-world contexts, while community partners contribute insights and experiences that enhance the learning process (Jacoby, 1996). The nature and direction of knowledge exchange may be different, depending on the roles of all participants and the specific project.

Additionally, SL supports students' personal and interpersonal development, sense of citizenship, and academic achievement (Eyler et al., 2001). It also deepens students' understanding of complex social issues and encourages collaborative learning (Prentice & Robinson, 2007). Meanwhile, communities are revitalised through stronger organisations, the growth of active and participatory citizens, and the promotion of civic-mindedness (Ramdhani, 2023).

Service-learning can be traced back to Dewey's (1933;1938) experiential learning philosophy, emphasising reflection, democratic education, and institutional community partnerships. In higher education, SL is valued for its ability to connect discipline-specific academic outcomes with service engagement, making it a recognised vehicle for integrating academic rigour with

community service. In South Africa, SL was embedded in post-1994 higher education policy and practice (DoE, 1997; Mouton & Wildschut, 2005; Van Schalkwyk & Erasmus, 2011) as a way to connect curriculum and community in line with national and global development aims (Petersen & Osman, 2013; African Union, 2015; Sustainable Development Goals, 2019). As stated by Kruss et al. (2016), there has been an increase in global pressure for HEIs to become more socially aware by being more responsible and accountable to their local, national, and international environments. Service-learning provides the vehicle to promote societal and community development while simultaneously enhancing learning for students (Osman & Attwood, 2007; Naidoo & Devnarain, 2009). Studies reported beneficial learning outcomes and strengthened civic engagement for students and communities (Furco, 1996a; Eyler, 2000; Kiely, 2004; Osman & Castle, 2006; Attwood & Osman, 2007; McCarthy, 2009; Durlak et al., 2011; Rutti et al., (2016). At the same time, conventional models tend to be highly structured and contact-dependent (Laine, 2010).

Disruptions during the COVID-19 pandemic intensified these constraints. Many SL initiatives were either suspended or cancelled (Tian & Noel, 2020; Pfeiffer et al., 2021; Compare & Albanesi, 2022), while other institutions (Burton & Winter, 2021; Hassett, 2021) had to adapt their SL projects to maintain continuity. These adaptations were facilitated by incorporating digital and virtual platforms, as well as social media (Grenier et al., 2020; Smeltzer et al., 2020; Urias et al., 2024). Although higher education institutions have demonstrated a degree of flexibility in SL projects by adapting them to technological and virtual platforms during the COVID-19 pandemic, these adaptations were often reactive and short-term, lacking systematic integration of technology for long-term flexibility. This study positions itself at the intersection of these challenges, aiming to adapt the current SL model at one UoT to respond more effectively during times of disruption.

Generational change introduces an additional layer of pressure on existing models. Generational Theory suggests that an individual's core values and worldview are shaped more by their formative experiences and cultural context than by geographical and socio-economic factors (Strauss & Howe, 1991; Codrington & Marshall, 2012). Therefore, based on this idea, shared experiences and major historical or cultural life events create cohorts with distinct characteristics (Mannheim, 1952). Generational theorists such as Strauss and Howe (1991) propose differing timelines for Gen Z, placing its onset around 2005. This study adopts the date range defined according to Seemiller and Grace (2016), who identify Gen Z as those born between 1995 and 2010, a period marked by the rise of both the internet and digital technologies. These students were born into a digital age; hence, they did not know the world without the Internet (Alruthaya et al., 2021).

In the South African context, the Gen Z students in this study are also referred to as 'born frees'. They were born after apartheid, which would have shaped their perceptions of various aspects of their lives, including education (Swanzen, 2018). In addition, their educational experiences have been influenced by the COVID-19 pandemic. This has accelerated the need for pedagogies to adapt to ensure continuity in teaching and learning (Peña-Lévano & Melo, 2022). These overlapping historical and generational contexts call into question whether traditional SL models resonate with the current higher education student.

Multiple studies have highlighted specific benefits of SL: for instance, reflection promoting learning (Hatcher & Bringle, 1997); measurable gains in academic, civic and social outcomes (Prentice & Robinson, 2007); and enhanced reflective understanding (Maddux & Donnett, 2015). A more recent quasi-experimental study across five European countries provides fresh evidence that SL improves civic and social competencies, motivation, and school engagement, while reducing dropout rates among secondary school students (Gregorová et al., 2024). However, few studies have scrutinised the congruence of SL pedagogy with the learning preferences of the Gen Z university student cohort.

Recognising this gap, the present study explores how SL can be reconfigured for meaningful engagement and technological integration without compromising reflection, reciprocity and academic integrity. Although the scope of this study is limited to one UoT and a single group of Gen Z students, its depth may offer valuable insights into a relatively understudied demographic in the South African context. The born free generation remains under-explored in the SL literature, particularly within a post-pandemic, technologically evolving landscape. The flexible SL model proposed in this study not only seeks to address the unique needs of this cohort but also offers a scalable and forward-thinking approach that can benefit SL lecturers, students and communities alike. In essence, this study advocates for a re-imagined SL model that is resilient, flexible and responsive, with Gen Z learning preferences guided by future-thinking SL strategies in higher education.

## **1.2 Problem statement**

The issue addressed in this study is the lack of a contextually responsive and pedagogically flexible SL model that aligns with the learning preferences and characteristics of Gen Z students at a UoT in South Africa, and that can be implemented in times of academic disruptions. The problem addressed in this study is understood as emerging from the interaction between the student cohort, the broader context of disruption, and the pedagogical design of SL, rather than any single factor in isolation.

Traditionally, SL models have been created mainly for a generic student population, relying heavily on face-to-face collaboration and lecturer-centred instruction. As a result, traditional teaching methods may often fail to engage Gen Z students fully, as they prefer learning formats that incorporate technology and multiple modes, such as online, face-to-face, and collaborative interactions (Cilliers, 2017; Twenge, 2017; Schwieger & Ladwig, 2018).

The disconnect between conventional teaching approaches and the evolving learning needs of students became more evident during the COVID-19 pandemic, which disrupted standard educational practices and highlighted the necessity for new strategies in community service and education. At the time of the pandemic, many SL initiatives were either paused, cancelled, or modified to ensure continuity (Tian & Noel, 2020; Pfeiffer et al., 2021). These disruptions highlighted the need for a more adaptable, student-focused, and digitally integrated SL model capable of responding to shifting educational demands, unforeseen challenges, and generational changes.

To address this gap, the study applies Generational Theory to analyse a specific group of Gen Z students at a selected UoT in South Africa. It aims to reimagine the existing SL model at this UoT, drawing on documented Gen Z learning preferences and characteristics. The intention is to enhance student engagement, improve learning outcomes, and promote sustainable community impact, thereby ensuring that SL remains relevant and effective in a rapidly evolving higher education landscape (Szymkowiak et al., 2021).

### **1.3 Rationale for the study**

The research explores how shifting student demographics intersect with the rapidly changing landscape of higher education. With each new generation of entering universities, it becomes crucial to evaluate if traditional teaching approaches still align with the learning styles and characteristics of these students. This research specifically focuses on Gen Z students born between 1995 and 2010 (Seemiller & Grace, 2016). They exhibit distinct traits that increasingly challenge traditional pedagogical approaches, as they tend to favour interactive and technology-driven approaches rather than conventional memorisation and passive learning methods

As noted earlier, the 1995–2010 date range adopted for this study follows Seemiller and Grace (2016), whose foundational research on Gen Z has influenced much of the discourse on this cohort. This period also coincides with major technological and societal changes, such as the rise of the internet and the early digital technologies, which researchers have identified as formative influences shaping Gen Z's learning experiences (Seemiller & Grace, 2016; Twenge, 2017). As a result, Gen Z are often seen as digital natives, having grown up with technology

as a fundamental part of their lives (Prensky, 2001), central to communication, learning, and socialisation. As mentioned earlier, in the South African context, individuals born after 1994 are called 'born frees', having grown up in a post-apartheid society that influenced their perspectives, values, sense of identity, and educational expectations (Mattes, 2012). This dual framing situates the study within both global generational shifts identified in recent scholarship, where Gen Z is understood as a global generation (Seemiller & Grace, 2024) and South Africa's socio-political landscape. Within the South African higher education context, these generational characteristics intersect with persistent social inequalities and historical legacies of apartheid (Mattes, 2012). This shapes students' learning experiences and their engagement with SL in ways that diverge from dominant global accounts of Gen Z.

The study applies Generational Theory as the lens to understand Gen Z, which is conceptualised as a generational group who were born over roughly 20 years and that share common formative experiences (Strauss & Howe, 1997; Codrington, 2005). The Gen Z cohort entered tertiary education between 2014 and 2018 (Trevino, 2018), bringing with them characteristics such as a preference for hands-on learning (Seemiller & Grace, 2016), strong technological savviness (Schwieger & Ladwig, 2018), and an increased awareness of global and social issues (Dolot, 2018). Service-learning models championed by Halberstadt et al. (2019) and Schank and Halberstadt (2023) de-emphasise traditional structure-bound approaches, favouring experiential, problem-based learning that defies conventional and hierarchical norms. This approach is most likely to align with Gen Z learning preferences and may encourage deeper engagement.

Service-learning, with its emphasis on experiential and service-oriented education, offers a potential solution to the educational demands of Gen Z by integrating academic study with practical, real-world applications (Mitchell, 2008; Butin, 2010). However, current SL models are rigid and often lack flexibility, which may impede the incorporation of innovative formats in higher education (Halberstadt et al., 2019). This has led to growing misalignment with Gen Z's expectations for adaptable, technology-enhanced, and personalised learning experiences.

As Gen Z continues to enter higher education, SL models require reimagining to accommodate creative and adaptive teaching methods, while maintaining core SL principles such as reciprocity, reflection, and community service. This research explores the development of a flexible SL model at a particular UoT to respond to Gen Z's evolving learning needs and remain resilient in the face of disruptions such as the COVID-19 pandemic, which exposed limitations in conventional teaching methods.

## 1.4 Aim, research questions

The study aims to develop a flexible SL model for Gen Z students, informed by their learning preferences and characteristics, and designed to respond both to future disruptions such as COVID-19 and to evolving student needs.

Accordingly, the following main research question guided the study while simultaneously providing structure for the thesis:

*How can a flexible model of service-learning be developed for Generation Z students at a university of technology?*

To address this overarching question, four sub-questions were developed to provide specificity and direction:

1. *What are the learning styles and learning preferences of Generation Z students at a university of technology?*
2. *What are the characteristics, motivations to learn, and personal outlooks of Generation Z students at a university of technology?*
3. *How do Generation Z students experience transformative learning in service-learning at a university of technology?*
4. *How might Generation Z students perceive service-learning projects for the year 2030?*

These four sub-questions were developed to build a coherent profile of Gen Z students at the chosen UoT. Sub-question 1 explores their learning styles and preferences, offering insights into how SL teaching strategies can be more effectively adapted to suit Gen Z students' learning needs. Sub-question 2 explores Gen Z students' characteristics, motivations for learning, and perspectives on life, providing valuable contextual insights for creating an engaging and effective SL model. Sub-question 3 focuses on Gen Z students' previous SL experiences to identify both opportunities and constraints within the current SL model at this UoT. Lastly, Sub-question 4 adopts a forward-thinking approach by inviting students to imagine future SL practices. These four sub-research questions help to render the proposed SL model both adaptable and pedagogically relevant. This aligns with the 2030 vision of the chosen UoT to become Africa's leading Smart UoT (CPUT, 2021).

This study adopts a pragmatic mixed-methods design, drawing on both quantitative and qualitative data to capture both student and SL lecturer perspectives. The selection of a single UoT was purposively chosen due to its accessibility to the researcher and its well-established,

structured SL model. It was important to choose a site that adhered to the requirements of the 1997 Education White Paper 3 (*Government Gazette*, 1997), which addressed how community engagement (CE) can contribute to the goals of educational transformation in South Africa.

The theoretical foundation of the study integrates four key frameworks:

- Dewey's (1916;1933;1938) ideas on experiential learning underpin the philosophical and pedagogical foundations of SL as a form of active, service-based learning.
- Mezirow's (1990) Transformative Learning (TL) theory, which informs the analysis of personal cognitive shifts that occur during SL engagement.
- Generational Theory (Strauss & Howe, 1997; Howe & Strauss, 2007), which provides insights into the shared characteristics, learning preferences, attitudes and behaviours of Gen Z, framing their identity as a generational cohort.
- Kolb's (1984) Experiential Learning Cycle (ELT) and Learning Style Inventory (LSI) offer an interpretive lens to understand how Gen Z students engage with and process learning tasks. The LSI categorises learners into four distinct learning styles (Diverging, Assimilating, Converging and Accommodating) which were used in this study to profile and interpret the learning styles of the Gen Z participants in this study.

Together, these frameworks provide a multi-dimensional lens for understanding how SL might be adapted for the Gen Z cohort at this UoT. Importantly, the COVID-19 pandemic acted as a catalyst for change by exposing the limitations of the current SL model at this UoT; and this, in turn, foregrounded aspects of the model that required greater flexibility.

To achieve the above aims, the study pursued the following objectives:

- *Profile* the learning styles and preferences of a Gen Z student cohort at this selected UoT.
- *Identify* Gen Z student cohort characteristics, motivations, and personal outlooks relevant to SL participation.
- *Explore* Gen Z students' transformative experiences of transformative learning in their SL initiatives.
- *Gather* student perspectives on the future of SL to inform model development for 2030 and beyond.
- *Integrate* SL lecturer insights on Gen Z learning preferences and behaviours, SL implementation challenges, and the COVID-19 adaptations.
- *Propose* a theoretically-informed, empirically-grounded, flexible SL model which aligns with the learning needs of Gen Z and which will be more resilient in times of crisis.

## 1.5. Significance of the study

This study addresses a notable gap in the literature by developing a context-specific profile of Gen Z students at a South African University of Technology. Much of the existing SL literature assumes a generalised view of the student cohort, which potentially risks overlooking the distinct learning needs, values, and digital fluencies of newer cohorts. By creating a detailed profile of Gen Z students in this context, this study provides a foundation for rethinking SL pedagogies in ways that are more aligned with the realities of this generation and future cohorts.

A second contribution lies in the development of a flexible SL model that accommodates the current students' learning preferences, characteristics and technological fluency. This proposed model will serve not only to enhance the relevance of SL initiatives but also to increase participation and deepen collaboration with communities, while remaining adaptable to shifting demographics and future disruptions.

Importantly, the study extends the application of the TL theory in SL by holistically reviewing students' transformative experiences through disorienting dilemmas, critical reflection, rational discourse and action. The intention is to explore how SL influences their personal development, academic growth and engagement with the community. In this way, the proposed model seeks to strengthen learning outcomes and promote sustainable reciprocal partnerships between students and communities.

## 1.6 Operational definitions of terms

A brief explanation of the key terminology utilised in this study is presented to establish that the terms, as applied in the study, are clearly understood. Table 1.1 outlines the operational definitions used in this study.

**Table 1.1: Operational definitions presented in alphabetical order**

<b><i>Characteristics</i></b>	The distinguishing features, traits or qualities that define an individual, group or object that separates them from other individuals (American Psychological Association, 2024)
<b><i>COVID-19</i></b>	It is caused by the coronavirus SARS-CoV-2, an infectious disease that started spreading globally in 2020. It is spread through respiratory droplets and led to a global pandemic, affecting millions of individuals worldwide. Symptoms range from mild respiratory issues to severe pneumonia and death (World Health Organisation, WHO, 2020).

	<p>Impact of the pandemic:</p> <ul style="list-style-type: none"> <li>● Various lockdown levels</li> <li>● No interpersonal and learning contact</li> <li>● The need for immediate pivots to remote teaching and learning</li> <li>● Necessitated an immediate change in SL, community engagement and practice-based learning</li> </ul>
<b><i>Experiential Learning</i></b>	The acquisition of knowledge through direct experience outside of the traditional academic classroom setting. It involves practice-based, applied knowledge learning activities, hands-on learning (and reflecting on those activities) and acquisition of knowledge through learning activities (Dewey, 1938; Kolb, 1984; Beard & Wilson, 2018).
<b><i>Generation Z</i></b>	A group of individuals born roughly between the mid-1990s and early 2010s. They are known for their use of digital technology and social media. They were a generation born into a world of the internet (Seemiller & Grace, 2016).
<b><i>Generational Theory</i></b>	The idea that individuals born around the same time share similar experiences and perceptions because they grow up sharing the same cultural and historical events which shape their behaviours and attitudes. A generational cohort typically spans approximately 20 years (Mannheim, 1952; Strauss & Howe, 1991).
<b><i>Learning Environment</i></b>	This is broadly defined as the physical or virtual setting where learning takes place; it is influenced by cultural, social, and psychological factors (Rusticus et al., 2022). This study specifically refers to the online and offline contexts in which students experienced SL.
<b><i>Learning Styles</i></b>	The term broadly describes how individuals are thought to learn and process information, with examples such as visual and kinaesthetic styles (Gardner, 1993; Kolb, 1984; Fleming & Mills, 1992). However, empirical evidence suggests that researchers cannot reliably identify a single dominant learning style (Pashler et al., 2009).
<b><i>Motivation</i></b>	A process that initiates, guides and sustains goal-oriented behaviours. It is what causes an individual to act, such as climbing a mountain to increase stamina or listening to a seminar to gain knowledge (Deci & Ryan, 1985).

<b><i>Reflexivity</i></b>	The process of thinking about and analysing one's thoughts, experiences and actions to understand better how they influence one's perspectives and actions (Finlay, 2002; Hibbert & Cunliffe, 2015).
<b><i>Service-Learning</i></b>	An educational approach that emphasises civic responsibility and reflective thinking by combining academic instruction with community service. Students engage with community members to address their needs. Through this interaction, mutual learning is facilitated, and students apply classroom knowledge within the communities, while communities contribute to student learning (Bringle & Hatcher, 1995; Jacoby, 1996; Eyer & Giles, 1999; Peterson & Osman, 2013).
<b><i>Service-Learning Lecturer</i></b>	In this study, a SL lecturer does not refer to an individual that lectures about SL. Rather, it refers to a lecturer who facilitates SL projects within higher education. The term is used with this meaning throughout the thesis.
<b><i>Traditional Service-Learning Models</i></b>	They tend to be structured, lecturer-centred approaches, typically requiring face-to-face interaction, with the SL lecturer playing a central role in guiding the service and activities, as well as academic reflections. It is considered a conventional method where educators tend to have a more pronounced voice, while students tend to be more passive receivers of information (Al-Shehri & Alaudan, 2024).

## **1.7 Structure of the thesis**

This research study is presented in eight chapters:

### **Chapter One: Introduction to the research study**

This chapter begins with an introduction to the current study, followed by a presentation of the problem statement. The reasons for conducting this study are then discussed, along with the study aims, research approach, and research questions. Next, the importance of this research is outlined, followed by the operational definitions of key concepts used in this study. The chapter concludes with an overview of the structure of the thesis.

### **Chapter Two: Literature review**

Chapter Two provides an overview of the literature on SL and its theoretical foundations, beginning with its historical origins at Hull House in 1889 (Daynes & Longo, 2004). The discussion then narrows to the post-apartheid context of South Africa, where SL became a tool for higher education institutions in South Africa to serve as agents of social change (Hatcher & Erasmus, 2008; Peterson & Osman, 2013). The focus then shifts to the University of Technology (UoT), which is the setting for this study: SL operates within the Centre for Community Engagement and Work Integrated Learning (CCEWIL). The chapter outlines the SL typology underpinning this study, which gives equal weight to service and learning and promotes mutual accountability (Sigmon, 1994; Nduna, 2006; Harwood, 2008). Following this is the South African definition of SL selected for this study, cited by Petersen and Osman (2013). Dewey's (1916;1938) work on experiential learning and democratic education is presented as the theoretical foundation for SL. The chapter then reviews structured conventional SL models (Heffernan, 2001; Bohat & Goodrich, 2007; Laine, 2010), highlighting their misalignment with Gen Z students, especially during the disruptions of the COVID-19 pandemic. It concludes by exploring the learning preferences and characteristics of a specific cohort of Gen Z students. The Generational Theory framework was utilised as the theoretical lens for this understanding (Strauss & Howe, 1991;1997).

### **Chapter Three: Theoretical frameworks of this research study**

Chapter Three reviews the theoretical frameworks that inform this study. Mezirow's (1990) Transformative Learning (TL) theory is utilised to comprehend the transformative learning experiences of Gen Z students participating in SL projects. In addition, Kolb's (1984) Experiential Learning Theory (ELT) is presented as the lens to gain more profound insights into the learning styles of this cohort.

### **Chapter Four: Research study methodology**

Chapter Four details the research design and methodological decisions that underpin this study. The chapter begins by reiterating the research questions and provides a rationale for the adoption of a pragmatic worldview in preference to positivist and interpretivist philosophies. Pragmatism was selected for its philosophical flexibility (Creswell, 2014) and methodological adaptability (Morgan, 2014)

A mixed methods design was employed to generate a comprehensive understanding of Gen Z students' learning preferences, characteristics and their SL experiences at this UoT, offering both qualitative depth and quantitative scope (Creswell & Planko Clark, 2018). Data were collected through semi-structured interviews with seven Gen Z students, a survey of 37 Gen Z students, and a focus group interview with seven SL lecturers.

A pilot study was conducted to refine the survey instrument (Jones et al., 2013). The use of three distinct datasets enhanced the study's credibility and reduced bias (Bowen, 2009). Ethical standards were maintained through informed consent and participant confidentiality.

### **Chapter Five: Findings of this research study**

Chapter Five presents the findings drawn from the three data sources: semi-structured interviews, the online survey and the focus group interview. The results are outlined with selected extracts from participants to illustrate key points. Visual data from the survey is also included to support the interpretation of patterns that emerged. This chapter sets the stage for Chapters Six and Seven, which present and synthesise the findings in response to the research questions.

### **Chapter Six: Discussion and analysis of this research study**

Chapter Six presents and discusses the findings, which are organised thematically in response to the research sub-questions. The themes contribute to creating a comprehensive profile of this cohort of Gen Z students at one UoT and to answering the main research question. This profile forms the basis for a proposed flexible SL model. The findings further highlight limitations in the current model at this UoT and inform six strategies for making it more responsive to Gen Z students.

### **Chapter Seven: A flexible model for service learning**

Chapter Seven presents the flexible SL model that was developed from the study findings. The model integrates six key strategies: Augmented Reality (AR) and Virtual Reality (VR); Universal Design for Learning (UDL) principles; Gamification; digital communication tools such as Microsoft Sway and OneNote; cross-faculty collaboration embedded within the university's LMS at this UoT; and the Transformative Learning Review (TLR) guidelines. These strategies are integrated into the existing SL model to enhance its relevance for Gen Z students and strengthen its impact on service in the communities. The chapter also considers the benefits of the proposed model for all stakeholders involved and its alignment with established SL principles.

### **Chapter Eight: Study conclusions and recommendations**

Chapter Eight concludes the study by outlining key contributions, limitations and recommendations for future research. It expands the knowledge base on Gen Z students in South Africa, particularly concerning their SL experiences, learning preferences and characteristics. A key contribution is the TLR guideline grounded in Mezirow's (1990;1991) theory, which extends the reflective dimension of SL to include other key phases, such as

rational discourse. This chapter also illustrates the integration of digital technologies, UDL principles, and cross-faculty collaborations using AI to support flexibility, participation and inclusivity in SL. The study further highlighted that, rather than focusing on modality shifts prompted by the COVID-19 pandemic, this study proposes a holistic and resilient model adaptable to future challenges and student cohorts. The chapter concludes with a brief reflection on the researcher's doctoral journey.

## **1.8 Conclusion**

Chapter One provides a structured map of the thesis. It begins by introducing the study, expressing its significance and the problem from which it emerged. This is followed by the rationale for undertaking the research. The aim and research questions are then presented, along with the corresponding research objectives and an outline of the research approach adopted. The key terms used throughout this study are operationally defined, and the chapter concludes with an outline of the structure of the thesis.

## CHAPTER TWO

### A Review of the Literature on Service-Learning and Generation Z

#### 2.1 Introduction

Chapter One discussed the problem from which the study emerged, as well as the aims and rationale. This chapter reviews and discusses the body of literature that is relevant to the development and implementation of service-learning (SL) models with an emphasis on their evolution in the higher educational landscape and their alignment with the learning preferences and characteristics of a specific cohort of Generation Z (Gen Z) students at a university of technology (UoT). The study reviews the theoretical foundations of SL pedagogy and Generational Theory, prior research, and both global and local perspectives of SL in higher education and its adaptation to Gen Z students. This establishes the context of the study and highlights the gaps in the existing knowledge base. This chapter further situates the study within the theoretical lens of Generational Theory to understand the learning preferences and characteristics of the current cohort of students within SL contexts in higher education. It also discusses prior studies done on the Gen Z cohort and presents the data gathered in this study to create a profile of these students to inform the development of a SL model.

This chapter has two sections. The first part focuses on SL, with the literature establishing what is already known about SL pedagogy in higher education. The discussion then moves to the concept of Community Engagement (CE) and the Community Higher Education-Service Partnership (CHESP) model (CHESP, 2004) which are reviewed in a South African context (Section: 2.3). This is followed by a discussion of SL at the study site (Section: 2.4). The typology used for this study is then explained and the rationale provided (Section: 2.5). In Section 2.6, Petersen and Osman's (2013) definition of SL, considered the most appropriate for the South African context because it emphasises student learning and growth, integrating services into their academic curriculum, is set out. The study then draws on Dewey's (1916;1933;1938) educational theories as the lenses to understand SL pedagogy (Section 2.7). The literature review continues by exploring the elements inherent in traditional SL models (Section 2.8) and the challenges these SL models faced during the COVID-19 pandemic (Section 2.9), which prompted other ways of facilitating SL. The benefits of SL for student learning are then reviewed (Section 2:10), including mindfulness in SL (Section 2.10.1) and the benefits of International Service-Learning (ISL) (Section 2.11). Finally, the limitations of experiential pedagogy are reviewed (Section 2.12) before transitioning to understanding Gen Z (Section 2:13).

The second part of this chapter focuses on Gen Z. Generational Theory (Strauss & Howe, 1990, 1991; Howe & Strauss, 2007), marked by unique global perspectives and learning styles, assists in understanding a new generation in universities (Section 2.13). This theory is significant in academic research, particularly for understanding Gen Z students' learning approaches and characteristics in this study. Generational relevance within the South African context is provided to highlight the theory's applicability beyond its American origins; and the influence of Gen X parents on Gen Z, focusing on their impact and the transition from the Millennial generation to Gen Z, is reviewed. Various facets of Gen Z are explored, including characteristics, motivations to learn, learning approaches and perspective on life.

The literature also explores technology, digital learning and inclusive learning as current technologies and methods to enhance learning for Gen Z students: Augmented (AR) and Virtual Reality (VR) technologies; the Universal Design for Learning (UDL) approach; gamification; and digital communication tools such as Microsoft OneNote, Microsoft Sway, and Artificial Intelligence (AI). Finally, the chapter discusses the Born Frees (referring to the Gen Z cohort in South Africa, the primary subject of this study). A comprehensive depiction of Gen Z students at this UoT required exploring their learning preferences and characteristics that shaped their development and learning.

Traditional forms of SL faced difficulties during the COVID-19 pandemic, prompting SL lecturers to explore other ways to continue or implement successful SL projects during times of disruption (Kekana et al., 2023). These difficulties for traditional forms of SL highlighted a gap in existing SL models that needed to be addressed. In addition, while a plethora of studies have addressed the academic benefits of SL (Eyler & Giles, 1999; McHugh & Peters et al., 2006; Meyers, 2009; Afzal & Hussain, 2020), little attention has been paid to the adaptation of SL to a specific generational cohort. This study addresses these gaps, positioning and adapting a teaching methodology to fit appropriately with a specific student cohort, to maximise their learning experiences.

## **2.2 Historical overview of service-learning**

The origins of SL can be traced back to the late 19th century, to the establishment of the Hull House in Chicago by Addams and Starr in 1889 (Daynes & Longo, 2004). Hull House was founded with the primary objective of assisting the immigrant community residing in the neighbourhood. Its initiatives encompassed several educational possibilities aimed at cultivating experiential learning. Dewey, a renowned educational philosopher, visited Hull House in 1891. This experience significantly shaped his perspective on experiential learning (Daynes & Longo, 2004). His contributions later laid the foundation for experiential learning, a

core component of SL pedagogy (Giles & Eyler, 1994; Beaudin & Quick, 1995; Hatcher & Erasmus, 2008).

The formalisation of SL began in the United States in the 1960s when the concept was introduced through the works of individuals such as Sigmon and Ramsey. However, the term “service-learning” itself was coined and articulated by Sigmon in 1994 (Sigmon, 1994). The National Student Volunteer Programme, founded in 1969 and later renamed the National Centre for Service-Learning, significantly advanced SL in the United States (Jacoby, 1996). The National Society for Internships and Experiential Education (NSIEE), which evolved into the National Society for Experiential Education (NSEE) in 1972, aimed to unify various experiential education methods, including SL (Kendall et al., 1986). The National Centre for Service-Learning promoted SL nationwide, while the NSEE integrated SL into its broader experiential education initiatives.

Service-learning development was shaped by several social and political factors, including the Civil Rights Movement in the United States in the 1960s and the 1970s (Calvert, 2015). The "Principles of Good Practice for Combining Service and Learning in the 1980s" were issued by the NSEE (Jacoby, 1996:29) and provided principles for “successful program design and sustainability” (Jacoby, 1996:14). The integration of SL into higher education institutions began in the mid-20<sup>th</sup> century as universities were able to recognise that there was value in combining community engagement with academic endeavours. In the 1960s and 1970s, universities, particularly in faculties such as social science, public administration and education, incorporated SL to bridge the gap between academic knowledge and real-world experiences (Jacoby, 1996). This shift marked a significant moment in the formalisation of SL as part of university curricula.

Service-learning gained prominence not only in the US, but in other countries as well. One of these countries was South Africa, where the adoption of SL into higher education institutions was a result of the social and political changes taking place when apartheid ended (Mtawa & Nkhoma, 2020). The higher education system required transformation, and CE was seen as the vehicle for universities to align to national policies of equality, social justice and inclusivity. Service-learning, which falls under the banner of CE, was seen as a way to meet these goals by the Department of Higher Education (DHET) as it could provide a service in the community and promote student development (Bender, 2008). This was crucial in South Africa, as universities wanted to create meaningful relationships with disadvantaged communities to address inequalities that existed during the apartheid era.

To facilitate this, South African universities formally began to integrate SL into their academic curricula in the late 1990s and early 2000s; and they were required to follow national policy

frameworks such as the White Paper on Transformation of Higher Education (1997), as well as the establishment of the Council on Higher Education (CHE). The CHE played a crucial role in setting quality assurance standards and monitoring universities, which positioned SL within the broader transformation agenda of higher education (Council of Higher Education, 2004).

An example of these SL models is highlighted by Jordaan (2014) at the University of Pretoria, where SL modules were introduced in faculties such as Engineering, Built Environment, and Information Technology to address community needs while also promoting experiential learning. Particularly at the University of Pretoria, the Community-Based Project Module (CBPM), also known as the Joint Community-Based Project (JCP), engages approximately 1,600 students on an annual basis in community service projects. This module not only benefits the community but also raises students' social awareness and encourages them to get practical experience.

As community engagement grew in popularity within higher education, concerns were highlighted regarding the academic rigour and consistency of these programmes. As a result, faculty and administrators identified the need to ensure that SL met the same academic standards as traditional coursework, and through this, there was a focus on safeguarding academic integrity while still assessing learning outcomes (Jacoby, 1996). These changes, expressed by Jacoby (1996), reflect the shift towards acknowledging and recognising SL as a means of promoting and supporting social justice and an effective and valuable educational methodology that enhances student development and learning.

The success of SL programmes relied heavily on heightened faculty engagement, as educators assumed a pivotal role in the development of courses that integrated service components, identification of suitable community partners, and guidance of students throughout their service experiences (Jacoby, 1996). Through active involvement in the SL process, faculty members could enhance their ability to enable meaningful linkages between service experiences and academic material (Hatcher & Erasmus, 2008). This, in turn, contributed to an overall improvement in the quality of the educational experience.

The assessment of learning outcomes is often regarded as a central element in the implementation of SL projects, with formative assessment used to provide feedback necessary to improve the quality of SL practice and student learning (Steinke & Fitch, 2007). At the SL programme level, this entails linking meaningful service activities with academic objectives and reflecting these outcomes to enable more effective educational practices (Bringle & Hatcher, 1996). While assessment and evaluation contribute to the sustainability of SL, the concern of this current study lies less with measurement and more with how students themselves describe and interpret their transformative experiences in SL contexts. In essence, instead of viewing

outcomes in measurements, this study focuses on student transformative experiences concerning how they think and relate to others in their SL projects, as well as an understanding of how students experience transformative learning during/after their SL projects. The flexible SL model aims to include a holistic review of these experiences, traced through the four phases of transformative learning (discussed in Chapter 3.2). In this way, the emphasis is on how students reflect on their SL projects and the changes they encounter (if any), personally and academically.

The development of SL as an educational approach has been shaped by a series of events across various contexts. These events signal a movement of SL from its early ideas to experiential education, and to its formalisation and integration into higher education, both in the United States and South Africa. Table 2.1 outlines this trajectory, showing how SL evolved in response to changing educational and social priorities.

**Table 2.1: The development of service-learning in education**

<b>Early 20th Century Foundations</b>	Dewey's work on experiential education (Dewey, 1916;1938)	John Dewey emphasised the importance of learning through experience and the role of education in fostering democratic citizenship.
<b>1960s Formalization</b>	Coining of "service-learning" (Sigmon, 1990)	The term "service-learning" was first coined in 1967 by Robert Sigmon and William Ramsey while working with the Southern Regional Education Board.
<b>1970s and 1980s Expansion</b>	Growth in educational institutions (Rhodes, 1997)	Service-learning gained traction in higher education institutions and K-12 schools, with various organizations and initiatives promoting its integration into academic programs.
<b>1990s Legislation and Support</b>	Federal policies support (National and Community Service Trust Act, 1993)	Service-learning got support from federal policies in the United States, like the National and Community Service Trust Act of 1993, which supported programs like AmeriCorps.
<b>Late 1990s to Early 2000s</b>	Integration in South African higher education (Higher Education Act, 1997; Mouton & Wildschut, 2005)	Influenced by the country's transition to democracy, service-learning in South Africa started gaining formal integration into higher education during this period.
<b>Early 2000s</b>	Support from organizations (Bhagwan, 2017; Bender, 2008)	Several South African universities integrated SL programmes into higher education, supported by organizations like the South African Higher Education Community Engagement Forum (SAHECEF). Examples include the University of Pretoria's Community-Based Project Module (CBPM) (Jordaan, 2014).

The brief trajectory outlined in Table 2.1 highlights the spread and evolution of SL from its early foundations in experiential education to its formalisation and integration into higher education on a global scale. The approach to integrating SL into higher education in South Africa reflects the socio-political dynamics that shaped its development during the post-apartheid era. This

study was conducted in a South African context; therefore, an understanding of SL in this context is explored next.

### **2.3 Service-learning in a South African context**

Service-learning was introduced under the banner of Community Engagement in South Africa to help transform higher education. The African National Congress emerged victoriously in the inaugural democratic elections held in 1994, marking a significant turning point on the African continent. This pivotal event also brought about notable transformations in higher education (Petersen & Osman, 2013). The process of rebuilding and change in the formerly racially-divided higher education environment was driven by government imperatives and law, as discussed by Mapesela and Hay (2005) and Petersen and Osman (2013). Given the imperative for transformation in South Africa during its transition to democracy, the introduction of Community Engagement (CE) aimed to establish a connection between educational practices and societal concerns and needs. Petersen and Osman (2013) have elucidated the relationship between community engagement and experiential learning. The authors stated that SL functions as a manifestation of community engagement by integrating the academic curriculum of a certain subject with students' involvement in providing services to or within a community.

Petersen and Osman (2013) define community engagement in higher education as strategically using a university's teaching, learning, and research capabilities to foster mutually beneficial relationships with communities. This approach aligns disciplinary expertise with community needs, highlighting the crucial role of CE in community reconstruction and improvement. A significant initiative during this transformative period was the establishment of The Community Higher Education-Service Partnerships (CHESP, 2004) by the Joint Education Trust (JET) in 1999, aimed at advocating for and funding all SL programmes in South African higher education institutions (Mouton & Wildschut, 2005). Van Schalkwyk and Erasmus (2011) note that CHESP's goal is for higher education institutions to contribute to society by promoting student participation and organising activities. Kruss et al. (2015) argued that there is increasing pressure on higher education institutions to be more aware of their local, national, and global contexts and to demonstrate greater responsibility and accountability.

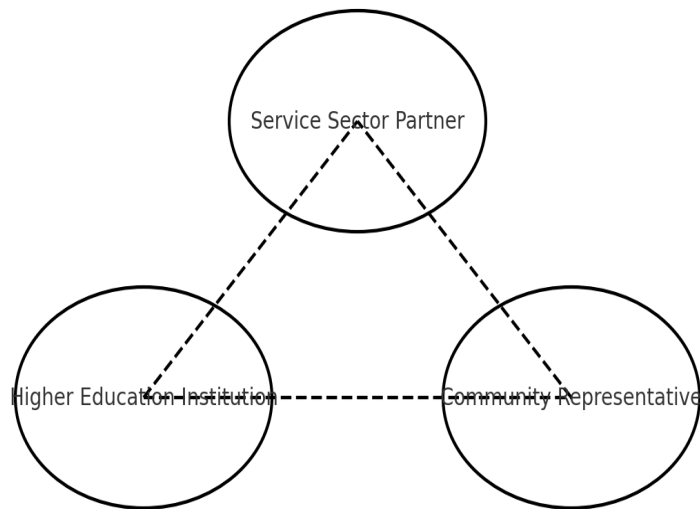
The primary objective of the CHESP was to stimulate the creation of pilot initiatives that embodied the mandate for CE outlined in the Education White Paper. The CHESP focused on monitoring, evaluating, and researching these initiatives and then using the findings to shape higher education policies and practices at both the national and institutional levels (Lazarus et al., 2008). The CHESP programme has shown alignment with the higher education sectors, including the Department of Higher Education and Training, the Higher Education Quality

Committee of the South African Council on Higher Education and the South African Qualifications Authority. These partnerships aimed to position the CHESP-funded pilot projects strategically so that they could contribute to the development of national CE policies. Once these policies were established, CE would be fully incorporated into higher education institutions (Lazarus et al., 2008). However, given the difficulties encountered in implementing CE and the imperative to incorporate community participation in higher education institutions, the CHESP devised a SL framework that encompasses tripartite collaboration.

The tripartite partnership SL learning model created for the South African environment exhibited notable distinctions from the model produced in the United States (Mouton & Wildschut, 2005). The South African model incorporated the notion of engagement with additional elements, namely, one that involved a “three-way partnership”. The South African model expands the US model to include “the service sector at a module or course level” (Mouton & Wildschut, 2005:117). The significance of this model is the development and collaboration of partnerships between higher education institutions, communities and the service sectors. This was initiated to address national development priorities such as improving historically disadvantaged communities (Osman & Castle, 2006). The difference in SL between the US and South Africa can be seen primarily in their approaches. The South African approach is centralised and policy-driven, with the government actively supporting SL initiatives as part of broader educational reforms aimed at addressing inequalities from the apartheid era. The US approach is decentralised and relies on institutional autonomy and non-profit support, and SL is generally implemented at the local level with a uniform federal mandate that allows for diverse practices across different higher education institutions (Hatcher & Erasmus, 2008).

The CHESP model of SL developed in South Africa places significant emphasis on cooperation among three key stakeholders. This collaboration is crucial for both the implementation and ongoing enhancement of SL programmes (Mouton & Wildschut, 2005). Figure 2.1 illustrates this collaboration:

## The CHESP Triad Partnership Model



**Figure 2.1: Triad service-learning model: The CHESP Model**

**(Adapted from Mouton & Wildschut, 2005:123; HEQC, 2006b:93)**

The CHESP Triad Partnership Model is a recommended approach that highlights the collaboration between three key stakeholders: higher education institutions, local communities, and service sector partners. This model introduces a third partner whose involvement can help alleviate power struggles that may arise between the campus and community members, or between the service sector partner and local community members. (Higher Education Quality Committee/Joint Education Trust, 2006a; Hatcher & Erasmus, 2008). An insight into the roles of these key stakeholders is discussed below.

The university is a critical component in a three-way partnership that includes both students, academic staff and community partners. Firstly, in the given context, the term "students" pertains to university students currently registered in academic programmes that integrate community-based learning opportunities. Students are required to apply academic knowledge in their SL projects as part of providing service to the prospective communities. They are also the universities' key representatives who integrate within the communities to assist with community needs (Longart et al., 2017). Students also learn from the lived experiences of the communities. When students participate in SL projects, they gain many benefits, which will be addressed later in this chapter.

Secondly, the term "communities" in this context pertains to the local communities or organisations with whom students actively participate throughout their SL activities. They are the direct beneficiaries of the service that the students provide. The communities seem to have varying degrees of power; certain communities are involved in the design, implementation, monitoring and evaluation of programmes, while others may not have such influence as a partner and are seen as a community engagement end (Longart et al., 2017). These different degrees of involvement could be a result of the nature of the SL projects or contingent on a particular course and its intended outcome. According to Longart et al. (2017), communities need to be included as an equal stakeholder in all aspects of the SL process.

Thirdly, the term "academic staff" pertains to the faculty members or instructors at a university who have the responsibility of coordinating and supervising SL courses. Academic staff members are responsible for administrative tasks, course logistics and managing students' relevant SL learning experiences. In addition, they are responsible for designing, monitoring, and evaluating SL programmes, as well as linking curriculum activities with the SL programme. They also support the training requirements of students so that they can perform their service work effectively (Longart et al., 2017).

Finally, the term "service providers" refers to the establishments that engage in partnerships with the university and the community to provide services or resources needed for the SL projects. These could be non-profit organisations, government institutions, or other community-based groups (Hatcher & Erasmus, 2008; Stanton & Erasmus, 2013). In South Africa, there is a emphasis placed on involving both service-sector providers and community members in the design, implementation and evaluation of SL modules (Hatcher & Erasmus, 2008). This is an indication of the value placed on service providers as they also provide resources and training for students involved in the projects.

The CHESP model demonstrates an intricate interconnection between all stakeholders, wherein each partner assumes a unique and defined function. This educational approach is a favoured option for incorporating community interaction into the curriculum, thereby presenting an incentive for higher education institutions to embrace this pedagogical method (Hatcher & Erasmus, 2008). In essence, the CHESP model remains relevant today as it provides a framework for creating reciprocal relationships that address both educational and societal needs. In addition, although this model has been created in a South African context, its principles of collaboration, mutual benefit and integration of academic learning with service to the community can be adapted and used in diverse contexts globally. This current study aims to provide the students and communities with a more prominent voice in the design and implementation of SL projects. Additionally, it aims to streamline the process for SL lecturers by reducing the administrative burden. Subsequently, the development of the flexible SL model

will be guided by the above focus areas. Next, SL's alignment with the Sustainable Development Goals (SDGs) and the National Development Goals (NDP) is discussed.

Service-learning closely aligns with the 2030 Sustainable Development Goals (SDGs) by promoting CE, addressing social issues through practical projects, and enhancing quality education. The Educational Partnerships for Innovation in Communities Network (EPIC-N) framework illustrates how SL can transform communities by focusing on SDG 11 (sustainable cities and communities) and SDG 17 (partnerships for the goals) through collaboration between local governments and higher education (Inman et al., 2023). Additionally, SL enables students to apply academic knowledge to real-world problems, improving their learning and benefiting the community. This form of pedagogy effectively reduces educational disparities and promotes sustainable practices. Furthermore, incorporating SL pedagogy into higher education can help address specific SDGs by involving students in projects that benefit communities.

In practice, projects that emphasise improving early childhood development education in South Africa align with SDG 4 (quality education). Giese et al. (2023), in their work on the Early Learning Outcome Measure (ELOM), illustrate the positive impact of high-quality early learning programmes on community well-being and learning outcomes. These principles could be applied to SL projects that also focus on education-related challenges. In addition, SDG 4 focuses on promoting inclusive and equitable quality education and encourages lifelong learning for all individuals (Pacho, 2024).

The seventeen Sustainable Development Goals (SDGs) for 2030 present a universal framework for global challenges that need to be addressed, such as reducing inequalities, promoting sustainable development and working towards eradicating poverty (SDGs, 2030). These goals are mirrored in South Africa's National Development Plan (NDP) 2030, which has a similar vision: to reduce poverty, undertake economic reform and educational reform, and sustain the environment (National Planning Commission, 2012). This shows a similar vision to that of the SDGs and the NDP, stressing the interconnectedness of both national and global issues. Service-learning in higher education can play a crucial role in bridging the gap between national and international goals by preparing students with the knowledge and skills to address both. This study aims to integrate the vision of the NDP goals into the flexible model of SL so that SL projects align with its priorities and contribute to both societal transformation and sustainable development of the environment.

## 2.4 Service-learning at a UoT

Importantly, this study does not critique existing SL models. Instead, it explores the transformative learning experiences of Gen Z students participating in SL projects at this UoT, addressing the third sub-question. The model at this UoT is considered traditional as it requires face-to-face interaction to facilitate projects and follows a three-phase structure. While it has been effective in implementing SL projects, the absence of advanced digital tools makes the model less adaptable to current students who appear to be reliant on technology, as will be discussed later in this chapter. To provide context, this section discusses the current SL model at this UoT, including the limitations, and this UoT's vision for 2030 to facilitate Quintuple Helix Projects.

The Centre for Community Engagement and Work-Integrated Learning (CCEWIL) play a crucial role in coordinating the institutional perspectives on Work-Integrated Learning (WIL), Community Engagement (CE) and SL at this UoT. The establishment of this unit was in response to the 1997 Education White Paper (*Government Gazette*, 1997), which highlighted the imperative for South African higher education institutions to contribute proactively to the socioeconomic progress of surrounding communities. The CCEWIL collaborates with the different faculties to align these institutional priorities with both community and academic goals (CPUT, 2024).

The UoT strives to strengthen its partnerships with various stakeholders, such as industry, private entities, and the local community. The CCEWIL Unit works towards cultivating an environment that supports the integration of subject-specific matter with the needs of the broader society. The primary objective is to create graduates who are not only knowledgeable in their given disciplines but are also committed to social responsibility and the development of the communities (CPUT, 2024). This UoT defines CE as activities and programmes involving collaborative interaction with individuals, groups, and organisations external to CPUT at the local, regional, national and international levels to achieve economic and social objectives. These initiatives include engaged teaching and learning initiatives, volunteerism, research and various forms of WIL, such as SL and cooperative education. To support the above definition, the centre integrates three units: cooperative education, which is responsible for nurturing industry partnerships and placements for student workplace learning; Service Learning, which drives the integration of CE with teaching, learning and research; as well as Civic Engagement, which coordinates volunteer and outreach programmes (CPUT, 2024).

#### 2.4.1 Service-Learning Model at the site of study

The current SL model at this UoT is a three-phase model (see visual in Chapter Seven: Figure 7.2) These three phases are:

- The Planning Phase (Phase 1) which entails tasks such as registering the SL project, establishing community partnerships, assessing potential risks for students, allocating funds, and organising project support.
- The Implementation Phase (Phase 2) which involves implementing within communities. These efforts encompass student engagement with and in communities, the dissemination of educational resources, the execution of the different phases of the project, and the supervision of students.
- Phase 3 entails an Evaluation and Review Phase, during which students and community partners participate in reflective practices, submit reports, provide project assessments, and apply modifications for future improvements (CPUT, 2024).

These phases serve as a concrete model to guide the implementation of effective SL projects. Adaptations may be implemented based on the specific context of projects or the needs of both students and communities involved.

The current SL model could benefit from additional activities and strategies to enhance its flexibility and robustness. The model itself does not explicitly prescribe how the SL projects should be implemented, nor which digital tools should be used, allowing SL lecturers a degree of flexibility to adapt their projects to their specific disciplines and context. This model does not explicitly outline the integration of digital tools that could facilitate both synchronous and asynchronous collaborations, which are essential for contemporary SL projects. In a similar line of thought, while transdisciplinary projects may not be explicitly excluded from the model, there are no clear strategies to support them.

Additionally, the strategies for implementation are not made overt in the current model, such as activities to keep students motivated to learn and remain engaged. The model does not clearly outline how students' transformative learning experiences are reviewed when participating in SL projects. Moreover, in the planning phase (Phase 1), the absence of student and community involvement in the design of SL projects limits the opportunity to co-design projects. This could impact the relevance of the projects, potentially misaligning them with the community's needs and possibly reducing the opportunities for meaningful, transformative learning experiences that connect academic knowledge to real-life experiences. Moreover, the implementation phase (Phase 2) mentions reflection; yet the model does not address reflexivity, which is just as crucial for personal development and academic learning. Reflection and reflexive practices should be practised by students throughout the project's lifespan to

ensure that they engage deeply with their transformative learning experiences and outcomes. The development of a flexible SL model for Gen Z students at this UoT aims to address these limitations by incorporating digital tools, transdisciplinary approaches, robust strategies for motivation, and reflective/reflexivity practices. These additions will support a more inclusive and adaptive learning experience. The discussion on the current model of SL at this UoT continues in Chapter Seven with the presentation of the flexible model of SL.

The site of study was deemed appropriate for this study, as it has successfully implemented various SL projects across different departments that showcase a strong commitment to service in the communities and the integration of experiential learning within the academic curriculum. The SL projects that are implemented aim to address societal challenges and provide students with structured opportunities to apply their academic knowledge in real-life settings, which assists them in growing professionally and personally. For example, students in the Department of Management and Project Management started a waste recycling project that entailed collecting waste and generating income from recycling, which has helped communities develop economically and sustain the environment (CPUT, 2024).

The Department of Public Governance and Administration was involved in a Tippy Tap Construction project where students built handwashing stations to improve hygiene in communities and created a project to educate school learners about their basic rights. The UoT also facilitates SL projects that address social issues in disadvantaged communities where crime and drug abuse affect youth. Sports Management students implemented their SL projects at a school in a gang-infested community in collaboration with the local Community Safety Officers (CPUT, 2024). Gang violence and gang activities are rampant in such communities (Christian, 2023). Projects like these help the youth by steering them towards sports activities rather than participating in gangs.

The above are examples of various projects successfully implemented by the UoT. The examples demonstrate the diversity of SL projects at this UoT and their role in responding to and addressing socio-economic challenges in surrounding communities. This further illustrates the institution's commitment and drive to encourage both sustainable development and community well-being. (It is important to note that these projects are presented for reference purposes only and do not form part of this study.)

The UoT follows a triad partnership approach (discussed earlier) that encompasses three primary stakeholders: faculty and staff, students, community partners, and service providers (discussed in Section 2.3). Within this model, non-governmental organisations (NGOs) and service providers are not peripheral participants but are integral to SL initiatives, contributing as placement hosts, co-designers of activities and intermediaries, linking the university to

community needs (CPUT, 2021). Their participation in SL projects extends to offering resources, expertise and continuity which strengthen the sustainability of projects and support the translation of academic learning into meaningful service outcomes.

The main aim of this tripartite partnership was to enable the advancement of community empowerment and development by SL, begin transformation in the higher education system in line with the needs of the community, and provide crucial services to disadvantaged communities. One of the visions for future initiatives at this UoT, including SL, is to engage in Quintuple Helix Partnerships (CPUT, 2021). This model extends the triad partnership to focus on how five significant sectors influence and interact: universities, businesses, the government, civil society, and the natural environment (Carayannis et al., 2012).

The focus of the Quintuple Helix Partnerships is on knowledge sharing to promote economic development, sustainability, and innovation (Kholiavko et al., 2021). This model, as noted in CPUT's Vision 2030, offers a comprehensive framework for understanding higher education's role in sustainable development through cross-sector collaboration (CPUT, 2021). It emphasises civil society's active participation in supporting innovation (Carayannis & Campbell, 2009; Carayannis et al., 2012). This approach acknowledges that addressing societal challenges requires diverse perspectives and expertise (Kholiavko et al., 2021). The model integrates five sectors, providing a holistic approach to SL projects, essential for tackling complex societal issues and achieving sustainability goals. Civil society encompasses non-profits, community groups, and the general public (Kholiavko et al., 2021), promoting a comprehensive understanding of sustainability and innovative solutions. Including the environment ensures sustainable practices that consider ecological impact and promote environmental protection (Kholiavko et al., 2021). By embedding SL projects within this Quintuple Helix model, CPUT positions its projects as more than student learning experiences; they become vehicles for cross-sector collaboration, which is grounded in sustainability and responsive to community priorities, as envisaged in Vision 2030.

This UoT has developed a SL model that provides a methodical and structured approach to enable SL initiatives. Despite the unforeseen disruptions caused by the COVID-19 pandemic, the model demonstrates a strong foundation to support students in engaging in meaningful and relevant SL experiences. These experiences, though modified due to pandemic-related constraints, were instrumental in providing data for this research study. There are several categories of community-based service activities, and the subsequent discussion presents the most suitable terminology for this study.

## 2.5 Typology (differences in terms)

Service-learning is understood in various ways, varying according to how service and learning are balanced. Proponents of SL, therefore, distinguish it from other community-based service opportunities. Service-learning does not require students to have practical skills for engagement in volunteerism or internships, or practicums that demand specific skills (Egger, 2008). Sigmon (1994) proposed a typology that illustrates four variations of service and learning (see Table 2.2). These types are defined by their initial goals rather than by their ultimate outcomes. The typology is not hierarchical, as each reflects a different agenda.

**Table 2.2: Variations of service and learning**

(Source: Sigmon, 1994:3)

SL Term	Description
Service LEARNING	LEARNING goals primary, service secondary
SERVICE Learning	SERVICE outcomes primary, learning goals secondary
service learning	service and learning goals separate
SERVICE-LEARNING	SERVICE and LEARNING goals have equal weight

Table 2.2 provides a framework for distinguishing SL from other forms of volunteer programmes and for comparing and contrasting various types of service-oriented experiential education programmes (Sigmon, 1994). First, *Service LEARNING* prioritises classroom learning, where learning takes precedence over service. The learning agenda takes precedence, with service setting regarded as secondary (Sigmon, 1994). Second, *SERVICE learning* prioritises service as the primary goal, while academic purposes are secondary. Third, the lack of capitalisation and hyphenation in *service and learning* is intended to show that its goals and learning are separate (Nduna, 2006). There is no expectation that the service experience will improve learning or that learning will improve the service. The optimum type of SL, according to Sigmon (1994), is *SERVICE-LEARNING*, in which service and learning are equally weighted in terms of learning and services, where each enriches the other: the classroom enhances the service, and the service improves the classroom. This type of SL fosters mutual accountability and engagement among all stakeholders, including lecturers, academics, students, and the community (Harwood, 2008). Nduna (2006) argued that *SERVICE-LEARNING* as a strategy is possibly the most appropriate in the South African context because it simultaneously enhances student learning and contributes to community development.

*Service-Learning* is therefore deemed the most appropriate approach for this study because it is equally beneficial to both students and communities. Students gain an opportunity to apply classroom knowledge in real-world settings while also learning from the lived experiences of the communities (Bringle & Hatcher, 1996; Eyler & Giles, 1999; Butin, 2010). This reciprocity ensures that the learning is transformative, encouraging a deeper understanding of social issues and promoting civic responsibility. It is also crucial to apply deliberate and intentional reflection practices to extract meaningful academic and personal learning from their experiences. Howard (2001) emphasises the importance of structured reflective practices for translating community service into meaningful learning outcomes. This is supported by Kolb's (1984) theory, which states that, while experience is essential, on its own it is not sufficient; both reflection and application are also vital to the learning process. Subsequently, SL not only aligns with the goals of this study but also encourages students to engage in meaningful, reflective and impactful transformative learning experiences that are beneficial to all stakeholders involved. The distinctions between SL and other service-related concepts, such as internships, community services, and volunteerism, are discussed in the next paragraphs.

Many internship programmes, particularly those that entail community services, are now referred to as SL programmes, according to Howard (2001), although these two pedagogical models are not the same. Internships and academic SL compel students to participate in their communities to succeed, enhance, or augment their academic learning. However, internships are not related to civic learning. Howard further stated that internships prepare students for a profession while being mute on civic growth; and that internships are more concerned with student advantages than community benefits, whereas SL is concerned with both. The latter would be consistent with the *Service-LEARNING* model. According to Howard (2001), SL is distinct from the required internship or practicum, which is sometimes required for graduation in fields such as engineering and education. Internships may also be paid or unpaid; however, SL forms part of the curriculum.

Cress et al. (2005:7) articulate volunteering in the following way: "students engage in activities where the emphasis is on service for the sake of the beneficiary or recipient". This aligns with the SERVICE learning model. Volunteering differs from SL because it lacks the critical thinking skills and reflective practices that are integral to SL. Unlike volunteering work, SL frames community service as academic labour where communal acts are viewed as 'texts' to be read, analysed, and compared to course content, enabling the formal evaluation of academic learning (Deca-Anyanwu, 2018).

Educators promote SL as an academically rich type of service-based experiential education (Furco, 1996b). According to certain scholars (Eyler & Giles, 1999; Kawai, 2021), SL is more educational than community services because it allows students to engage in formal reflection

on the academic topic and social issues they are addressing. Eyler (2002) emphasises that reflection is the hyphen in SL, highlighting its role in connecting service and learning. In addition, Hatcher et al. (2004) argue that effective reflection activities enable learners to analyse and connect their service experiences with academic disciplines critically, encouraging learning across academic, social, moral, personal and civic dimensions. As an example, students involved in a SL project that helps clean a neighbourhood without tying the activity to an academic aim do not promote formal learning. Reflection is a critical component that transforms community services into meaningful academic and personal growth (Eyler, 2002; Ash & Clayton, 2004; Kawai, 2021). Consequently, an ideal SL pedagogy would correspond with the SERVICE-LEARNING model in line with Sigmon's (1994) service and learning typology.

Service-learning stands out as a form of experiential learning that aligns with the academic goals of a course and emphasises reciprocity between community partners and students. Its defining features, namely, deliberate reflection, academic integration and mutual benefit, differentiate it from other service-related programmes (Deca-Anyanwu, 2018). Pacho (2017) acknowledges the difficulty of distinguishing SL from other community engagement activities because they all involve service, collateral learning (learning that is incidental, or unintended learning that occurs alongside intentional goals, which often shapes attitudes, values and skills beyond the primary focus of instruction defined by Dewey (1938), and reflection. However, SL stands out due to its deliberate and structured approach to integrating these elements. This structured approach supports academic learning objectives while promoting civic responsibility, critical thinking and meaningful community impact (Bringle & Hatcher, 1995).

This alignment with the study objectives makes SL the ideal typology for exploring the intersection of experiential education and community engagement. The next paragraphs discuss a plethora of definitions of SL.

## **2.6 Definitions of service-learning**

Service-learning has an array of definitions which will be unpacked in the next paragraph to highlight the definition that is best suited for this study. Understanding different perspectives of SL aids in developing a conceptual grasp of meaning and application in the classroom. Bringle and Hatcher (1999:180) use this definition, which is widely accepted in the literature on SL:

Service-learning is a course-based credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility.

This definition highlights the academic nature of SL, the importance of incorporating community members' voices in designing SL courses, the critical role of reflection in connecting student learning outcomes to community services, and the importance of expanding educational goals (Bringle & Hatcher, 2009). Jacoby's (1996:5) definition of SL is:

a type of experiential education in which students participate in activities that address human and community needs, as well as structured opportunities for reflection, all to achieve desired learning outcomes.

Jacoby's definition highlights that reflection and reciprocity are seen as foundational principles in distinguishing SL from other forms of community engagement. Reflection is seen as a vital component and a deliberate educational strategy through which students learn and grow, and not as a byproduct of experience. This concurs with the ideas of Dewey (1933), who asserts that reflecting on one's experiences is more educational than the experiences themselves. In other words, the experience alone does not automatically lead to learning; instead, it is reflection that transforms those experiences into educational opportunities. These key principles reinforce SL as an immersive and transformative learning pedagogy.

For this study, Petersen and Osman's (2013:7) South African perspective on SL aligns with the study context with its emphasis on care and reciprocity. Their definition frames SL:

Service-Learning is a way of thinking about education and learning with an accompanying teaching tool or a pedagogy that asks students to learn and develop through active participation in service activities to meet defined issues in community organisations. There is reciprocity in the exchange between students and the community. The service students undertake is decided on in collaboration with the community. The service is integrated with students' academic curriculum and provides structured opportunities during the service activity. Service-learning aims at enhancing and extending what is taught in higher education so that students develop a sense of caring for others and a sense of critical citizenship.

This broad notion stresses students' learning and development and emphasises the service being integrated into the students' academic curriculum. It is also about applying classroom information to a community-based project in a way that is mutually beneficial to the community, while enhancing students' academic and other learning experiences. In this study, reciprocal service refers to a mutual exchange of knowledge and learning between students and community partners, where both contribute to and benefit from the SL experience (Bringle & Hatcher, 1996). Service-Learning as pedagogy typically consists of essential components as cited by the above definition: community service, in which students apply academic knowledge to specific community needs; reciprocity in the exchange of knowledge between students and communities; reflection, which acts as a bridge between service and study; and enhancing students' care and sense of critical citizenship.

Peterson and Osman's (2013) definition was chosen for this study not only because it aligns with the South African context of this study, where community engagement is essential, but also due to its inclusion of the concept of care. The notion of care moves beyond the abstract idea of civic responsibility to demonstrate the significance of developing genuine, human-centred connections. It is more likely that, when students care and create genuine bonds with the communities, they will ensure that the SL projects implemented are more meaningful and impactful because they move beyond their academic goals alone.

Peterson and Osman's (2013) definition also emphasises collaboration between students and community members, showcasing that a collaborative effort is required for the successful implementation of SL projects. The service is decided with the community, which supports a participatory effort. Another crucial point is that opportunities are mentioned during the project implementation and not afterwards. This highlights the importance of reflection in that students are learning throughout their participation in SL projects. The goal of this study is to integrate these essential principles (care, collaboration and continuous reflection) into the flexible SL model. In the context of this study, care is understood as responsiveness to the needs of both students and community members. For the Gen Z student, care is reflected in learning approaches that are flexible and attentive to diverse ways of learning. For the community partner, care would be recognising community priorities, thereby building trust and reciprocity. These principles will later inform the development of a flexible SL model aimed at strengthening both student learning and community impact.

Other important aspects provided by the definitions in this section are the integration of academic curriculum with service, enabling students to recognise and apply classroom knowledge with community service, and having a more practical understanding of the academic content (Jameson et al., 2013). Additionally, SL brings benefits to the communities as students help in addressing significant challenges such as food security, healthcare improvements and poverty reduction (Hatcher et al., 2004; Kruss et al., 2013). The SL projects mentioned above are specific to the United States and other developed countries. Service-learning initiatives in a developing country, such as South Africa, often address diverse needs. Certain examples include tutoring at local primary schools to improve students' English language proficiency, providing academic support to prisoners preparing for their Grade 12 final examinations (Dippenaar et al., 2015), assisting small businesses in promoting their enterprises (Scholtz, 2018) and implementing projects aimed at addressing socio-economic issues in disadvantaged communities (CPUT, 2024).

## **2.7 Philosophical underpinnings of SL**

The theoretical foundations of SL can be traced to Dewey (1916;1933;1938) and Freire (1972), who emphasised the importance of experience, reflection, and social action in education. Dewey, an advocate of philosophical pragmatism, proposed that educational institutions should actively engage with society and serve as catalysts for societal transformation (Deans, 1999). In contrast, Freire's educational objectives focused on the "political transformation of individuals and society through literacy education, critical reflection, and collective social action" (Deans, 1999:19). Despite these differences, the philosophical frameworks of these thinkers share common elements, including the importance ascribed to firsthand encounters, personal development, intellectual exploration, interpersonal exchange, self-awareness, collective engagement, and transformative processes (Hatcher & Bringle, 1997; Deans, 1999). Nonetheless, Dewey's ideas on experiential learning, particularly transformation, more closely align with this study and are explored further to frame SL as pedagogy.

### **2.7.1 Higher education service-learning based on Dewey's experiential learning**

Dewey's principles on experiential learning provide a foundational understanding of SL as a pedagogical tool in higher educational institutions. Chapter 3.2 further explores the concepts of reciprocity, reflection, and transformation, using the theoretical framework of Transformative Learning (TL) theory. Dewey's educational principles were principally employed to get a deeper comprehension of SL as a pedagogical tool. Dewey's philosophies guide the development of a flexible SL model tailored to a specific group of Gen Z students to ensure alignment with SL pedagogy. Widely recognised as a foundational figure in SL (Eyler & Giles, 1994; Beaudin & Quick, 1995; Hatcher & Erasmus, 2008), Dewey (1938) argued that the main goal of education is to promote the smooth integration and efficient functioning of students as mature individuals in a democratic society where fair treatment is given to everyone, regardless of their race, socioeconomic status, gender or social class. He stated that "democratic social structures promote a higher quality of human experience that is more accessible and esteemed than non-democratic and anti-democratic ways of social activity" (1938:34).

Central to Dewey's philosophical framework of experience and education are the concepts of continuity and interaction, which are crucial for SL. According to Dewey (1916:177), "the continuity principle states that past experiences exert a substantial influence on future experiences, suggesting that each experience has the potential to shape all subsequent experiences". It can be assumed in SL that the gradual and accumulative nature of learning, where students' prior experiences encompass both academic and non-academic contexts, contributes to deeper engagement and reflection. These experiences are likely to influence

their grasp of new concepts and abilities, as well as their capacity to participate meaningfully in SL projects.

The principle of interaction, grounded in continuity, links students with the subject matter and prior experiences. This principle highlights that learning is not just about receiving and passively internalising subject content but about being actively involved in the learning process by doing, experiencing and making meaningful connections between the knowledge, the practice and the actual environment where learning takes place (Dewey, 1938).

In SL, students get to engage directly with the communities by applying their academic content knowledge to real-world issues, which could be through environmental projects or tutoring. This reinforces the idea that learning is experiential rather than just theoretical. Students then engage in reflective practices that help them make sense of their learning.

By incorporating these principles of continuity in learning progression (where learning builds on prior experiences) and interaction (active engagement between students, academic content and service environments) into SL projects, they enhance the potential for a transformative learning experience and the impact and effectiveness of the service provided to communities. This assists students in becoming more engaged in their SL experience as they get to participate in real-world challenges; and it strengthens the reciprocity and community collaboration, establishing the SL experience as mutually beneficial, where students learn from the lived experiences of communities, as well as engage in knowledge exchange.

Dewey's educational philosophy, which emphasises the significance of citizenship and democracy, has significantly influenced SL instruction, as demonstrated by the works of Saltmarsh (1996) and Hatcher and Erasmus (2008). Dewey (1916) advocated for the advancement of democratic societies, arguing for a shared accountability among students, community partners and stakeholders to address societal issues effectively. His vision aligns with the goal of SL's focus on social justice, empathy and compassion, encouraging students to contribute positively to their communities. Dewey's influence on the concept of SL can be observed in five key areas: experience, democratic community, social service, reflective inquiry, and educational transformation (Saltmarsh, 1996). Table 2.3 below depicts Dewey's Educational Aspects in SL.

**Table 2.3: Dewey’s educational aspects in SL**

(Source: Dewey, 1916, 1933, 1938)

Service-Learning Imperatives	Learning
Bringing knowledge and experience together	<ul style="list-style-type: none"> <li>● Experiential education</li> <li>● Learning from experience</li> <li>● Activism and reflection</li> <li>● Comprehension and content knowledge</li> <li>● Theory and practice are being linked. Learners as active participants, explorers, creators, and makers</li> </ul>
Democratised society	<ul style="list-style-type: none"> <li>● The process of connecting the words "I" and "we" in a social context</li> <li>● Interaction, shared life, and mutually shared experience are all important factors</li> </ul>
Service to the community	<ul style="list-style-type: none"> <li>● Learning necessitates participation in a democratic society</li> <li>● Learning is beneficial to one's social well-being</li> <li>● Possibilities for advancement in personal and professional growth</li> <li>● Schools and universities are the primary platforms where SL is integrated into the curriculum, linking academic knowledge and service</li> </ul>
Inquiry that is reflective	<ul style="list-style-type: none"> <li>● Thought and action are linked and broken down, as are theory and practice, authority and knowledge, and concept and responsibility</li> <li>● Making sense of experience</li> <li>● Actions become experienced, which leads to learning</li> </ul>
Social transformation through education	<ul style="list-style-type: none"> <li>● Education as a fundamental vehicle for social change</li> <li>● Universities are responsible for bringing about social transformation</li> <li>● Universities and communities collaborating and Individual lives are being improved</li> </ul>

Table 2.3 highlights Dewey’s emphasis on democratic engagement as the cornerstone of education (Dewey, 1916). His approach promotes critical thinking, communication and active participation in community issues as reflected in SL projects. These projects support students’ understanding of social issues and diverse perspectives, which encourage a commitment to nurturing democratic societies. Dewey’s educational approach emphasised reflective inquiry, enabling students to examine new experiences critically and integrate new knowledge, thereby promoting critical thinking and broader understanding. In summary, Dewey’s educational philosophies provide a structured lens for understanding SL as a pedagogy. His principles of experiential learning, democracy, and reflection help inform the development of a flexible SL

model by promoting the integration of collaborative learning, critical thinking, and reflective practices and supporting democratic ideals. This alignment is appropriate for Gen Z students, whose learning preferences tend to prioritise meaningful engagement, teamwork and practical learning (Thejovathi & Krishnan, 2020). The following section discusses traditional SL models.

## **2.8 Traditional service-learning models**

This current study highlights the SL models that have been in use to provide an understanding of the inherent elements included in them: face-to-face interactions, lecturer-centred instead of student-centred (Mitchell, 2008) and generally set within the classroom environment. These were the historical norms of SL pedagogy (Bringle & Hatcher, 1996; Eyler & Giles, 1999). A model in the context of the study refers to a structured framework that represents a concept used to guide and organise the learning experience (Kolb, 1984). It is important to note that this section does not seek to critique traditional SL models that faced challenges during the COVID-19 pandemic; instead, it highlights the common elements inherent in conventional SL models which became restrictive during the pandemic. These intrinsic elements, while effective during stable periods, highlighted significant challenges during periods of disruption and demonstrated the need for greater flexibility. Understanding these SL models informs the necessity for adaptive models moving forward. Next are examples of traditional models that showcase these intrinsic elements.

A literature search indicated that several SL models are currently being utilised. Bohat and Goodrich (2007) describe six types of SL models: placement, project, product, presentation, presentation plus, and event. These models rely on community contact, which is integral to the effective execution of SL projects. Similarly, Heffernan (2001) identifies another six types of SL models: a “pure model”, discipline-based, problem-based, capstone courses, service internships, and the undergraduate community-based action research model. Each of these models demonstrates distinct approaches to SL but remains dependent on structured phases to achieve its learning objectives. One example, Pure Service-Learning, typically requires direct engagement with the community members to meet service goals, making it reliant on face-to-face interactions. Discipline-Based Service-Learning requires explicit alignment between course content and community experiences, requiring sustained in-person involvement throughout the semester. While all models mentioned above are effective in meeting their objectives, these structured approaches highlight the limitations of the nature of traditional SL models.

The 8-Block Model (Laine, 2010) further exemplifies this structured approach, encompassing eight key areas for the effective implementation of projects, namely, project design, community partner relations, building classroom community, student capacity building, problem

statements, project management, assessment of learning, and reflection. Similarly, the PARE model (preparation, action, reflection, evaluation) (University of Maryland, 1998) emphasises these four sequential phases that guide SL initiatives. These models were inherently designed for hands-on experiential learning and engagement with communities relying on face-to-face interaction and close supervision by SL lecturers. While this reliance on in-person contact posed no challenges during stable times, it encouraged meaningful relationships through direct engagement with communities. The disruption caused by the COVID-19 pandemic demonstrates the need for alternative approaches so that SL projects can continue and still be effective in non-traditional tuition settings. This need for adaptability highlights the significance of integrating flexibility into SL models, especially during a period when learning environments are evolving to accommodate new challenges and generational shifts.

Additionally, traditional SL models appear to be created for a broad generic student population rather than tailored for a specific cohort, such as Gen Z students. Generation Z have distinct learning preferences; they are described as “digital natives” who have grown up with technology as an integral part of their lives and they expect it to be seamlessly integrated into their learning experiences (Seemiller & Grace, 2016; Twenge, 2017). This reliance on technology further highlights the limitations of conventional SL models, which were not designed with digital tools in mind, as SL pedagogy is rooted in experiential, hands-on engagement. However, in the evolving world, with the rapid changes in students and advancements in education, technology has become an integral part of life, necessitating its integration into SL models to remain relevant, as well as align more appropriately with a specific student demographic to be most effective.

All traditional models require collaboration between community members, as well as close supervision by SL lecturers to enable the successful implementation of SL initiatives. Key stages, such as students working with group members and developing ties with community members, became difficult during the COVID-19 pandemic due to national lockdown rules and the need for social distancing. Most SL lecturers who were tasked with guiding and supporting students in their projects were instructed to work from home, resulting in SL projects not adhering to all the stages outlined in these models. Students and SL lecturers were required to think critically about how to implement initiatives that did not require close contact with community or group members. Consequently, because of these requirements, SL projects were either cancelled or postponed at this institution and elsewhere (Pfeiffer et al., 2021; Compare & Albanesi, 2022).

These disruptions introduced barriers such as health and safety concerns, social distancing and reduced access to communities (Kehl et al., 2022) and highlighted the need for SL models to accommodate and meet the diverse needs of students such as Gen Z. Consequently, this

is an additional reason to adapt to a more flexible SL model that can respond more effectively in times of crisis.

By highlighting these challenges, this section has demonstrated how the foundational elements of SL pedagogy require adaptation to the evolving educational landscape and the changing student learning and generational profile. The subsequent section explores SL as a pedagogy during the pandemic, showcasing alternative ways SL lecturers adopted to continue with SL projects, despite the challenges they faced.

## **2.9 Service-learning during the COVID-19 pandemic**

The COVID-19 pandemic was an unanticipated and pervasive phenomenon that significantly affected life and educational practices. As a result, certain SL initiatives at universities globally were compelled to terminate or temporarily halt their operations (Indiana University, 2020; Tian & Noel, 2020; Pfeiffer et al., 2021; Kehl et al., 2022; Compare & Albanesi, 2022). Other institutions (Hong Kong Polytechnic, 2020; Hassett, 2021; Shaw & Halley, 2021; Burton & Winter, 2021) had to reconsider and reorganise the implementation of SL in remote settings. Service-learning, a form of experiential learning (Furco, 1996a; Jacoby, 2015a), provides students with the opportunity to integrate their academic knowledge into practical, real-life scenarios. This necessitates that students engage in direct interactions with members of the community, a task rendered unfeasible during COVID-19 because of the imposition of restrictions on social interactions to mitigate the spread of the virus (Jordaan & Mennega, 2023). The limitations on SL models became more apparent during the pandemic, highlighting the need to reassess the implementation of current models to sustain SL initiatives.

To address these challenges, SL lecturers sought to include virtual SL projects as a means of sustaining them for learning opportunities and community engagement, rather than fully discontinuing them (Pfeiffer et al., 2021; Schmidt, 2021; Compare & Albanesi, 2022). Findings by Sylvan and Becker (2022) showed that the implementation of virtual SL projects was effective, indicating that it provided a positive learning experience for both students and members of the community. Similarly, Kehl et al. (2022) found that students experienced SL engagements through virtual learning to be both informative and meaningful.

A systematic scoping review by Khiatani et al. (2023) further highlighted the adaptability of SL programmes that were implemented during the COVID-19 pandemic. Their synthesis of 25 articles and 13 peer-reviewed articles revealed the transition of SL projects to virtual platforms, providing a means for students to maintain community interactions remotely. In addition, their findings indicated that the integration of Information and Communication Technologies (ICT)

became essential for facilitating communication and collaboration among SL participants, and that the emphasis on learning opportunities was not lost, as the primary focus was to make sure that learning requirements could still be met while addressing community needs during the pandemic. Kodancha et al. (2020) observed that students recognised the importance of using social media to promote their SL initiatives and engage with their peers and community members. Online tools such as Skype (Johanson & Lund, 2023) and Zoom (Smeltzer et al., 2020) supported ongoing communication and reflective practices, bridging the gap when traditional face-to-face methods were not possible.

These adaptations demonstrate the resilience of SL models and their ability to undergo temporary shifts while still preserving their core objectives. The integration of hybrid SL approaches that integrate conventional face-to-face teaching with remote learning methods has proven effective amidst disruptions (Gamage et al., 2022). Additionally, these strategies align with the digital fluency of Gen Z students, whose learning approaches are deeply intertwined with digital tools (Turner, 2015; Schwieger & Ladwig, 2018). The reliance on digital tools during the pandemic addressed immediate challenges and garnered insights into the necessary strategies required for adaptive forms of the SL model. This also demonstrated a shift in approach to SL (Kekana et al., 2023).

Section 2.9 is key to the study as it highlights the temporary shifts that were made during the pandemic so that SL projects could continue remotely. However, these were temporary shifts adopted for continuation and not a concrete, visual SL model that can be adapted for use across disciplines during a crisis. This is where this study fills the gap: it takes into account the temporary shifts made to inform the development of a flexible, visually structured SL model that can be adapted across disciplines and practical to implement in times of crisis. The next section explores the benefits of SL, emphasising its impact on overall student learning.

## **2.10 Benefits of service-learning for student learning**

Service-learning offers students several benefits. Eyler and Giles (1999) conducted qualitative research that demonstrated how service to the community provided opportunities for undergraduates to interact with individuals they might not have otherwise encountered. This engagement encouraged students to have more empathy towards social issues. The authors go on to say that students who participated in SL improved academically, developed an interest in relevant fields and gained technical knowledge.

Similarly, Eyler et al. (2001) noted that individuals who participate in experiential learning have an improved understanding of theoretical concepts and are more likely to finish their studies. Vogelgesang and Astin (2000) and Peters et al. (2006) concur, positing that creating a platform

for students to think critically about their SL experiences and relate them to what they learn in the classroom has been recognised as a way to promote academic growth. Eyler and Giles (1999) likewise suggest that SL activities not only improve students' advanced thinking skills but also promote their communication abilities, encourage understanding of other viewpoints, and support efficient decision-making. These skills are necessary for academic success and career readiness. Additionally, integrating an online component into SL provides students with the benefit of flexibility in when and where they engage in SL activities (Means et al., 2010).

Service-learning also supports students' personal growth. Meyers (2009) suggests that educators might emphasise SL engagement to promote social and personal development. Afzal and Hussain (2020) conducted research which found that students demonstrated a heightened sense of social responsibility, as well as an increased awareness of both their immediate social surroundings and the wider society. This is further supported by Holsapple (2012), whose review of 55 studies found that SL improves student attitudes and understanding from diverse backgrounds, which broadens their perspective on life. In addition, SL initiatives encourage the development of critical thinking abilities (Kolb, 1984; Bringle & Hatcher, 1996), which can be challenging to cultivate in traditional classroom settings that rely heavily on textbook learning. In contrast, engaging in collaborative SL projects allows individuals to take an active role in seeking solutions to problems and determining the most effective strategies for project implementation.

The integration of conventional and digital methods in SL education has demonstrated numerous advantages for students in terms of adaptability and ease of access. Conventional face-to-face instructional methods for example, require students to be physically present, while hybrid models allow for flexibility by overcoming limitations such as physical proximity, scheduling constraints, and geographical factors (Swan et al., 2006; Culcasi, Russo & Cinque, 2022). This allows students to participate in a wider range of service activities, including ones that may not be easily available in their local areas. Therefore, the inclusion of an online component in SL broadens the scope of possibilities accessible to students, enriching the variety of their encounters (Bringle & Hatcher, 1996). A virtual SL project may be carried out in any location, ensuring that all project participants can access it. Communication among all participants can take place through social media platforms, online forums, and webinars. Students connect with online platforms and digital materials, while reflection sessions are performed virtually or through online discussion boards.

The integration of technology has brought a significant change to educational methods. By incorporating an online component to utilise its benefits and adapt to the evolving field of education, this study aims to show that university students possess unique wants and demands (current students, Gen Z), thus requiring adjustments to teaching methodologies

(particularly, in this case, SL) to accommodate present-day students. Customised techniques that address the specific qualities and needs of a particular group of students can greatly improve the effectiveness of their learning. In addition, by combining academic and personal development opportunities with innovative approaches, SL lecturers can maximise the impact and relevance of SL projects for both current and future generations. It is also vital to keep students grounded and focused, which can be achieved through mindfulness, as discussed below.

### **2.10.1 Mindfulness in service-learning**

Service-learning yields numerous student benefits as discussed above. However, students today also report high levels of stress and experience burnout (Kaggwa et al.,2021; Abraham et al.,2024). These pressures may compromise their capacity for deep reflection and sustained engagement, which are key elements of reciprocal SL experiences (Damon-Moore, 2024). In response to the above, Damon-Moore (2024:154) proposes mindful SL, encouraging students and educators to be more “active, intentional and reflective about their work in the community”.

The concept of mindfulness was introduced into modern clinical and educational environments by Jon Kabat-Zinn in 1979 when he first developed the Mindfulness-Based Stress Reduction (MBSR) programme at the University of Massachusetts Medical School (Kabat-Zinn, 2017). He defines mindfulness as “the awareness that arises from paying attention on purpose, in the present moment, and non-judgmentally” (YouTube, 2017). His work was crucial in laying the foundation for secular mindfulness-based interventions used widely today in health, psychology and education.

Baer et al. (2006: 27) provide a more in-depth definition of mindfulness: it is defined as “as a mental state that allows individuals to concentrate on the present moment, the surrounding environment and the activities they are engaged in without being distracted by past or future events”. Central to both definitions is the practice of being fully present. When integrated intentionally, mindfulness can enhance focus, reduce distractions, promote emotional regulation and encourage creativity and clarity (Alomari, 2023).

To incorporate these benefits, the proposed flexible SL model incorporates Mindfulness in SL before project implementation. This concept serves key purposes: it

- encourages the intentional separation of digital distractions,
- encourages SL participants to concentrate on the present moment, and
- provides a space for students and SL lecturers to connect with themselves before connecting with communities.

This grounding is essential for reciprocity, which lies at the core of SL (see Chapter 2.6). To learn authentically from and contribute to the communities, students should be attuned to their internal well-being and be open to facing unprecedented experiences. An example of an unprecedented experience is when a student enters an unfamiliar community environment for the first time and perhaps experiences uncertainty or anxiety. This unfamiliarity may leave participants feeling unsure of what to expect as they are outside of their comfort zones (Mey et al., 2018). Their uncertainty could undermine their depth of service engagement in the communities. Mindfulness practices such as meditation may help regulate these emotions and cultivate an attitude of openness, compassion and empathy. The importance of mental well-being and emotional centeredness is highlighted by the definition of the World Health Organisation (WHO, 2022:1), which defines mental health as follows:

Mental health is a state of well-being that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community. It is an integral component of health and wealth, being that which underpins our individual and collective abilities to make decisions, build relationships and shape the world we live in.

The competencies mentioned are demanded of students in SL contexts, particularly when reciprocity, adaptability, and relationship building are core aims. The same rationale applies to SL lecturers who are encumbered with extensive tasks such as logistical planning, community coordination and project assessments. These responsibilities may cause sleep disorders, conflict with spouses and may lead to a lack of motivation (Noor, 2011). As Aloka et al. (2024) rightly point out, traditionally, an academic career was perceived as a low-stress, secure, and prestigious path, offering stable employment and the chance to engage in fulfilling, independent work. However, universities are now increasingly experiencing a shifting environment, evolving work dynamics, and a resultant rise in occupational stress levels. Supporting SL lecturers in developing mindfulness practices can help sustain their own well-being while promoting more present and responsive engagement with students and communities alike. The next section explores International SL.

## **2.11 International service-learning**

International Service-learning (ISL) is an experiential learning pedagogy that facilitates student development and learning through a combination of SL, international education, and studying abroad (Crabtree, 2008; Bringle & Hatcher, 2011). It involves students participating in service activities within a global context, often in collaboration with local communities (Nickols et al., 2013), which enables them to integrate with diverse cultures (Tonkin et al., 2004). Examples of these SL projects would include English language teaching, promoting public health, and the promotion of sustainable energy sources such as solar energy systems (Chan et al., 2021).

These activities are facilitated to address community needs, encourage meaningful cultural exchanges, and promote reflective learning. International Service Learning is purposefully designed to support student development and learning (Jacoby, 1996). Bringle and Hatcher (2011) observe that it encourages student motivation and retention of academic material taught. Furthermore, students reported elevated levels of empathy and an expanded commitment to social justice issues and advocacy (Mapp, 2012). Similarly, ISL initiatives have been shown to increase student awareness of systemic inequalities, thereby moving them from a charity orientation to a social justice orientation (Crabtree, 2008). Structured reflective practices reinforce these outcomes as they allow them to reflect critically on their experience and make the connection with social justice principles (Bringle & Hatcher, 2011).

Chan et al. (2022) point out that ISL encourages intercultural effectiveness as students get to work and reside in diverse cultural environments, which helps them improve their ability to engage with communities from different cultural backgrounds. While traditional international student exchange programmes focus primarily on academic learning and cultural integration, ISL includes a structured service component aimed at addressing community-identified needs (Bringle & Hatcher, 2011). The authors further suggest that, through ISL, students acquire the opportunity to develop their sense of social responsibility and become more aware of global issues such as social justice and poverty. This enables a global understanding of international issues and encourages students to learn how to work towards addressing them (Crabtree, 2008). The service component changes the ISL experience from passive learning to active engagement in the learning process; and this, in turn, encourages both personal growth and community development.

International service learning is advantageous for students, as it is seen as a powerful pedagogy for developing students into responsible students and enhancing their global competence (Litle, 2009), not solely within their local environments. This approach enables students to expand their cultural and academic knowledge while providing services to communities. An example is students involved in an ISL project travelling to a rural community in a different country to collaborate with local engineers and community leaders on clean water projects. This SL initiative not only improves cross-cultural understanding, communication and collaboration but also facilitates a mutual exchange of learning. Students impart their knowledge about clean water sustainability, learnt in the classroom, while learning from community members about local practices and challenges. The communities can also feel a sense of pride and validation from ISL. Additionally, they gain a broader understanding of their experiences through participation in ISL interviews (Crabtree, 2008). These participatory approaches in ISL imply a mutual exchange of knowledge. It shows an emphasis on reciprocity (Jacoby, 2015b) as well as equal benefits for both students and communities (Furco, 1996b).

The preceding sections on SL and ISL were crucial to highlight the benefits and opportunities that are offered by both these approaches. These insights help inform the considerations necessary for the development of a flexible model. By integrating the strengths of both these approaches, the respective model aims to enhance their respective benefits, ensuring that the transformative learning potential of both SL and ISL is fully realised. This alignment is particularly important for addressing the distinctive needs of this specific cohort of Gen Z students at this UoT, enabling a more effective and impactful transformative learning experience. Next, the limitations of experiential learning are discussed.

## **2.12 Limitations of service-learning as experiential learning**

Service-learning as experiential learning has been recognised and applauded for its hands-on, immersive approach to education. However, it is not without limitations, as will be discussed in this section. The intention here is to understand these limitations and then use it to inform the development of a flexible SL model. These limitations can serve as a valuable lens through which improvements can be identified and incorporated.

A constraint identified by Cooper (2005) and Kiely (2005) is the failure of experiential learning theory to recognise the inherent power dynamics between students and lecturers within its educational framework. According to Mtawa (2017), criticism may occur when SL is included in the curriculum and implemented using teacher-centred approaches in the design and implementation of SL projects. This teacher-centred dynamic can indirectly limit student participation, engagement and ownership of their learning. A collaborative approach is necessary to address these dynamics, which will encourage student participation and motivation for project-based activities. The main aim of SL programmes should be to help students express their views, gain meaningful experiences from their projects and promote an environment of collaboration and shared responsibility.

Another recurring critique of experiential learning is its overdependence on reflective practices (Fenwick, 2003; Kiely, 2005). It is argued that the practice of reflection assumes an objective standpoint that might not align with all student experiences (Cooper, 2005). This perspective separates cognition and action, potentially limiting the holistic integration of learning. Therefore, reflection alone should not be the sole mechanism for deriving meaning from experience. Kiely (2005) argues that further research is necessary to examine the role and influence of contextual factors and non-reflective approaches and how these might contribute to meaningful outcomes. By incorporating diverse perspectives through organised discussions with fellow peers, SL lecturers, community members and students get the opportunity to gain a more comprehensive understanding of their experiences, extending beyond reflection.

Another critique of experiential learning is the lack of sufficient clarity in defining the specific characteristics of the 'experience' in question (Kayes, 2002; Morris, 2020). This, in turn, suggests that learners may not get a complete understanding of their experiences through reflection alone (Boud & Walker, 1998; Seaman, 2008). This ambiguity can lead to inconsistent interpretations of what is understood as a meaningful experience. However, it is important to note that every student's experience is unique and shaped by individual, social and contextual factors. Although reflection alone may not provide a comprehensive understanding of an experience, SL lecturers can assist students in relying not just on introspection but also in integrating multiple views and resources, enabling a more enriched and multidimensional understanding of their experience (Cone & Harris, 1996).

Thus, these constraints are relevant as they present growth opportunities. To address them, it is necessary to be intentional in the design and implementation of SL models. While this study does not aim to resolve all the limitations identified, these insights provide a valuable foundation for considering how a flexible model can adapt to address certain limitations discussed above.

The next section delves into the Generational Theory to garner a deeper understanding of Gen Z students and how their learning approaches and characteristics inform the development of a flexible model.

## **2.13 Generational theory**

*"History defines generations, generations define history" – Neil Howe*

Generational Theory is used as a lens to understand that there is a new generation at the university, and this specific cohort of students has a unique way of interpreting the world and possesses distinct characteristics. In addition, the way they learn, and process information differs from that of preceding generations. Understanding the generational traits of the Gen Z student informs the development of the flexible SL model. This ensures that it integrates teaching strategies, technologies and effective engagement methods that align with Gen Z's digital fluency, multiple ways of engaging and real-world applications of their learning (Ramadhanya, 2024). By understanding the historical context, social moments and archetypal traits, educators can better adapt teaching and learning strategies that align more appropriately with the learning preferences and characteristics of Gen Z students.

The origins of generational theory can be traced back to Karl Mannheim's (1952) essay published in 1923. The author noted that a generation is a social place with the same power to alter and affect an individual's consciousness as a social class or culture. He went on to say that important historical events have a particularly strong impact on the generations.

Mannheim's (1952) generational theory focuses on the influence and impact of social events and history which, in turn, shape generations that are influenced by their social environments. However, Generational Theory was popularised by William Strauss and Neil Howe (1991, 1997, 2007). Howe and Strauss (2007:42) explain:

As each generation progresses through the stages of life, from adolescence to young adulthood, midlife to elderhood, its attitudes and behaviours develop, resulting in a variety of public mood currents. A generation is bound together by memories, habits, beliefs, and life lessons.

Strauss and Howe (1991) analysed the American lifecycle, from birth to old age, as it was lived by each generation. The length of a generation is determined by the duration of its life phase. These phases transition at key stages: adulthood occurs around the age of 20, the transition to midlife around the age of 40, and the transition to old age around the age of 60 (Strauss & Howe, 1997). Strauss and Howe (1991) identified a recurring pattern of four distinct life phases, each lasting approximately twenty-two years. These stages are associated with significant social roles and rites of passage: transitions from youth to adulthood and from dependency to independence. Additionally, most societies recognise a midlife transition when an adult is deemed experienced and compelled to retire from difficult social and economic activities (Trevino, 2018). For Gen Z, these transitions are being reshaped by advanced digital technology and the invasion and influence of online platforms. They thrive on creating an online presence or navigating virtual communities; and this distinction, due to their digital upbringing, is emerging as a modern rite of passage for this generation (Selig, 2024).

The details of these phases of life, as identified by Strauss and Howe (1991, 1997), encompass the entire length of human existence. The four phases of life, as postulated by Strauss and Howe (1991), encompass Youth, Rising, Adulthood, Midlife, and Elderhood. The phase from birth to age 21 is characterised by dependency, protection, and nurturing. During this stage, individuals acquire values, learn and grow. Rising Adulthood (22–44 years) focuses on working, raising families, sustaining livelihoods, and contributing to institutions. Midlife begins at 44 and lasts until 65 and is marked by leadership and guiding institutions which focus on education and mentoring. Elderhood, from 66 until 87 years of age, centres on overseeing, stewardship, mentoring and passing on values (Strauss & Howe, 1991). It can be stated that each phase is characterised by distinct traits and requirements, which evolve as an individual progresses to the next stage of life.

Strauss and Howe (1991) also identified social moments as a part of the generation time, defined as a significant ten-year period during which individuals see substantial historical events that dramatically alter their social surroundings. The authors add that social moments do not occur randomly but alternate between secular crises that focus on restructuring

institutions and public behaviour and spiritual awakenings that concentrate on transforming inner values and private behaviours. These moments do not occur randomly but follow a predictable cyclical pattern spanning 80 to 90 years, or roughly the length of a human life span. This period is referred to as a 'saeculum' (Strauss & Howe, 1991). This cyclical nature highlights the interplay between historical and generational traits, wherein the formative events during youth shape the identity of a generation; and, in turn, that generation shapes history as they age (Paniale, 2013). Simply put, in young adulthood, the major events impact how a generation thinks and acts; and, when that generation gets older, they start to shape and influence the major events.

For Gen Z, significant social moments include the 2008 global financial crisis (Seemiller & Grace, 2018), which led them to become a financially savvy generation (Twenge, 2017). In South Africa, specific social moments further shaped this generation. The #FeesMustFall movement, beginning in 2015/2016, highlighted issues of inequality in the education system, promoting a strong sense of activism and social justice among the South African Gen Z students (Langa, 2017). Additionally, the high unemployment rates in South Africa (Stats SA, 2024) have also shaped South African Gen Z's attitudes towards a more entrepreneurial approach to opportunities. More recently, the COVID-19 pandemic has influenced Gen Z students in higher education globally (Aristovnik et al., 2020).

Strauss and Howe's (1991, 1997) theory further emphasises four recurring generational archetypes: Prophets, Nomads, Heroes, and Artists. Each archetype corresponds to specific traits and societal roles that emerge in response to an era's significant events. Prophet generations, born after a crisis, are value-driven visionaries who later emerge as moral leaders. Nomads, born during periods of awakening, grow into pragmatic and resilient leaders during crises. Heroes, born after awakening periods, are confident and achievement-oriented, thriving in collective action and societal rebuilding. Artists, born during crises, are overprotected as children but develop into process-oriented and adaptable leaders.

These archetypes provide a framework for understanding and interpreting generational behaviours, attitudes, and contributions over time (Strauss & Howe, 1997). Table 2.4 summarises the generational archetypes and their characteristics:

**Table 2.4: Generational archetypes**

(Source: Strauss and Howe, 1997)

<b>Archetype</b>	<b>Generation Example</b>	<b>Characteristics</b>	<b><i>Aligned Historical Cycle</i></b>
<b><i>Prophet</i></b>	Baby Boomers	Born after crises, moral and value-driven, visionary leaders in later life.	<i>Awakening</i>
<b><i>Nomad</i></b>	Generation X	Born during awakening, pragmatic, resilient, protective parents.	<i>Unravelling</i>
<b><i>Hero</i></b>	Millennials (Generation Y)	Born after awakening, collective achievements, focus on affluence, community.	<i>Crisis</i>
<b><i>Artist</i></b>	Generation Z	Born during crises, flexible and consensus-driven, contribute to processes.	<i>High</i>

As illustrated in Table 2.4, these archetypes, with one exception, have consistently recurred in the same order throughout American history (Shepherd, 2017). This framework provides a lens to understand generational characteristics, predict future behaviours and how society evolves. Baby Boomers, belonging to the Prophet archetype, raised Generation Y (Millennials) offspring, who exemplify the Hero archetype. Therefore, it is possible to say that each generation resembles its grandparents more than its parents, reflecting a cyclical rather than a linear progression (Howe & Strauss, 2007). This pattern demonstrates a recurring generational influence. Similarly, in a South African context, the challenge movements such as #FeesMustFall, along with systemic inequality, have shaped the South African Gen Z's development, solidifying their role as the Artist Archetype within a distinct socio and political economic context, as mentioned earlier.

The study focuses on Gen Z, the generation born after the Millennials and raised primarily by Gen X parents (Trevino, 2018). They are referred to as the Artist generation during a Fourth Turning Crisis. This generation was raised during the 2008 financial collapse, the rise of global populism and nationalism and the most recent COVID-19 pandemic (Guzman, 2020). Generation Z tends to view the outer world as confusing and terrifying. Shaped by their pragmatic Nomad parents (Gen X), Gen Zs were instilled with a high sense of resilience as they grew up in a world of chaos (Guzman, 2020). For South African Gen Z students, the effects of economic instability, systemic inequality, and movements like #FeesMustFall mentioned above reinforce their alignment with the Artist archetype as they seek to rebuild societal systems (Langa, 2017). These are key traits of Gen Z students that significantly

influence their needs and their approach to learning. These are explored in greater depth later in this chapter.

In summary, generational theory (Strauss & Howe, 1997) argues that changes in society follow a cyclical pattern every 80 to 100 years, defined by four generational archetypes that tend to repeat in a fixed order: Hero, Artist, Prophet, and Nomad. Each archetype is shaped by historical context and, in turn, influences societal development. This theoretical lens offers valuable insights into societal shifts and generational differences that influence attitudes and behaviours in different generations. Its application can be particularly relevant to higher education as it enables institutions to develop models like the flexible SL model to align appropriately with the unique requirements of specific generations, such as Gen Z. Although the Generational Theory originated in the American context, the following section will explore its relevance in the South African context, demonstrating its applicability.

### **2.13.1 Relevance of generations in a South African context**

An often-raised question regarding generational theory is its general applicability beyond its origins in North America (Codrington, 2005). While certain researchers argue that its findings may not be universally applicable, the widespread international adoption of Generational Theory highlights its broader relevance (Bussin & Van Rooy, 2014). This section shows its applicability in a South African context, providing a foundation for its use in this study.

To address critiques of its applicability outside the United States, researchers have advocated for culture-specific categories that reflect unique historical and cultural contexts (Chawla et al., 2017). Codrington (2005) suggests accomplishing this by identifying distinctive, regionally significant occurrences in a nation and analysing their impact on successive generational cohorts. In this study context, South Africa, a developing nation, provides a chance to apply the generational theory beyond its US origins. By categorising South African generational cohorts based on significant local historical events, the theory was employed to illustrate its relevance in this specific context. This approach aligns with the methodology employed by Strauss and Howe in the original development of Generational Theory (Davids, 2018).

Table 2.5 compares significant historical events and key generational occurrences in the US and SA, showcasing that the generational theory is applicable in other countries. Although historical events are different across nations, their collective impact on individuals within each society reflects similar generational patterns. Major societal shifts, whether driven by political upheaval, economic crises, or cultural revolutions, create shared spaces that unite individuals into generational cohorts. Table 2.5 below demonstrates this. It is important to note that the dates and historical events differ between the US and SA, but the turning points show a broad alignment when considered in their respective contexts.

**Table 2.5: Categorisation of American and South African generations**

(Sources: Howe & Strauss, 2007; Seemiller & Grace, 2017; Langa, 2017; Davids, 2018; SAHO, 2018; Gibson, 2021)

North America			South Africa		
<p><b>Baby boomer</b></p> <ul style="list-style-type: none"> <li>• Civil Rights, the Vietnam War, and Space Travel.</li> <li>• Post World War II economic boom.</li> <li>• Divorce rates are high.</li> <li>• Children became radicals in the 1970s and yuppies in the 1980s.</li> <li>• The father is the most knowledgeable about the family hierarchy.</li> </ul>	<p><b>1943–1960</b></p>	<p><b>First Turning</b></p>	<p><b>The Segregation Era</b></p> <ul style="list-style-type: none"> <li>• Outbreak of World War Two.</li> <li>• The National Party (NP) wins the elections in 1948, and segregation is established. Apartheid laws enacted and enforced.</li> <li>• The National Party (NP) wins the elections in 1948, and segregation is established. Apartheid laws enacted and enforced.</li> <li>• The right to vote taken away from people.</li> </ul>	<p><b>1939–1959</b></p>	<p><b>First Turning</b></p>
<p><b>Generation X</b></p> <ul style="list-style-type: none"> <li>• The end of the Cold War, the country’s energy crisis, single parenting, and rising divorce rates contribute to mothers working.</li> <li>• Children’s welfare is not a priority in an era of failing schools and marriages.</li> </ul>	<p><b>1961–1981</b></p>	<p><b>Second Turning</b></p>	<p><b>The Apartheid Era</b></p> <ul style="list-style-type: none"> <li>• 67 demonstrators slain in Sharpeville. The African political party outlawed.</li> <li>• South Africa declares independence from the United Kingdom and withdraws from the Commonwealth.</li> <li>• Nelson Mandela and other ANC and PAC leaders are condemned to life in jail.</li> <li>• The 1976 Soweto Uprising; key moment in youth activism.</li> </ul>	<p><b>1960–1979</b></p>	<p><b>Second Turning</b></p>
<p><b>Generation Y (Millennials)</b></p> <ul style="list-style-type: none"> <li>• Terrorist assaults, school shootings, AIDS, and the 9/11 terrorist attacks, Digital media.</li> <li>• As a result of their parents’ efforts to protect them, these children grew up more sheltered than any other generation.</li> <li>• Then came the period of economic expansion, and Millennials as a generation saw an end to high-risk behaviour.</li> </ul>	<p><b>1982–roughly 2005</b></p>	<p><b>Third Turning</b></p>	<p><b>Apartheid in Crisis</b></p> <ul style="list-style-type: none"> <li>• Some segregation laws repealed.</li> <li>• Black traders welcomed into cities.</li> <li>• Anti-apartheid demonstrations take place around the world, and the world condemns apartheid.</li> <li>• 1990: Nelson Mandela released, negotiations to end apartheid.</li> <li>• 1994: First democratic elections, ANC wins</li> <li>• South Africa re-enters the world stage.</li> </ul>	<p><b>1980–1993</b></p>	<p><b>Third Turning</b></p>

<p><b>Generation Z</b></p> <ul style="list-style-type: none"> <li>• Facebook/Twitter invention.</li> <li>• Cyberbullying.</li> <li>• Internet connected world.</li> <li>• Cyberbullying and mental health awareness increase.</li> <li>• Increasing social justice movements (climate change activism, gender equality).</li> <li>• High school shootings and security.</li> <li>• COVID-19 pandemic.</li> </ul>	<p><b>1995–2010</b></p>	<p><b>Fourth Turning</b></p>	<p><b>The New South Africa</b></p> <ul style="list-style-type: none"> <li>• The African National Congress (ANC) wins its first democratic election and Nelson Mandela is inaugurated as the first Black president of South Africa.</li> <li>• Internet expansion in South Africa, increased global connectivity.</li> <li>• Rise of youth-led activism, such as #FeesMustFall.</li> <li>• Growing concerns over inequality and unemployment.</li> <li>• Economic struggles post-1994: slow transformation and high youth unemployment.</li> <li>• Born Frees: those that were born post-apartheid.</li> <li>• COVID-19 pandemic.</li> </ul>	<p><b>1994</b></p>	<p><b>Fourth Turning</b></p>
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As shown in Table 2.5, each country experiences its own set of economic, political, and sociocultural events. While global moments such as advanced technology and significant global crises can affect multiple countries, socioeconomic, geographical, cultural, religious, and political variables influence how these events are experienced from one country to another (Schewe & Meredith, 2004). This principle is exemplified in South Africa, a country that endured an apartheid regime before 1994, where generations were shaped by sociopolitical struggles vastly different from those in Western societies (Kane-Berman, 2015). However, the influence of defining historical events on generational cohort growth (Schewe & Meredith, 2004) remains consistent. Codrington (2005) argues that Generational Theory can be confidently applied to a variety of countries and circumstances, provided that local significant events are identified and their impact on generational cohorts is examined.

Additionally, although historical events may differ across countries, their impact on generational identities often produces comparable traits within the same generational archetype. Generation Z globally shares significant experiences, such as advances in technology, climate change awareness, social media, and the COVID-19 pandemic (Parker, 2021; Pew Research Centre, 2021; McKinsey & Company, 2024). These shared global phenomena have profoundly shaped Gen Z's collective consciousness, reinforcing the applicability of Generational Theory beyond national boundaries. Subsequently, this understanding provides a valuable framework for exploring Gen Z students' collective identities worldwide.

It is also important to recognise that defining events may have varying degrees of impact, depending on regional and socioeconomic contexts, as seen in Table 2.5. While Gen Z in the United States experienced a highly digitalised society with advanced technology, the South African Gen Z, the Born Free generation, grew up in a developing nation, so their opportunities might not have matched those of Gen Z in economically advanced nations (Mattes, 2012; Mullen, 2019). These differences highlight the need for context-specific studies, such as this research study, to create a comprehensive profile of a specific group of Gen Z students based in South Africa. This study further aims to explore the extent to which these Gen Z students possess a global perspective, while also identifying commonalities and differences in their characteristics and learning approaches. The next section discusses criticisms of Generational Theory.

### **2.13.2 Criticisms of generational theory**

As with all theories, generational theory is not without criticism. One of the main criticisms is its inclination to overgeneralise, which could lead to inaccurate and broad stereotypes. Lyons and Kuron (2014) argue that the theory categorises individuals based strictly on their birth

cohort, which overlooks the diversity within a generational group. This leads to the assumption that all individuals from a particular generation share the same behaviours, characteristics, and preferences. Labelling all Gen Z students as 'tech-savvy' and Baby Boomers as uniformly 'resistant to change' overlooks the fact that certain Baby Boomers have changed with the times and are 'tech savvy'; and there may be Gen Z members that are indifferent to technology. Giancola (2006) argues that stereotyping can be dangerous, as flawed assumptions may unjustly influence hiring decisions, social policies, and workplace dynamics. In the education space, this is problematic, as the assumptions of what a generation should be and what they need, without in-depth exploration, can negatively affect teaching and learning.

The Generational Theory has also been criticised for a lack of empirical evidence to support its claims. Costanza et al. (2012) point out that, while certain studies suggest that generational differences in work attitudes and values exist, these results are generally heavily context-dependent and inconsistent. The authors argue that many studies on generational theory lack methodological rigour as they struggle with limitations such as small sample sizes and dependence on self-reported evidence which could introduce bias into the results. In the same vein, Parry and Urwin (2011) argue that individual differences and other significant variables such as economic conditions, career conditions and organisational culture may all play a significant role, rather than the generational cohort alone.

Another important critique is that generational theory often fails to consider the influence and impact of both temporal and cultural contexts on an individual's behaviour and attitude. Twenge and Campbell (2008) note that this theory considers homogeneity within generational cohorts, overlooking the different economic, cultural and social environments that can influence and shape an individual's experience. In this current study, the experiences of Gen Z students in the United States may differ from those of Gen Z students in South Africa as a developing country because of differences in economic conditions, educational opportunities, and cultural values and beliefs. Individuals who live in the same country may come from diverse backgrounds, such as urban and rural environments, or completely different socioeconomic statuses, and could have different experiences, making it inappropriate to make assumptions based on generational labels alone (Deal et al., 2010).

While the criticisms mentioned demonstrate the complexity and limitations of applying the generational theory without considering other factors, they do provide a starting point for understanding the broad characteristics, values, and behaviours of different cohorts. Generational Theory therefore remains appropriate for this study, as it offers a theoretical framework that can assist educators, marketers, and policymakers in addressing differences and similarities across age groups. Additionally, by categorising individuals into generational cohorts, the theory highlights the cultural and historical events that have shaped each

generation. As seen in Table 2.5, Baby Boomers grew up during a time of significant social change, with the civil rights movement and the post-World War 11 economic boom, both of which affected and influenced the values of hard work and loyalty that they developed. In contrast, the Gen Z cohort was born into the digital age which shaped their preferences for quick responses, flexibility, multitasking, and tech-savviness (Seemiller & Grace, 2017).

This foundational understanding is particularly relevant in educational contexts. It could help educators leverage generational insights to develop course materials tailored to generational preferences, such as offering flexible teaching and learning methods to meet the needs of Gen Z students. This study seeks to construct a comprehensive profile of a cohort of Gen Z students within the South African environment at a UoT, a profile that ultimately contributes to the creation of a flexible model of SL aligned with the needs and preferences of these students. However, before that, a deeper understanding of Generation X (Gen X) and Millennials is warranted, as Gen X are the parents of Gen Z and the Millennials are the generation immediately preceding them. These generations are discussed below.

### **2.13.3 Generation X (1960–1979)**

Most existing literature on Gen Z and parental influences, particularly by Seemiller and Grace (2016) and Twenge (2017), is based on North American studies. While these insights may provide valuable insights into global Gen Z trends, their direct applicability to a South African context is limited. Considering this, this section draws primarily on international literature.

The formative years of Gen Z were significantly shaped by Gen X as parents. For this reason, understanding Gen X parenting styles provides a more holistic and comprehensive picture of Gen Z students. The term 'key around the neck generation' describes the Gen X cohort. They are characterised by changes in family structure, such as single-parent households or dual-income families where mothers work outside the home. These changes have led to increased independence among children (Duse & Duse, 2017). Generation X parents passed on similar ideals and obligations to their Gen Z offspring through delegating household responsibilities and inculcating positive habits (JWT Intelligence, 2012). According to Seemiller and Grace (2016), Gen X parents adopted a more engaged parenting style compared to previous generations. They deeply value and actively support their Gen Z children in achieving academic success.

This upbringing contributed to developing traits such as responsibility, thoughtfulness, and open-mindedness (Seemiller & Grace, 2016). For instance, a significant number of Gen Z individuals have been raised in an environment in which they actively participate in household tasks, which has cultivated positive behaviours and intrinsic motivation (Trevino, 2018). In addition, Gen Z has embraced an entrepreneurial mindset and cautious financial habits, likely

shaped by Gen X parents' influence and exposure to economic downturns during their formative years (Seemiller & Grace, 2016). Today, the Gen Z cohort exhibits heightened awareness of societal issues and tries to create meaningful change (Seemiller & Grace, 2016).

Seemiller and Grace (2016) emphasise that Gen X parents have instilled the importance and worth of close family connections to their Gen Z children and have adopted a parenting style that promotes a friendship dynamic with their children. Their research shows that 88% of Gen Z individuals perceive their parents as companions rather than authoritative figures (Seemiller & Grace, 2016). Twenge (2017) notes that increased parental supervision, potentially due to the influence of technology, has also shaped Gen Z. Through social media platforms, instant messaging and email, Gen X parents maintain continuous, direct access to children, enabling quick responses to their needs. This active involvement has influenced Gen Z's worldview and interactions.

Understanding Gen X parents is crucial to the study as it assists in comprehending the characteristics and behaviours of Gen Z. Generation X's early adoption of technology contributed to Gen Z's comfort and proficiency in digital tools. In addition, Gen X's high educational expectations have led Gen Z to prioritise their academic achievement and lifelong learning (Twenge, 2014; 2017). Moreover, Gen X experienced significant economic shifts, such as the rise of dual-income households and recessions, which have shaped Gen Z's financial caution and preference for stability (Twenge, 2014).

The next section explores the Millennial generation, which precedes Gen Z, as the transition between generations becomes clearer when explored in this context.

#### **2.13.4 Millennials (1980–1993)**

An analysis of the Millennial generation is crucial to understanding the subsequent shift towards Gen Z. Generation Y (Millennials) falls between the chronological ranges of Gen X and Gen Z, with birth years spanning the 1980s to the 1990s (Seemiller & Grace, 2016). This generation, sometimes referred to as the 'Me generation', has faced criticism for exhibiting a sense of entitlement and prioritising personal interests (Kingston, 2014). The Millennials grew up during the rise of digital technology, marked by the prevalent use of iPods and the social media network, Myspace. The parents of Millennials are largely Baby Boomers, with certain younger Millennials raised by the Gen X generation (Howe & Strauss, 2007; Dimock, 2019).

Studies (Deloitte, 2022; Pew Research Center, 2021) have highlighted key differences between Millennials and Gen Z. Millennials demonstrate greater focus, while Gen Z is more prone to distractions due to their constant engagement with technology. The Deloitte poll conducted in 2022 highlights that the Millennial generation tends to take greater risks as a

result of being born during a time of economic abundance, whereas Gen Z exhibits a more cautious attitude due to their exposure to economic crises and global challenges like climate change. These factors contributed to Gen Z's preference for financial stability and job security.

While the Millennials observed the trends and rise of the Internet and technological advancements, Gen Z was born into a world where these tools were already well-established. This distinction impacts their learning approaches and interactions with technology. Millennials possess a high level of proficiency with technology, although they still value in-person contact and engage in activities that foster collaboration and stimulate analytical thinking (Dimock, 2019). Conversely, Gen Z was born into a society that already embraced digital technology. They prefer concise, engaging content and independent, on-demand learning (Schroth, 2019). Their connection to smartphones and social media (Twenge, 2017) supports their preference for visual and kinaesthetic learning styles (Mohr & Mohr, 2017).

The key difference between these two generations lies in Millennials' experience of both the pre-digital and digital eras. This dual exposure enables them to value and appreciate traditional classroom settings and conventional teaching methods. In contrast, the teaching and learning experiences of Gen Z have been profoundly influenced by their reliance on digital gadgets and the Internet. These distinctions demonstrate the changing learning patterns between Millennials and Gen Z, necessitating adaptable, technology-driven learning environments. The preceding sections, Generational Theory, the four archetypes, and the influence of Gen X parents and Millennials as the generations preceding Gen Z, have established a foundation for understanding Gen Z's learning approaches and characteristics; and these are further explored in the next section.

### **2.13.5 Generation Z (1995–2010)**

*"We live in the moment but with an eye towards the future". Gen Z*

In a South African context, studies that specifically address Gen Z's learning preferences and characteristics remain scarce, particularly around digital game-based learning (Stack & Bunt, 2023). One of the few contributions is Cilliers (2017), who studied students at North-West University to explore their learning preferences. She found that Gen Z, locally known as the Born Free generation, are digitally literate, a visual learners who expect immediate feedback and engage through social media-enabled teaching methods. These findings mirror global findings (Seemiller & Grace, 2016; Twenge, 2017) but are also shaped locally by post-apartheid policies and uneven digital access. This section discusses the global Gen Z student, drawing on the wide body of research from the United States, while Section 2.13.6 turns to the

Born Free generation (Gen Z in a South African context), to provide contextual background to the study.

The current student population in SA higher education consists of Gen Z individuals born between 1995 and 2010 (Rothman, 2016; Seemiller & Grace, 2016; Loveland, 2017). However, the exact birth dates of Gen Z vary across studies (Singh, 2014; Turner, 2015; Duse & Duse, 2017; Mosca et al., 2019; Iftode, 2020). Dolot (2018) points out the challenges posed by the concept of age ranges, particularly in defining Gen Z. For the current study, the generational cohort is defined as those born between 1995 and 2010 (Seemiller & Grace, 2016). The 1995–2010 date range follows Seemiller and Grace's (2016) large-scale study, which also provided the adapted survey instrument used in this study. This date range further aligns closely with South Africa's Born Free generation, supporting both international comparability and local relevance.

The introduction of a new student cohort at universities requires educators to adapt curricula, procedures, and instructional strategies to harmonise with the learning styles, attributes, and motivations of this generation (Seemiller & Clayton, 2019). One notable feature of Gen Z is their immersion in a society dominated by technology (Tagare & Villaluz, 2021). Additionally, this cohort has also been the first to grow up in an interconnected global environment in which the Internet has been readily and consistently accessible (Rothman, 2016). Consequently, this has shaped their learning and information-processing abilities.

Technological advancements and the digitisation of education have impacted the educational landscape. Students also shape the learning environment through distinct qualities and approach they bring to learning (Iftode, 2020). Hence, it is essential to understand the learning approaches, characteristics, and motivations of Gen Z to provide enhanced assistance in their educational pursuits. Educational programmes, pedagogies, processes, and courses were essentially created for generations before them (Seemiller et al., 2019). As a result, having a good grasp of the characteristics of this generation can help educators and SL lecturers create learning platforms and environments that maximise the potential of these students.

Generation Z is referred to by several names, such as iGen, @generation, Pluralist Generation (Hampton & Keys, 2017), post-millennials, Facebook generation, Digital Natives, Switchers, Dotcom children, net generation (Csobanka, 2016), and Homeland Generation (Howe & Strauss, 2007). This study will consistently use Gen Z to refer to this student cohort.

The next sections explore Gen Z in specific areas, such as technology, characteristics and motivation; learning styles; multi-modal learning; learning environments and technological advances to educate Gen Z.

### **2.13.5.1 Technology**

Generation Z has never known a time without Internet access (Twenge, 2017). They have grown up using cell phones, Wi-Fi and social media platforms. According to Twenge (2017), two-thirds of American teenagers own an iPhone and check it an average of 80 times per day. Seemiller and Grace (2017) observed that smartphones and Internet access, whether at school or home, provide them with more information than any prior generation at their age. Similarly, Petrock (2021) emphasised that Gen Z is the first generation to have constant, 24/7 access to the Internet. The COVID-19 pandemic intensified their digital media, games, and audio use, which helped them stay occupied, learn more about the world, and build deep links with online communities and influencers (Petrock, 2021). Sixty-six per cent of Gen Z children aged 6 to 11 identify Internet gaming as their primary source of entertainment (Trevino, 2018). Online games and YouTube videos have largely replaced playing outside, potentially contributing to high obesity rates (Giunta, 2017; Trevino, 2018). While Gen Z benefits from the Internet's convenience, they are also aware of its risks, including cyberbullying, identity theft, and phishing (Seemiller & Grace, 2017). They also value their privacy and want to communicate online anonymously (Trevino, 2018). Technology and the Internet play pivotal roles in Gen Z students' lives, and the latter allows them to become globally aware and connected.

### **2.13.5.2 Characteristics and motivation**

Seemiller and Grace (2016) found that over 70% of Gen Z students identified with characteristics such as "loyalty, thoughtfulness, determination, compassion, open-mindedness, and responsibility" (Seemiller & Clayton, 2019:269). Iftode (2020) further described this cohort as flexible, innovative, independent and environmentally conscious. Growing up in a technologically-driven society, they demonstrate unique learning styles and responses to stimuli, surpassing the diversity observed in previous generations (Mosca et al., 2019). The Pew Research Centre (2021) highlights their ethnic and racial diversity and extensive social networks which contribute to their open-mindedness.

Additionally, Seemiller and Grace (2016) note that Gen Z is motivated by a desire to make a positive impact, fulfil obligations and avoid disappointing others. They value autonomy in pursuing hobbies and advocating for causes they support. Generation Z is also driven by active engagement in the learning process and the application of skills in real-world contexts (Afshar et al., 2019). Moreover, they are motivated by social issues such as gender, racial equality, and poverty (Vision Critical, 2016). This generation exhibits a combination of intrinsic and extrinsic motivation. Intrinsic motivation refers to engaging in an activity for personal satisfaction, such as learning for enjoyment, while extrinsic motivation is driven by external rewards like grades or financial incentives (Dornyei & Ushioda, 2021).

Generation Z's reliance on technology has shaped their behaviours and challenges. Turner (2015) and Banwari (2021) observed a tendency towards instant satisfaction. This has led to diminished attention spans, reduced situational awareness and deficient in-person communication skills (Sparks & Honey, 2014; Salleh et.al, 2017). This current generation's attention span has decreased from 12 seconds to a mere eight seconds (Sparks & Honey Ad Agency, 2014). Barnes and Noble College (2018) states that to accommodate the short attention span of Gen Z students, it is necessary to create immersive learning activities to maintain engagement.

Pervasive connectivity has also contributed to the fear of missing out (FOMO) among Gen Z individuals (Stillman & Stillman, 2017), driving the need for continuous communication with peers. Regarding financial matters, Gen Z displays entrepreneurship (Duse & Duse, 2017) and cautious spending habits, influenced by their exposure to economic instability during their formative years (Seemiller & Grace, 2016). They are socially aware and are deeply committed to the betterment of society, thus advocating for meaningful change (Seemiller & Grace 2016). A study by Sparks and Honey Ad Agency (2014) revealed that Gen Z uses YouTube extensively for research and assignments, with 33% of them watching lessons online (Seemiller & Grace, 2016). It can be concluded that their time online reflects both social and academic pursuits, utilising digital tools for learning and engagement.

### **2.13.5.3 Learning styles**

Generation Z's learning style has been identified as intrapersonal, with a preference for video-based and applied learning, where tasks are demonstrated either face-to-face or online before they attempt them (Seemiller & Grace, 2016). They favour learning tied to real-world issues, either issues they currently face, or that they could encounter in the future (Seemiller & Grace, 2016). Additionally, they are kinaesthetic, experiential, and hands-on learners who prefer active involvement in acquiring knowledge (Rothman 2016). In the same vein, Seemiller and Grace (2017) report that Gen Z students seek hands-on learning opportunities to apply immediately what they have learned in real-life contexts.

Mosca et al. (2019) have observed Gen Z students' strong preference for online learning and watching video resources over traditional textbooks. Similarly, Rothman (2016) points out that Gen Z students prefer watching videos (YouTube) that summarise an article so that they can quickly grasp concepts rather than read lengthy texts. This aligns with their needs for efficiency and immediacy.

While Seemiller and Grace (2017) found that Gen Z students favour intrapersonal learning, Cai et al. (2022) offer a contrasting view, highlighting their preference for independence and collaboration. They preferred to engage with the material independently, relying on problem-

solving skills and critical thinking abilities. Then they thrive in collaborative settings where they can exchange perspectives with their peers (Cai et al., 2022), a behaviour supported by the convenience of technology and the internet. Barnes and Noble College (2018) also found that 80% of Gen Z students preferred to study with friends, suggesting a strong inclination for interpersonal learning.

Despite these differences, the common thread in research is that Gen Z prefers to learn by doing, integrating logical approaches to structure and understanding information when applying it in experiential contexts (Rothman, 2016; Seemiller & Grace, 2016; Barnes & Noble College, 2018). Collectively, these studies indicate there is no single dominant way for current Gen Z students to learn, reflecting their adaptability and diverse perspectives. For these reasons, a multi-modal learning approach may best align with this generation, as discussed next.

#### **2.13.5.4 Multi-modal learning**

The educational paradigm has transitioned from a focus on distinct learning styles to a more inclusive and integrative approach, known as multimodal learning. Learning styles theory, which argues that individuals learn best through specific modalities such as auditory, kinaesthetic or visual, has faced significant criticism due to insufficient empirical support (Coffield et al., 2004; Pashler et al., 2009). Pashler et al. (2009) conducted a comprehensive review and concluded that aligning teaching methods with preferred learning styles does not necessarily improve learning outcomes.

This is where multimodal learning enters the debate. It emphasises engaging multiple senses and cognitive processes, integrating visual, reading/writing activities, auditory, and kinaesthetic activities to create a richer and more engaging learning environment that can support diverse learning contexts and needs (Felder & Silverman, 1988; Mathias & Von Kriegstein, 2023). The authors argue that this approach is inclusive, catering to diverse learners in the classroom and enhancing interaction and learning outcomes. This argument has been researched since 1988 and remains relevant in the 21<sup>st</sup> century, indicating its strong foundation and continued importance (Felder & Silverman, 1988; Mathias & Von Kriegstein, 2023). Multimodal learning promotes cognitive adaptability and multiple literacies, which are crucial for navigating challenging and complex learning contexts (Moreno & Mayer, 2007).

While this approach may not meet every student's specific needs, it supports creating an optimal learning environment for the majority. As highlighted earlier, Gen Z students do not rely on a single dominant way of learning, making multimodal learning especially relevant. Therefore, by employing diverse teaching strategies, educators can better engage Gen Z students, who are accustomed to combining multiple formats for learning and interaction. In

addition, Gen Z's constant online presence for educational and social purposes demonstrates the need for universities to integrate technology into their teaching methodologies (Stillman & Stillman, 2017; Barnes & Noble College, 2018). Technology is not seen as separate from learning but as an integral part of the process (Selingo, 2018). This aligns with the multi-modal approach to learning, which focuses on engaging multiple senses and cognitive processes. These insights inform the development of the flexible SL model, establishing it as a model that accommodates diverse learning styles and preferences while also incorporating digital tools effectively to respond to the needs of Gen Z students.

#### **2.13.5.5 Learning environments**

Fraser et al. (2012) note that learning environments encompass both psychological and physical contexts which significantly influence students' achievement and attitudes. The authors go on to say that these environments should support students' personal development and encourage active learning. More recent studies (Closs et al., 2022; Nikolopoulou, 2023) further highlight the importance of designing learning spaces that encourage student interaction, support and motivate active learning and promote inclusivity.

The widespread availability of online platforms has created a novel learning environment where students can access a vast amount of information beyond what educators can cover in a single lesson (Seemiller & Grace, 2016). Technology like electronic readers enables students to store extensive materials on a single device, providing unparalleled accessibility (Boris, 2012). Similarly, AI tools like Siri and Google Assistant have revolutionised access to information by offering both textual and verbal responses, indicating the seamless integration of technology into learning (Nayak, 2019; Sullivan, 2020). Platforms like YouTube also allow students to access instructional videos and interact directly with content creators, further enhancing their learning opportunities (Soukup, 2014).

Seemiller and Grace (2016) note that Gen Z students often prefer studying alone and at their own pace. This could be indicative of a desire to study in a quiet environment. Sparks and Honey Ad Agency (2014) link this preference to the influence of technology, as online platforms reduce the need for peer interaction while enabling independent learning. This shift reflects the changing nature of the learning environment. It highlights the need for educators to adapt their teaching strategies to align with the learning approaches, characteristics and expectations of Gen Z students. In recent years, advanced technology has been incorporated into learning spaces to enhance learning for Gen Z students, as discussed next.

#### **2.13.5.6 Technological innovations to educate Gen Z students**

Educational institutions globally have been influenced by the demands and transformations of the 21<sup>st</sup> century. Therefore, modern education should equip students to become active citizens,

prepared to thrive in a technology-driven economy through advanced knowledge and diverse skill application (Seemiller & Grace, 2016). Generation Z is accustomed to toggling between the real and virtual worlds, shaped by their consumption of smartphones and social media which have influenced how they communicate, consume information, and learn (Selingo, 2018). This calls for new teaching and learning methods tailored to their characteristics and preferences. Educational institutions should incorporate the latest technology to maximise learning and adapt teaching materials (Twenge, 2017) to meet Gen Z's needs. Consequently, integrating Augmented and Virtual Reality (AR/VR) offers interactive learning spaces that blend real- and virtual-world experiences, as demonstrated below.

#### ***2.13.5.7 Augmented and Virtual Reality***

Augmented Reality enhances real-life scenarios by overlaying interactive digital elements, achievable through devices like headsets, tablets, or smartphones (Day, 2017). In contrast, Virtual Reality immerses users in an entirely new digital environment, allowing interactions within a virtual environment through goggles or headsets (Radianti et al., 2020). While AR and VR are distinct technologies, they complement each other in education. Virtual Reality creates immersive experiences in digital realms, while AR overlays digital objects onto real-world environments, enriching the learning experience process with extra information and functionality (Al-Ansie et al., 2023). Both these technologies enable the user to have an immersive and engaging experience that is completely situated in the virtual world. Additionally, it assists learners in understanding and engaging with complex materials that go beyond educators and textbooks (Sun et al., 2023) and allows educators to customise content for individual learning styles (Childs et al., 2021).

These technologies are becoming common in educational institutions as students can interact with their environment in more immersive ways, increasing their engagement and providing a greater depth of understanding of the concepts being taught (Makransky and Petersen, 2021; Pellas et al., 2021). This provides new dimensions for teaching and learning and enhances higher education. Augmented Reality and VR have been shown to increase student motivation and improve academic task performance (Alizadehsalehi et al., 2021). They allow for a personalised learning experience for Gen Z students by providing an integrated experience that could include a blend of learning styles, such as visual, auditory and kinesthetic. Through these virtual simulations, students can experiment with various strategies, make real-time decisions, and observe the consequences of their choices, thereby facilitating their ability to analyse, evaluate, and adapt to encountered challenges. Additionally, these technologies could enable students to collaborate effectively, enhancing their capacity for critical thinking and problem-solving in response to the issues they encounter (Alkhabra et al., 2023; Castelo, 2025)

Although the cost of AR and VR technologies poses challenges, especially in disadvantaged communities such as in South Africa, the cost of these technologies has steadily decreased over the years, making them more accessible (Al-Ansie et al., 2023). In addition, these technologies are the present and future, requiring educational institutions to invest in them to provide the best learning experiences for current and future students. Augmented Reality and VR have proven to be particularly valuable during times of crisis, such as the COVID-19 pandemic, as these technologies enabled remote teaching and learning (Ali, 2020). Students could remain connected to their learning environments and communities without being physically present. Through the adoption of innovations such as AR and VR, educational institutions could better meet the needs of Gen Z students, supporting and preparing them for the demands of an increasingly digital world.

Another viable approach for educating Gen Z students is the Universal Design for Learning (UDL) approach, which is discussed next.

#### ***2.13.5.8 The Universal Design for Learning***

The Universal Design for Learning (UDL) approach is not new. However, it may be particularly suitable for Gen Z students. It focuses on creating inclusive learning environments and curricula that consider the diverse ways in which students learn and engage with material (CAST, 2018). It is also designed to provide equal opportunities for all students to succeed by offering flexible ways to access knowledge and demonstrate understanding (Cumming & Rose, 2022).

The UDL approach benefits Gen Z students by aligning with their diverse learning preferences and needs for a personalised learning experience. It emphasises multiple modes of engagement, representation, and expression with study materials, content, and instruction moving away from a one-size-fits-all strategy (CAST, 2018). Additionally, it gives students control over their learning process by selecting resources and learning methods that align with their learning preferences. The principles of multiple modes of engagement, representation and expression (Cast, 2018) are particularly relevant to this study as they empower students by allowing them to choose how they learn and demonstrate their learning. This gives them a stronger voice in their educational process and helps them shape their learning experience.

The adoption of UDL principles makes it effective for diverse learning environments, whether hybrid, face-to-face, or online. This is particularly valuable during disruptions such as the COVID-19 pandemic, when face-to-face learning was abruptly suspended and an online format became the sole means of continuing teaching and learning.

As learning environments continue to evolve, the UDL principles serve as a significant framework for engaging Gen Z students and addressing their unique educational needs. Gamification, another tool for educating and motivating Gen Z, is discussed in the following section.

#### **2.13.5.9 Gamification**

Gamification has been identified as a valuable tool for engaging and motivating Gen Z students (Landers, 2014; Noran, 2016; Saxena & Mishra, 2021). It involves gaming elements in non-gaming contexts, including points, badges and leaderboards, to enhance user engagement and experiences. These gaming elements can increase student motivation, as they engender a sense of achievement (intrinsic motivation) and demonstrate progression (Landers, 2014). Student engagement is described as an active mental or physical involvement in the pursuit of knowledge (Kuh, 2007; Trowler, 2010). Traditional educational approaches often fail to capture the attention of contemporary students, leading to diminished engagement and participation. Gamification, however, enhances engagement by reintroducing enjoyment into the learning process (Saxena & Mishra, 2021), an element which could cater to the preferences of Gen Z students.

Generation Z is characterised by a limited attention span (Sparks & Honey Ad Agency, 2014); gamification is particularly effective in maintaining focus and attention. Incorporating gaming mechanics (Chu et al., 2016) may appeal to Gen Z's goal-oriented disposition. In integrating gaming mechanics into the educational context, educators can address Gen Z students' desire for immediate gratification, rendering learning more appealing, engaging, and aligned with their digital habits and preferences. Gamification also encourages interactive learning, promoting reciprocal learning where educators and students actively engage and share knowledge through collaborative participation (Deterding et al., 2011). In addition to gamification, other digital tools like Microsoft Sway and OneNote have been used to support the education of Gen Z students, as discussed below.

#### **2.13.5.10 Digital communication strategies**

Both Microsoft Sway and OneNote are applications developed by Microsoft (Microsoft, 2024). Microsoft Sway is a platform for creating interactive content and presentations, enabling users to demonstrate digital proficiency by incorporating videos, images, text, and charts into their content (Usman & Baihaqi, 2020). Microsoft OneNote functions as a digital notebook, offering features distinct from traditional paper-based, note-taking methods. It allows for real-time collaboration, allowing multiple users to view and edit notes simultaneously. Additionally, it provides a platform for inserting images, text, videos, and audio recordings, providing an interactive platform for student notes. The OneDrive feature enables access from any location

and can support synchronisation across devices, including computers, tablets, and smartphones (Microsoft, 2024). These features allow these digital tools to be used flexibly and by students. Both OneNote and Sway facilitate real-time updates and sharing, maintaining simultaneous participation for all users (Microsoft, 2024). These digital tools provide efficiency and accessibility to the learning process (Usman & Baihaqi, 2020). Moreover, Microsoft Sway and OneNote cater to Gen Z's preference for visually rich content, thereby increasing the interactivity of the learning process (Mohr & Mohr, 2017).

The OneDrive feature and device synchronisation accommodate the smartphone-centric lifestyle of Gen Z students. Irrespective of the device, they can access their projects and notes from anywhere and at any time, supporting their need for flexible learning (Dimock, 2019) and promoting effective engagement. Leveraging these tools is therefore crucial to maximising learning for the current Gen Z cohort.

It should be noted that, although this study focused on Microsoft Sway and OneNote as examples of digital tools relevant for 21st-century education, other platforms (such as Google's suite of tools) also provide collaboration and interactive learning experiences. Google Workspace for Education, which includes tools such as Google Docs, Slides, and Classroom, allows students and educators to co-create content, share feedback in real-time, and manage learning tasks seamlessly across devices (Al-Marroof et al., 2020). In recent years, Artificial Intelligence (AI) has emerged as another tool enhancing the learning experience of current students. This will be explored next.

#### **2.13.5.11 Artificial Intelligence**

Artificial intelligence (AI) is a field in computer science that focuses on incorporating intelligent behaviours exhibited by humans or animals into computer systems, enabling them to address complex problems with minimal or no human involvement (Whitby, 2008; Nilsson, 2009; Hamet & Tremblay, 2017). Artificial Intelligence systems utilise algorithmic data and computational power to simulate cognitive functions, enabling them to recognise patterns, make recommendations or predictions, and analyse information based on input data (Goodfellow et al., 2016).

The integration of AI in education has demonstrated that student learning is enhanced when tailored to individual needs (Zawacki-Richter et al., 2019; Akinwalere & Ivanov, 2022). Artificial Intelligence algorithms customise learning experiences by adapting to students' specific requirements and preferences (Raghavendrchar et al., 2023). Additionally, they can analyse large volumes of data and identify patterns that may be difficult for humans to detect (Firat, 2023). A comprehensive review by Gilogorea et al. (2023) examined 63 articles published

since 2010, exploring AI integration into education and its potential for personalised learning. The key findings from their study are that AI algorithms are instrumental in personalising learning experiences, as well as optimising learning paths, enhancing engagement and improving academic performance. Personalised learning, also referred to as 'adaptive learning', involves the use of technology to tailor educational content and experiences to students' unique needs, interests, and abilities (Fariani et al., 2022; Tapalova & Zhiyenbayeva, 2022). The increasing interest in AI-driven personalised learning has garnered significant interest due to its capacity to support student learning (Firat, 2023).

The flexibility and adaptability of Artificial Intelligence (AI) in personalised learning environments align with the flexibility sought by Gen Z students. As previously noted, Gen Z students prefer learning environments that accommodate their pace (Rothman, 2016). Consequently, AI systems that customise learning pathways and provide on-demand support offer the flexibility needed to address diverse learning preferences and paces. Artificial intelligence-powered, personalised learning systems present an innovative approach to pedagogy, assisting Gen Z students in maintaining motivation, achieving enhanced learning outcomes, and engaging effectively with the instructional material. In addition, these systems give students a stronger voice in how they wish to be taught and assessed, which reinforces their role in the learning process. This diverges from the traditional one-size-fits-all approach to education (CAST, 2018) and can be integrated into the Learning Management System at educational institutions to optimise teaching and learning outcomes.

Firat (2023:5-6) provides five key steps for integrating AI applications into Learner Management Systems (LMS) in higher education to streamline the process. These follow:

- Identify suitable AI technologies for incorporation, such as customised educational tools, interactive learning games, or automated assessment systems. The application chosen should align with learners' academic objectives to prevent resource wastage and unnecessary costs.
- Choose a suitable platform to host the chosen application. Various platforms, including Microsoft Azure Machine Learning (Microsoft, 2018) and Google Cloud AI (Google Cloud, 2024), provide different features that enhance e-learning experiences.
- Efficient planning is crucial when incorporating AI applications into a Learning Management System (LMS). This would involve considering available resources, technical compatibility, and the overall effect on the learning environment.

- The execution phase involves carrying out the integration plan by incorporating the AI application into the LMS. This process encompasses configuring settings, potential coding work, and ensuring AI tools are compatible with the LMS infrastructure.
- Regular evaluation and upkeep of AI tools post-implementation are necessary to keep them current and ensure their continued functionality and relevance in educational contexts. It is also vital to evaluate the efficiency of AI applications to guarantee positive learning outcomes.

These steps assist both educators and educational institutions in successfully implementing AI systems in the LMS to enhance the overall learning experience of the current cohort of students.

Despite the benefits of AI integration into LMS, there are challenges, such as data privacy concerns and the complexity of AI systems. Therefore, data protection measures need to be put in place, such as strict access controls to protect learner data and ensure transparency in how the data is collected, used and protected. This will build trust and address privacy concerns. Additionally, training and support would be necessary for all users of the system on how to use and manage AI systems effectively in e-learning environments (Gilogorea et al., 2023). Training on AI-driven systems and other advanced technology discussed in this chapter is expanded upon in Chapter Seven.

The communication preferences of Gen Z students are also particularly relevant for this study, as they directly impact their learning, as unpacked next.

#### ***2.13.5.12 Communication methods and preferences***

According to Hampton and Keys (2017) and Williams (2019), Gen Z students' high mobile and social media use is associated with more task-switching during study, which can impede on-task attention span (Seemiller & Grace, 2016). They utilise smartphones as a comprehensive means of communication, including text messaging, email correspondence, and access to various social media platforms, all conveniently accessible through a single device. Among the current generation, the utilisation of smartphones enables rapid and unrestricted communication, rendering it the primary device employed by them. However, it is worth noting that a substantial majority of this demographic, exceeding 93%, also possesses alternative technological devices such as personal laptops, computers, or shared family computers. Consequently, the ability to connect through various technological devices has become widespread among Gen Z (Madden et al., 2013).

Text messaging has emerged as the predominant means of communication among Gen Z members (Seemiller & Grace, 2016), who generally exhibit reluctance to engage in phone

conversations (Husain, 2022) and perceive them as uncomfortable, time-consuming, and interruptive. In contrast, Seemiller and Grace (2016) discovered that a significant majority of Gen Z students, approximately 83%, exhibit a preference for face-to-face communication. This preference is attributed to their belief that such interactions facilitate a stronger sense of connection and enable a more accurate interpretation of nonverbal cues. According to a study conducted by Barnes and Noble College (2018), being a self-reliant and technologically proficient group, they place significant importance on engaging in collaborative efforts with others and participating in in-person interactions.

### **2.13.5.13 Community engagement**

Generation Z has a shared need to bring about substantial changes in society, as indicated by research studies like those of Sparks and Honey Ad Agency (2014) and Perna (2019). The emergence of technology has introduced new approaches to facilitate community engagement. Simultaneously, the changing social dynamics and the rise of pressing social issues have offered Gen Z distinct opportunities for involvement that differ from those of previous generations (Seemiller & Grace, 2016). Online platforms, such as Twitter, Buzzfeed, Tumblr, and Reddit, provide personalised notifications to users, allowing them to stay updated about current events (Seemiller & Grace, 2016) and remain well-informed about the specific subjects that interest them. This not only allows Gen Z to be aware of ongoing issues but also develops their opinions and possibly helps them find their voice, and it could also be responsible for prompting them to take action on matters that do not align with their values and beliefs.

In addition, they also utilise word-of-mouth, television and mainstream websites for information (Pew Research Centre, 2021), demonstrating their ability to remain informed regardless of media format. They actively share knowledge and promote awareness of issues they are passionate about (Seemiller & Grace, 2016), highlighting that they go beyond passive consumption of information. Other crowdfunding platforms, such as Kickstarter (2015), Seed and Spark (2022), and Fundrazr (2023), enable Gen Z to support causes and initiatives. These online platforms function as channels for soliciting donations for a wide range of ideas, technologies, and causes (Seemiller & Grace, 2016). These findings indicate that individuals belonging to Gen Z may have a significant impact on the education and advancement of a cause without necessarily participating in physical protests or direct community engagement. The demographics of Gen Z show a significant inclination towards lasting changes. Approximately 40% of individuals in this group aim to contribute to global progress through innovative efforts (Gallup & Operation Hope, 2014). Eagan et al. (2014) found that a similar percentage expressed a commitment to adopting environmentally friendly habits to promote ecological preservation.

Additionally, Gen Z's interest in human rights and social justice issues has influenced their lifestyle and activism, as well as their commitment to promoting and strengthening such issues (Seemiller & Grace, 2016). They have created a conducive climate for the growth and advancement of minority groups, such as the LGBTQ community. This is due to a decline in the need for these groups to preserve confidentiality, a feature that has been more common in previous generations (Turner, 2015). This generation values meaningful work that can impact the world (Sparks & Honey Ad Agency, 2014). Because of this reasoning, Gen Z students are likely to reject the traditional method of seeking jobs purely for survival and participate in volunteer activities on weekends to have a positive impact on their communities. Instead, many want to turn their community participation efforts into paid jobs to find satisfaction and happiness in what they do (Seemlier & Grace, 2016). This highlights their unique perspective on societal issues and community work.

Thus, in the context of SL, this generational mindset requires educational programmes that address their digital connectivity, desire for meaningful contributions and an inclusive worldview. Service-learning lecturers should design SL programmes that align with their values, ensuring relevance and engagement. This study has focused on South African Gen Z students enrolled at a UoT, commonly referred to as the "Born Free" generation. Their unique experiences and perspectives will be further explored in the following section.

#### **2.13.6 Born Frees: South African Gen Z**

The previous sections predominantly discussed studies on Gen Z conducted outside of South Africa due to the limited research available on the Gen Z cohort in South Africa, particularly regarding their characteristics and learning approaches. This study seeks to address this gap by contributing to the understanding of a specific Gen Z cohort within the South African context, providing insights into their learning approaches and characteristics. Research done on the Born Free highlights the necessity for a deeper understanding of identity that goes beyond simplistic labels advocating for systemic reforms and more nuanced discourses (Kelleher, 2019; Vandeyar, 2019a, 2019b; Tivenga, 2021). This section provides background information on the Born Free generation in South Africa, contextualising them as the Gen Z cohort relevant to this study.

The descriptor 'Born Free' refers to individuals born in South Africa during the later stages of apartheid, specifically around the first democratic election in 1994 (Azania, 2014; Kelleher, 2019). The historical era coincided with the release of political detainees, most notably Nelson Mandela, an event which symbolised the cessation of violent opposition (Azania, 2014). The year 1994 also marks the typically recognised year marking the emergence of Gen Z.

Mattes (2015) observes that this cohort engages with the environment in unique ways, distinct from previous generations. Born into an era of freedom from institutional restrictions, as well as constraints related to human movement and behaviour, this Gen Z cohort also benefits from advanced access to diverse global information through their electronic devices, enabling them to connect with international news sources. Furthermore, educationally, Born Frees experienced schooling within a reformed framework, improved curriculum and with expanded access to historically exclusive universities. Unlike their predecessors, this cohort has largely pursued education without direct political interference, supported by a restructured educational system (Mattes, 2015).

Tivenga (2021) associates the Born Free concept with the post-1994 South African vision of a multicultural rainbow nation. The termination of apartheid instilled a sense of optimism throughout the present generation; however, this optimism has remained unrealised. Mattes (2012) reports that Born Frees face heightened levels of unemployment, inequality, and a sense of despair. Kusa (2018:722) highlights student-led movements that illustrate the cohort's commitment to civic engagement and their readiness to challenge systemic inequalities:

#FeesMustFall for reduction of fees, #OpenStellenBosch, #DisrubtingWhitness, #AfriikaansMustFall and other campaigns which called for the equality in education and language policies as well as an introduction of several new agendas such as challenging the patriarchy or LGBTQ rights.

Their protests provide evidence of their active involvement in political matters as they demonstrate a greater inclination to question and challenge the powers of government. Unlike previous generations, Born Frees leverage social media platforms and other non-traditional methods for political mobilisation (Kusa, 2018). This phenomenon exemplifies a notable generational transition from preceding cohorts, defined by an assertive inclination towards instigating societal change.

In 2014, BBC News interviewed six Born Frees who shared their perspective on life after apartheid: Four notable responses are included:

"If we had not gained democracy in 1994, "I would have definitely been a gardener and not a ballet dancer."

"Many things about South Africa are better now. I can be friends with whoever I want and not care about what race they are."

"I have only known this South Africa (post-apartheid). I love it. No other country has this diversity."

“I do not want to imagine if 1994 had not happened, but I can imagine it: I would not have been able to go to university to study law.”

These reflections highlight the opportunities afforded to the Born Frees due to post-apartheid reforms. However, these experiences are not universally applicable to all persons within the Born Free demographic. Challenges such as high rates of unemployment, socioeconomic inequalities, the rise in gender-based violence, and load shedding persist (Burnett, 2023; Lililta, 2023; Mackett, 2023). Despite these issues, Born Frees enjoy a more inclusive South Africa, with opportunities not available to other generations.

Nevertheless, as members of a developing nation, South African Gen Z students face challenges distinct from their global counterparts in more developed countries. They often contend with limited access to quality education, the Internet, technology and stable employment opportunities (Stat Analytica, 2024). Therefore, while Gen Z students in South Africa may be technologically advanced and motivated to study, these disparities influence their overall educational experience and their identity as Gen Z students.

Given the limited corpus of literature on the learning preferences, characteristics, and technology engagement of the born frees, this study focuses on Gen Z students enrolled at a UoT. The findings aim to provide a foundation for future research on these aspects within the South African context. The next section concludes this chapter.

## **2.14 Chapter Two summary**

This chapter discussed the two main components of this study. First, SL was explored from its historical and theoretical foundations, tracing its roots from the early settlement movement to Dewey’s educational philosophies, and finally into its adoption in higher education institutions. The chapter was narrowed down to a South African context where SL emerged within CE initiatives in response to government policies (CHE, 2004). Addressing the challenges of CE implementation and its integration into higher education, CHESP developed a SL framework featuring a three-way partnership. The CHESP model highlights collaboration among education institutions, communities and service providers, which is vital for the effective implementation and improvement of SL programmes (Mouton & Wildschut, 2005). The present study adopts Petersen’s and Osman’s (2013) conceptualisation of SL, considering it more appropriate for the South African context because it emphasises student learning and growth, integrating reflective practices throughout the projects and caring for communities. The focus is on applying students’ academic knowledge to community-based initiatives, benefiting both the community and students’ learning experiences, making it fitting for this study.

The study applied Dewey's (1916, 1933, 1938) educational theories to understand SL pedagogy and provide a pedagogical foundation to reinforce SL's role in promoting critical thinking, reflection on experiences, civic responsibility and practical skill development. A literature review revealed the elements inherent in traditional SL models, all requiring structured steps for implementation. Limitations in SL models were exacerbated by the COVID-19 pandemic, which prompted temporary measures to continue with projects.

The chapter then transitioned to the second component of the study: Gen Z students. Generational Theory (Strauss & Howe, 1991; 1997; Howe & Strauss, 2007) was explored to understand Gen Z's learning preferences and characteristics. The applicability of Generational theory in different contexts was discussed before exploring the different facets of Gen Z. Finally, the chapter discussed advanced technologies such as AR, VR and AI, as well as digital tools like Microsoft Sway and OneNote, including gamification and multiple means of engagement through UDL principles that enhance learning and engagement among the Gen Z cohort.

The next chapter discusses Mezirow's (1990) TL theory and Kolb's (1984) ELT, which are the theoretical frameworks employed to understand the study findings.

## **CHAPTER THREE**

### **Theoretical Frameworks**

#### **3.1 Introduction**

Chapter Three outlines the theoretical frameworks that inform this study. Drawing on Mezirow's (1990,1991) Transformative Learning (TL) theory and Kolb's (1984) Experiential Learning Theory (ELT), this chapter presents the theoretical lens through which the research problem is understood and analysed. These frameworks offer different but complementary views on adult learning, reflection and transformation, which formed the basis for the design, interpretation, and critical engagement with the data of this study.

For this study, TL theory explores how students' SL experiences lead to transformation, while the ELT provides insights into students' learning styles. Specifically, Mezirow's (1990, 1991) TL theory provides a lens to determine whether and how students experience what he calls perspective transformation as a result of participating in SL projects. This involves examining shifts in beliefs, worldviews and assumptions, which are key indicators for transformed learning. Kolb's (1984) ELT, particularly the four learning styles derived from the Learning Style Inventory (LSI), namely, Accommodating, Diverging, Converging and Assimilating, is employed to understand the various ways in which students learn and process information.

Firstly, the fundamental theoretical constructs of TL theory proposed by Mezirow (1978) exhibit that the process of perspective transformation occurs through four crucial phases: experience, critical reflection, rational discourse, and transformation (action). These four key phases are derived from Mezirow's (1991) ten-phase model. This study will focus specifically on these four to explore the transformative learning experiences of Gen Z students in the context of SL, providing a rationale for why only four phases, not ten, are employed in section 3.3.1.

Secondly, Kolb's (1984) ELT and his Learning Styles Inventory (LSI) are discussed. Experiential Learning Theory provides a foundational understanding of how students learn through experience. Derived from the ELT, Kolb's (1984) LSI test, which categorises students according to four distinct styles, based on their preference for information processing. The current study did not employ Kolb's (1984) LSI for empirical testing among student participants but for the descriptive and characteristic nuances it provides to understand more fully a student's learning style.

The following sections elaborate on these two theories and their applicability in supporting pedagogical experiences of SL for Gen Z students, emphasising the specific concepts in the theories that are most relevant to this study.

### **3.2 Service-learning and transformative learning theory integration**

Service-learning is an experiential approach to learning. While TL theory may not be directly linked to experiential learning, an individual's transformative experiences are often triggered by authentic learning, which is prevalent in SL engagements. This suggests that SL and TL theory may be congruent. This congruence is supported by researchers (Eyler & Giles, 1999; Choi et al., 2023), who found that SL experiences generally lead to significant personal and intellectual growth through direct engagement with authentic community-based or socially relevant learning experiences. Their study showed that students who have engaged in SL projects exhibit improved critical thinking abilities, a better understanding of social issues and enhanced problem-solving skills, findings which resonate with characteristics of transformative learning.

The core of TL theory is personal transformation, signifying a shift in an individual's beliefs, values, and worldview (Mezirow, 1991). Service-learning catalyses such transformation, especially when students are exposed to challenges and diverse communities. As discussed in Chapter Two, Dewey's (1938) theories align with the experiential concepts of SL, although these theories do not delve into the depths of transformative concepts in the way that TL theory does. Dewey (1938) emphasises the continuous cycle of experience and reflection, which forms the foundation of ELT. However, TL theory expands on this by emphasising possibilities of profound shifts in an individual's perspective. While Dewey's approach supports experiential learning, TL provides a lens to interrogate a more in-depth understanding of how SL experiences might lead to transformation in students' beliefs and worldviews. Therefore, using TL theory as the lens to demonstrate learning in SL projects illustrates the transformative potential of these SL projects.

One of the core elements of TL theory is reflective practice, which can lead to shifts in perspective and a transformed belief in an individual's assumptions, beliefs and worldview (Mezirow, 1990). Service-learning also stresses reflective practice, which allows students to easily grasp what they are learning. This is unpacked further later in this chapter. This highlights the alignment between SL and TL theory, making it a strong theoretical framework for this study.

Figure 3.1 demonstrates Dewey's educational philosophy's alignment with the core tenets of SL and how the fundamental concepts in SL are mirrored in the TL theory.

Service-Learning is interpreted through Dewey's experiential philosophy and aligns with Mezirow's Transformative Learning Theory, offering a framework to understand transformational learning in SL contexts.

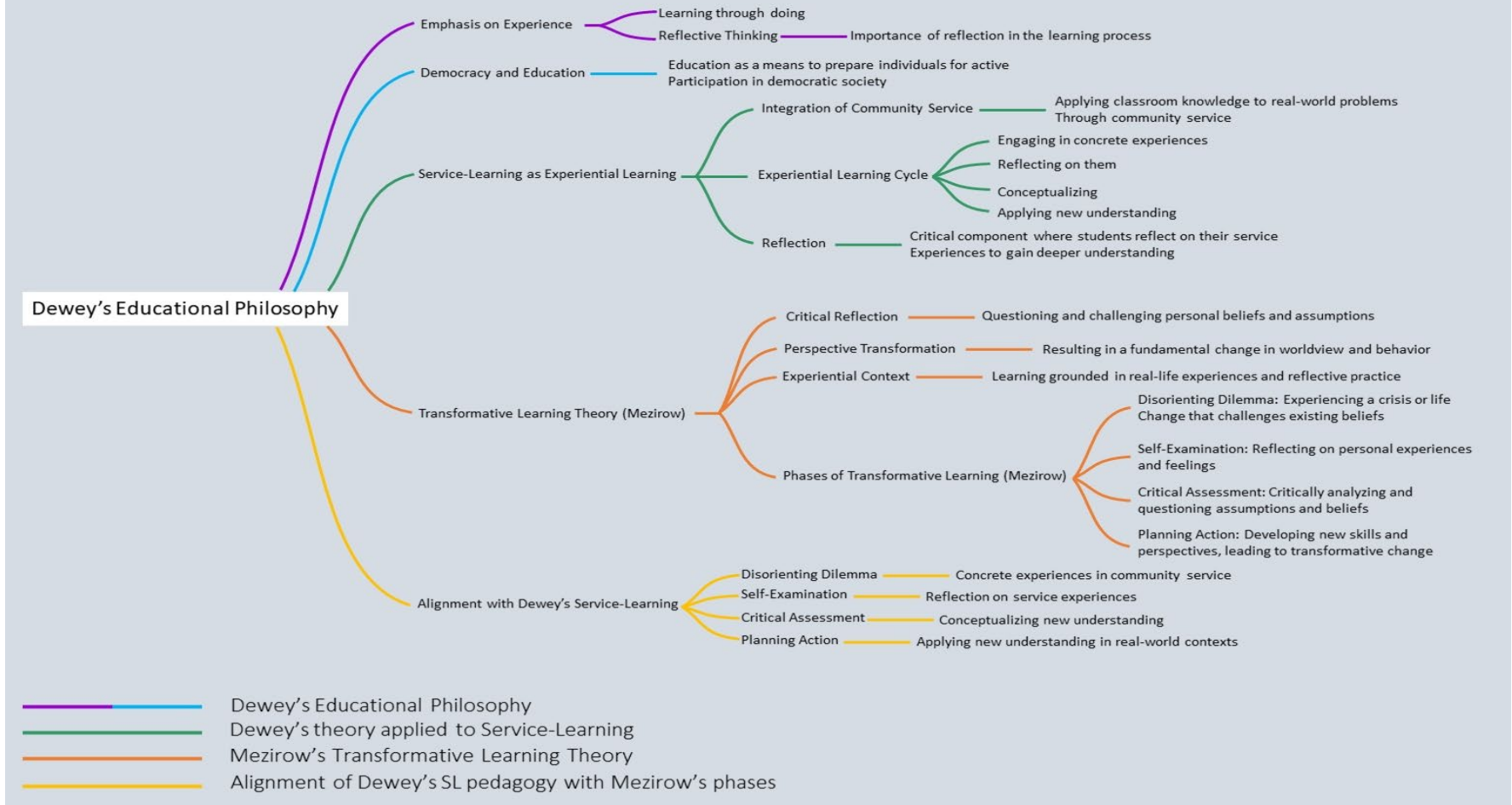


Figure 3.1: Conceptual alignment of Dewey's (1938) experiential philosophies and Mezirow's (1990, 1991) TL theory in SL

The rationale for developing this integrated framework (Figure 3.1) stems from the need to understand how Gen Z students learn and experience transformation in SL projects, as this will contribute to reimagining a flexible SL model focusing on transformative learning that is tailored to these students for both theory and practice. While both Dewey’s educational philosophy on experiential learning (1938) and Mezirow’s TL theory (1990, 1991) provide valuable insights into learning, a combined approach offers a more comprehensive lens for understanding and analysing how SL promotes transformative learning. Additionally, Dewey’s concept of Democracy and Education (1916) provides a crucial perspective for understanding how SL prepares students for active citizenship, social responsibility, and engagement with diverse communities (Choi et al., 2023). Therefore, it has been included in the Figure 3.1 framework. Table 3.1 below illustrates the close alignment between the core principles of experiential learning and Mezirow’s four key phases for transformative learning.

**Table 3.1: Dewey’s experiential concepts aligned with Mezirow’s transformative learning**

<b>Dewey’s (1938) Experiential Concepts (ELT)</b>	<b>Mezirow’s (1990) Transformative Learning Theory (TL)</b>	<b>Application in Service-Learning Concepts (SL)</b>
1. Experiential Learning → Learning through real-world engagement	Disorienting Dilemma → A challenge that disrupts prior beliefs	Students encounter complex social issues in SL projects, prompting new ways of thinking (Álvarez-Vanegas et al., 2024).
2. Reflection on Experience → Making sense of learning	Critical Reflection → Examining beliefs and biases	Students analyse their assumptions, leading to deeper understanding (Choi et al., 2023)
3. Collaborative Learning & Discussion → Engaging with others to expand perspectives	Rational Discourse → Dialoguing with peers, SL lecturers, community members and mentors to reassess perspectives	Students discuss their SL experiences with classmates, faculty, and community members to refine their understanding (Pinto & Costa-Ramalho, 2023)
4. Application of Learning → Using knowledge in real-world contexts	Action → Adopting new perspectives in decision-making and future actions	Students apply their learning to future projects, civic engagement, or career paths (Choi et al., 2023)

The first alignment between ELT, TL and SL noted in Table 3.1 is ‘Experiential Learning’ and the ‘Disorienting Dilemma’. Dewey (1938) argued that learning should be grounded in real-

world experiences, encouraging students to develop both skills and knowledge through active participation in problem-solving tasks and community-based learning. Similarly, Mezirow (1990) argued that transformative learning begins when individuals face a disorienting dilemma: an experience that challenges their existing assumptions, beliefs, and worldviews. When viewed in the context of SL, students have the opportunity to engage with complex issues which could potentially disrupt their previously held beliefs and thinking (Álvarez-Vanegas et al., 2024). These experiences may provide opportunities for students to reassess their beliefs, enabling the transformative learning process.

The second alignment is 'Reflection on Experience' and 'Critical Reflection'. Both Dewey and Mezirow emphasise reflection as the critical component of effective learning. Dewey's (1938) position is that reflection is the process of making sense of experiences, encouraging students connect theory and practice. Mezirow (1990) identifies critical reflection as the phase in which individuals examine their beliefs, assumptions and biases when encountering new experiences. In SL, reflection enables students to internalise their experiences and develop a more knowledgeable awareness of social responsibilities and their roles in addressing these issues in their respective communities (Choi et al., 2023). This critical reflection phase is important for moving beyond passive participation to more engaged learning.

The third alignment is 'Collaborative Learning' involving 'Rational Discourse'. Dewey (1938) advocated for the role of collaborative learning, suggesting an interactive and student-centred approach to learning. Mezirow (1991) expands on this idea through rational discourse, where individuals engage in meaningful discourse with others to challenge and alter their views and beliefs. In SL, students actively engage with their experiences and seek to establish meaningful connections between classroom learning and its practical applications. This involvement often includes discussions with peers, faculty, and community members (Pinto & Costa-Ramalho, 2023). This discourse of acquired subject content and its practical application in SL contexts engenders critical thinking, empathy and civic responsibility, which could lead to transformative learning.

The fourth alignment concerns 'Application of Learning' through 'Action'. Dewey (1938) stressed that education should involve active engagement, where students learn through doing and applying their knowledge practically. Similarly, Mezirow (2000) identified action as the final phase of transformative learning, where individuals implement new perspectives in their decision-making and behaviour. In SL, students apply what they have learned (through reflection and discourse) to future projects, civic engagement, and professional practice (Choi et al., 2023). This phase indicates that SL is not simply an academic exercise but also has the potential to bring about lifelong personal and societal change.

Given the discussion above, TL theory was deemed the most appropriate for understanding Gen Z student participants' transformative learning experiences because it aligns closely with the experiential and transformative potential of SL, as detailed above. The connection between Dewey's experiential learning concepts and Mezirow's four transformative learning phases highlights how students engage with SL, process their experiences, and navigate shifts in their perspectives. This integration not only showcases how learning occurs in SL but also illustrates how transformation unfolds. The Transformative learning theory is expanded upon next.

### **3.3. Mezirow's transformative learning theory**

Transformative learning has continued to be widely used in educational research (Taylor, 2007; Dirkx, 2012; Cranton, 2016). However, recent research by Hoggan (2015, 2020) and Hoggan and Higgins (2023) argues that TL should no longer be treated as a single, cohesive theory. Instead, the authors propose that it is better conceptualised as a metatheory, which is an umbrella term for multiple theories of human transformation through learning. This distinction is relevant for this study because it requires identifying and justifying the specific theoretical strand that is being applied across the broader metatheory.

In response, this study employs Mezirow's perspective transformation, one of the foundational strands of the broader metatheory of TL, as its primary lens. By focusing on Mezirow's four essential phases of transformation (the disorienting dilemma, critical reflection, rational discourse, and action), this study seeks to explore how Gen Z students experience transformative learning through their SL projects. Mezirow's theory and its alignment with SL will now be discussed in more detail.

Mezirow (1978) conducted a study of women, many of whom faced significant challenges due to a lengthy absence from the workforce and educational settings (where "educational settings" refers to both formal and informal opportunities for structured learning that were not accessible to the women during their years away). While the study does not explicitly state the reasons for the women's absence, it strongly suggests that traditional gender roles and family responsibilities could have been the reason. This is supported by Mezirow's (1978:17) mention of "culturally induced dependency roles" which continue to contribute to women's limited autonomy and delayed educational pursuits. Based on interviews with these women, he found that their primary objective was to adapt effectively to their changing circumstances, such as divorce, widowhood, children leaving home, as well as internal feelings of discontentment and a need for self-fulfilment.

The women described in Mezirow's (1978) re-entry programmes returned to study not only to gain practical outcomes such as job skills, but also to experience what he termed perspective transformation which is a deep structural shift in how individuals view themselves and the world

that they live in. This transformation was often triggered by a disorienting dilemma, like major life events; or by more internal dilemmas, such as loss of a sense of purpose. Many of these women were motivated by a desire for self-development, Women's Rights Movements, career ambitions, and the desire to build confidence and explore new possibilities. Certain women who entered the re-entry programmes were conventional learners who did not seek deep change but pursued practical goals, such as career counselling. They often completed programmes that enhanced confidence but not necessarily perspective transformation. By contrast, other women used the experience to reassess their assumptions critically and reconstruct a new sense of self (Mezirow, 1978).

Drawing on this research, Mezirow (1978, 1991) developed TL theory, which outlines a series of learning phases through which individuals undergo substantial changes in self-understanding, encompassing changes in identity, cultural assumptions, and behaviour, a process which he termed perspective transformation. Mezirow (1991:14) defines this as:

The process of becoming critically aware of how and why our presuppositions have come to constrain our perceptions, understandings, and feelings about our world, the process of reformulating these assumptions to allow for a more inclusive, discriminating, permeable, and integrative perspective, the process of making decisions or otherwise acting on these new understandings.

This definition highlights the three interconnected processes: critical awareness of one's assumptions; the reformulation of those assumptions; and, finally, action taken, based on the newly formed understanding. Presuppositions in the definition refer to deeply held beliefs, assumptions and values that shape what an individual believes, often unconsciously. Therefore, when an individual becomes critically aware, they start to question these deeply held beliefs, like their validity and origins. Reformulating these assumptions involves rethinking them to make them more open, inclusive and adaptable, which Mezirow terms discriminating, permeable and integrative. Finally, perspective transformation culminates in acting upon the newly formed beliefs in a meaningful way.

In this context, perspective transformation is not a single moment of insight but a developmental process. It begins when an individual encounters a disorienting dilemma, which is a powerful experience that causes them to question their current understanding of the situation, considering the new knowledge gained through the experience (Mezirow, 1990). Building on this foundational idea, Mezirow (1991) initially presented 10 phases that are required for perspective transformation to occur. These phases were first identified through his qualitative study of 83 women returning to college (Mezirow, 1978), where he observed changes in the women's daily thoughts and actions, leading him to develop the 10-phase

model. These 10 phases and their alignment to the 4 core phases used in this study are illustrated in Table 3.2.

### 3.3.1 Mezirow's ten-phase model

To contextualise further this study's application of Mezirow's theory, Table 3.2 illustrates the relationship between the original 10 phases of transformative learning and the condensed 4 core phases of perspective transformation.

**Table 3.2: Ten phases of transformative learning (Mezirow, 1991:168-169) aligned with the four core phases of perspective transformation**

<b>Mezirow's 10 Phases of Transformative Learning (1991:168-169)</b>	<b>Corresponding 4 Core Phases in Perspective Transformation (Kitchenham, 2008:119)</b>
1. A disorienting dilemma	<b>Experience</b> → Encountering a situation that disrupts prior assumptions and beliefs.
2. A self-examination with feelings of guilt or shame	<b>Experience</b> → Emotional responses arise as individuals begin questioning their worldview.
3. A critical assessment of epistemic, sociocultural, or psychic assumptions	<b>Critical Reflection</b> → Evaluating deeply held assumptions and beliefs.
4. Recognition that one's discontent and the process of transformation are shared	<b>Critical Reflection</b> → Identifying commonalities in transformative experiences with others.
5. Exploration of options for new roles, relationships, and actions	<b>Rational Discourse</b> → Engaging in discussions about possible new ways of thinking and acting.
6. Planning of a course of action	<b>Rational Discourse</b> → Engaging in decision-making through dialogue and reflection.
7. Acquisition of knowledge and skills for implementing one's plans	<b>Action</b> → Preparing for transformation by developing necessary knowledge and skills.
8. Provisional trying of new roles	<b>Action</b> → Experimenting with new behaviours, roles, or perspectives.
9. Building of competence and self-confidence in new roles and relationships	<b>Action</b> → Developing confidence as a transformed perspective takes shape.
10. A reintegration into one's life based on conditions dictated by one's perspective	<b>Action</b> → Fully incorporating the new perspective into one's worldview and daily life.

While Mezirow (1991) outlined 10 phases of perspective transformation, later scholars condensed these into 4 essential phases, emphasising experience (disorienting dilemma), critical reflection, rational discourse, and action (new perspective) (Kitchenham, 2008:119). This four-phase model retains the foundational logic of Mezirow's theory but presents it in a more simplified structure, both for usability and clarity, specifically in instructional contexts. Notably, this does not replace Mezirow's original framework but offers a simplified lens through which the transformation process can more easily be understood and applied.

The phases listed in Table 3.2 can be divided into four segments. These outline a clear structure of how TL occurs. Phases 1-4 serve as catalysts for action. A perplexing issue arises when a person has an unexpected experience, a series of unforeseen events, or an experience that contradicts prior beliefs. As a result of the perplexing issue, individuals may examine their emotions and experience guilt and shame (Brett, 2018). Next, they can engage in critical reflection on their assumptions, a process which influences their perception of the experience. Phases 1-2 (dilemma and self-examination) align with experience and the start of critical reflection. Phases 3-4 (assessing assumptions and recognising shared experiences) align with critical reflection and discourse.

The subsequent phases, numbered 5 through 7, can be viewed as preparations for acting on the individual's newly acquired knowledge. Frequently, individuals are required to seek new ways of acting, plan the required actions, and acquire the necessary knowledge and skills to execute their action plans. This action occurs between Stages 8 and 10. Individuals can experiment with new roles related to shifts in perspective to gain confidence in these areas. Individuals who have acquired new information and modified their behaviour return to their daily lives with a new perspective (Brett, 2018). It is important to note that action is essential for transforming learning into transformative learning, which requires a shift in behaviour (activity) that leads to a shift in perspective for which TL theory is renowned (Mezirow, 1991; Cranton, 2016). Phases 5-10 (exploring options, planning, acting, and reintegration) translate into action.

The 4 phases are the focus of this study and will be expanded upon later in this chapter. Mezirow's understanding of transformative learning is expanded upon next.

### **3.3.2. Meaning perspectives and meaning schemes**

An individual's frame of reference directs, shapes, and constrains the process of learning, helping to generate meaning from experiences, interactions and new information encountered in the world (Mezirow, 1994). These frames of reference consist of deeply held beliefs, assumptions and expectations that influence how individuals interpret experiences they encounter and how they process that new information (Mezirow, 1997). Meaning schemes and

perspectives are two components of an individual's frame of reference (Mezirow, 1994). Frequently, 'frame of reference' and 'meaning perspectives' are used interchangeably. However, the distinction is as explained here:

Meaning perspectives are a structure of assumptions within one's past experiences that assimilate and transform new experiences. It is the lens through which individuals see and understand the world. Meaning schemes are specific knowledge, beliefs, value judgements and feelings that constitute the elements of a meaning perspective (Mezirow, 1994:222-232).

An individual's frame of reference includes meaning schemes and meaning perspectives, as derived from Mezirow's (1991) theory. Meaning perspectives can be further understood as a broad set of predispositions that individuals develop due to their upbringing, based on their context, culture, and experiences. These perspectives act as frames of reference for making sense of new information. Mezirow (1991) explains that individuals see meaning perspectives in three ways: personal or psychological, which is the belief about oneself; sociolinguistic, that shapes how individuals use languages to interact with society and the world around them; and epistemic, which refers to the production of knowledge.

Through habits of mind, humans unconsciously rely on their meaning perspectives to interpret the experiences they encounter, including prejudices, stereotypes, and beliefs (Cranton, 2016). A habit of mind refers to an ingrained way of thinking or feeling that is shaped over time and resistant to change (Mezirow & Associates, 2012; Cranton, 2016). In contrast, meaning schemes, which include specific beliefs, are easier to change through reflection than the more ingrained meaning perspectives that are broader and more fundamental, providing the framework through which meaning schemes are both organised and interpreted. Mezirow (1994) argues that a meaning perspective is more fundamental than a meaning scheme as it is based on assumptions shaped by a person's prior experiences. These perspectives guide how individuals process new information, which leads to transforming new experiences into learning. As an example, an individual may hold a belief (meaning scheme) that "teenagers are irresponsible," which is based on previous encounters with them. This belief could be part of a broader meaning perspective rooted in age-related stereotypes. It can be altered or reconsidered after working closely with teenagers and finding that they are responsible when guided. Transforming this meaning perspective would require deep reflection and a shift in how the individual perceives age, social roles, and responsibility in a more general sense.

However, shifting a deep-rooted belief often requires more than reframing the meaning perspective; it requires the individual to be open to "unlearning". As Misawa (2024) notes, when individuals start examining and questioning their existing beliefs, assumptions and

perspectives, they must undergo a process of “unlearning”. He goes on to say that this process allows individuals to develop new ways of thinking and acting that align with their true selves and encourage personal growth and transformation. However, the process of “unlearning” is not an easy process for any individual; it can only happen when individuals are willing to accept or make themselves more aware and understanding of their beliefs, assumptions and perspectives of others. Being unable to be open and to unlearn may result in deep changes not occurring (Misawa, 2024). This “unlearning” mirrors Mezirow’s (1990) idea of perspective transformation, which involves critically reflecting on and revisiting problematic frames of reference. Misawa (2024) draws on a contemporary idea by framing unlearning as an act of shedding old ways, once an individual is ready to do so. Both these views bring to the forefront that deep structural change requires a conscious effort on the part of the individual. Misawa’s (2024) argument is warranted because, while SL projects may provide an avenue for transformation to occur, not all students may experience perspective transformation; and this may be linked to their willingness to “unlearn” and embrace a more inclusive and open perspective.

The TL theory concepts and perspectives outlined above may be directly linked to SL projects, as both emphasise learning through experience, critical reflection and reevaluation of previously held assumptions. Service-learning initiatives immerse students in real-world contexts and thus place them in communities that are unfamiliar with cultural differences and social complexities. It is also common for students to undertake SL projects within their communities because of their familiarity with both the context and the culture. However, even in these settings, engagement with the community can reveal preconceived notions that force students to challenge their assumptions, especially when they confront issues such as gender inequality and patriarchy, mental health stigma and LGBTQ+. These social issues transcend socio-economic status, as the divide is not necessarily based on material access yet still provides an experience that invites critical reflection, leading to perspective shifts and potential transformation. These issues make social inequality, marginalisation, or other systemic challenges a relevant context for both SL and transformative learning contexts. Research showcases how these experiences that students face challenge their perspectives, encourage critical reflection, and promote intercultural learning (Arshavskaya, 2023; Choi et al., 2023). It is at this intersection that students encounter challenges that could disrupt their existing way of thinking, which aligns with Mezirow’s (1991) disorienting dilemma.

Through SL, students are exposed to social realities that may prompt them to confront deeply held beliefs that were influenced by their culture, context, community, and upbringing. A student who might have contributed to poverty through individual responsibility may, through communication and interaction with marginalised communities, begin to understand and recognise that structural and systemic factors can also be contributing to economic

inequalities. In the same vein, engaging in SL initiatives related to education inequality, gender-based violence, and crime may encourage students to question their preconceived notions, cultural biases or stereotypes, which could trigger what Mezirow (2000) terms perspective transformation. Students may evaluate why they held certain beliefs, where those beliefs originated, and how the experiences encountered in their SL projects have either challenged or reinforced those beliefs (Hoggan & Higgins, 2023). This critical reflection takes place through rational discourse when students communicate with peers, faculty and community members as they try to make sense of their evolving perspectives (Schnepfletiner & Ferreira, 2021).

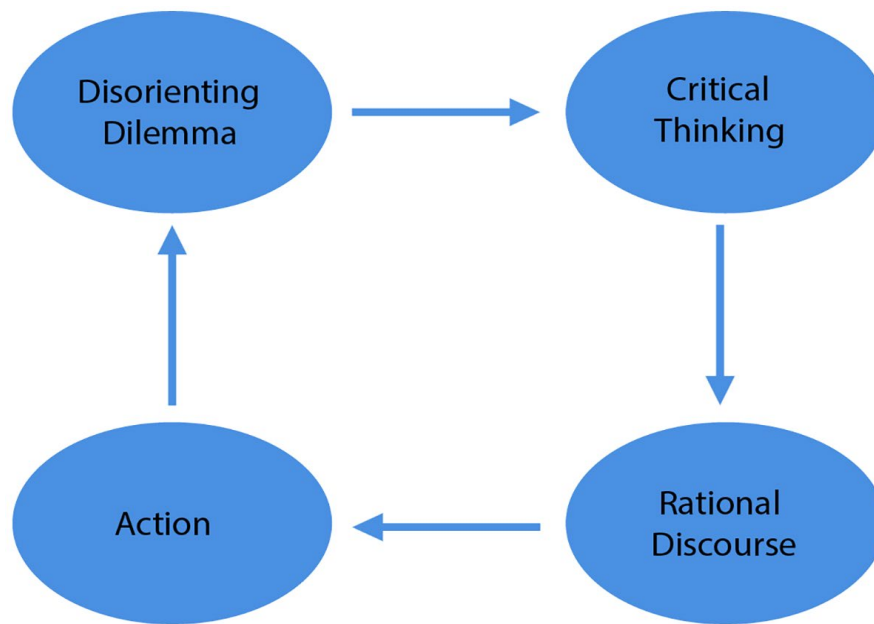
The final phase of perspective transformation is action. This becomes evident when students translate or apply their new knowledge and understanding into personal decision-making, civic engagement or their future academic work. Once students go through the transformation process, they are likely to emerge from their SL experiences with a greater sense of responsibility, cultural sensitivity and a more renewed sense of empowerment and purpose (Drewery & Lollar, 2024). This illustrates how SL catalyses experiential learning approaches as well as transformative experiences by guiding students through the 4 phases inherent in Mezirow's (1990, 1991) TL theory.

The next section highlights the alignment of the 4 phases in SL.

### **3.5 Four phases of transformative learning in service-learning**

The previous section explained TL theory, its derivation from Mezirow's 10 phases of adult learning, and its inherent limitations. This section narrows the focus to 4 key phases.

Kitchenham (2008) proposed that the TL theory essentially involves 4 essential phases: significant experience (disorienting dilemma); critical reflection; rational discourse; and action. Service-learning mirrors these 4 phases. In a SL project, students could engage in meaningful experiences, critically reflect, communicate with other participants involved in the project, and possibly choose to act, once a change in mindset had occurred. The 4 phases of transformative learning, while shown in a sequential cycle for clarity, are not strictly linear. Learners may revisit a prior phase or move fluidly between phases, depending on context, experience, and reflection (Mezirow, 2000; Kitchenham, 2008). The 4-phase model is presented below.



**Figure 3.2: Four concepts that underpin the TL theory**

**(Adapted from Kitchenham, 2008:119; Nayamunda, 2018:135)**

As seen in Figure 3.2, the first stage of the perspective-change process begins with a disorienting dilemma. This is an unavoidable difficulty that students may encounter, which may pose a challenge or cause unease. The disorienting dilemma is sparked by an experience; and, as a result, an individual's perspectives may begin to change (meaning perspectives start to shift). Mezirow (1991) noted that a person's meaning perspective undergoes two types of transformations: epochal and incremental. Epochal transformation occurs when a student's perspective changes abruptly, whereas incremental transformation occurs gradually, with a series of small changes to a meaning scheme that, over time, leads the student to recognise that his or her meaning perspective has shifted (Bursaw, 2012).

Epochal and incremental transformation experiences can be seen in SL initiatives. Students may participate in a SL project that requires them to educate community members about healthy eating and nutrition. However, students may realise that health is not a priority, as in communities with low-income families where food insecurity is prevalent. The student, who was enthusiastic about sharing nutrition information, may now be in an uncomfortable and distressing situation, which could lead to an epochal experience. The student may have assumed that all communities have access to nutritious food options, but this is not the case, which could result in a rapid shift in the student's meaning perspective. Conversely, students who participate in a feeding programme and assist in a feeding scheme once a week may gain incremental experiences. They may realise that their meaning structures have changed over time because of the weekly services they provide. However, as mentioned by Misawa (2024), students may encounter these epochal and incremental experiences but, unless they are open

to transformation and new ways of thinking and behaviour, they may not transform through their SL experience.

According to Eyler and Giles (1999) and Choi et al. (2023), students learn more about themselves and their connections and relationships with the community, society, and world at large when they are placed in an environment that prompts them to reconsider their prior experiences, assumptions about the world, and prejudices. Ash and Clayton (2004) concur that SL places students in unfamiliar situations with others about whom they have preconceived notions and unfounded beliefs. Similarly, Bunduki and Higgs (2017) argue that TL experiences enable adult learners to move away from their natural tendency to cling to and act by their preconceived notions and toward a more self-reflective, inclusive, and integrated stance. This may occur as a result of educational experiences made possible by SL initiatives, which initiate the change process (i.e., a shift in meaning perspective).

The second stage, which Mezirow (1991) refers to as critical reflection, occurs when individuals reflect on and re-evaluate their preconceived notions of themselves and their surroundings (Baumgartner, 2001), a process which could lead to contradictions in their existing beliefs or firmly held truths. This realisation of contradictions is referred to as cognitive dissonance; and it emerges when individuals discover a contradiction between two of their accepted truths (Taylor, 2007). The transformative shift in perspective, central to TL theory, demands critical reflection. It is solely through this introspective process that learners can modify the cognitive framework through which they interpret their inner and outer environments (Kolb, 2020). Drikk (1998:4) describes it as follows: "We come to identify, evaluate, and possibly reformulate the fundamental assumptions upon which our perspectives are built". According to the above views, without critical reflection, a change in the meaning perspective will not happen.

Dewey notes that reflection is an "active, persistent and careful consideration of any belief or supported form of knowledge in the light of the grounds that support it". Reflection consists of "turning a subject over in the mind and giving it serious and meaningful consideration" (1910:118). Dewey's (1910;1933;1938) thoughts on reflection, learning, and experience are crucial to the learning process of students during their SL projects. Students think deeply about the services that they have carried out and what they learned during the process, and they try to make a connection with what they have studied in the classroom. This is important because the absence of reflection may lead to students participating in SL projects without trying to understand the deeper meaning of their role, or the role that the community plays, or acknowledging the effective learning experiences that could occur as a result of SL.

Mezirow (1991) identified three types of critical reflection: content reflection, process reflection, and premise reflection. All these elements contribute to the modification of meaning schemes

and meaning perspectives. Content reflection is a review of previous accomplishments that may result in a shift in the meaning scheme (Kitchenham, 2008). The following examples of a SL lecturer illustrate the three concepts of reflection. A SL lecturer may consider what types of SL projects they are capable of completing, based on their knowledge and experience with the subject. Process reflection occurs when an individual considers his or her behaviour and whether other factors might be present; this is also a change in meaning schemes (Kitchenham, 2008). In the case of the SL lecturer, this would involve the SL lecturer reflecting on the advantages and disadvantages of previous initiatives to inform new projects.

Finally, premise reflection occurs when individuals consider the larger context of their value system, which most likely transforms a meaning perspective rather than a meaning scheme (Kitchenham, 2008). A reflection on this premise raises the question of why. Service-learning lecturers may begin to interrogate the need for new SL initiatives, why they are necessary and why SL projects need to be re-purposed to align with the changing times and changing student demographics. Critical reflection can be defined as the process of premise reflection (Kitchenham, 2008). When individuals become more conscious of how they act, think, or react in a certain scenario, contemplation on the premise prompts the questions.

For these reasons, premise reflection is perhaps the most transformative type of reflection among students who actively participate in SL projects. During or after the projects, students may start to question their own underlying beliefs and assumptions about the communities they are serving, the structures that they are aware of in society, or even their role as change agents in the future. An example would be if a student who is working on an environmental project begins to question her own behaviours and consumption habits that affect the environment, she may start pondering the societal values that fuel consumerism on a broader scale, along with personal decisions that contribute to it.

As discussed above, Mezirow's theory of TL identifies three types of reflection (content, process and premise reflection) as central to the transformative process (Mezirow, 1991; Kitchenham, 2008). However, more recent research by scholars has shifted focus towards broader frameworks for a better understanding of transformative learning. Hoggan (2015, 2020) does not explicitly revisit the three categories of reflection mentioned by Mezirow but instead advocates for understanding transformative learning as a metatheory which encompasses different models of change. In essence, Hoggan's work moves beyond reflection alone to focus on what transforms individuals, such as their worldviews and identities, which emphasise the depth and stability of these changes. This study, while grounded in Mezirow's perspective transformation, acknowledges these broader developments, highlighting the importance of reflective processes even though, alone, they do not fully constitute transformative learning. In this context, reflexivity is understood as a deeper, ongoing

integration of the self with transformed understanding and should be encouraged as a key element of the transformative learning process in SL. The latter informs the flexible model by embedding both reflection and reflexivity as vital components, allowing for the model to accommodate deeper transformative processes.

While critical reflection is a significant component of TL theory, providing a platform for individuals to analyse their experiences critically and potentially to alter their behaviours, attitudes and perspectives, the concept of reflexivity could offer additional benefits in an educational setting. Reflexivity is a deeper form of reflection which involves a continuous cycle of critical evaluation and self-awareness that pertains not to one's actions but also to the underlying social contexts, beliefs and values that influence those actions (Finlay, 2002; 2008). Finlay (2008) elaborates on the concept of reflexivity by stating that it can lead to significant intellectual and personal growth by encouraging a deeper understanding of oneself relating to cultural and societal frameworks. This means that, by individuals understanding the broader contexts in which they function, they could develop a more comprehensive and nuanced perspective, as well as gain deeper insights into their motivations, behaviours and biases (Grenier, 2016; Feucht et al., 2017).

By synthesising these perspectives, it is evident that reflexivity not only supports transformative learning but also has the potential to enhance its depth and authenticity by requiring students not only to confront what they think but also why they think it. In the context of this study, integrating reflexivity into the flexible SL model is crucial to promote meaningful transformation, as it impels participants to grapple with the deeper sociocultural dimensions of their learning and ethical issues involved in their learning and service, such as how their background may influence how they perceive others, or if their behaviour and actions are mindful and respectful of others.

Promoting reflexivity in SL projects may assist students in understanding their thoughts, feelings and actions regarding the lessons learnt during the SL project. With an awareness of their biases and motivations, it is possible that they can make better-informed decisions and develop greater emotional intelligence. In addition, reflexivity encourages students to think critically about their own experiences and the social biases that are influencing them (Afolayan, 2016). By understanding the underlying factors that influence their actions, students could experience significant personal growth (Ash & Clayton, 2004). This also contributes to intellectual development as they learn how to apply knowledge and integrate it in different contexts. Students who practise reflexivity in their SL projects may not only consider the project outcomes but also consider how their own beliefs, attitudes and culturally different backgrounds influence and impact their behaviour and interactions within the group. Additionally, they may also think about how their actions could affect others and how it was

shaped by societal expectations. In recent research, Woodward and Ball (2022) discuss the importance of reflexivity in community engagement to improve understanding and collaboration, further highlighting the effectiveness of reflexivity in SL. In essence, reflexivity is an extension of reflection that leads to meaningful learning (Afolayan, 2016; Feucht et al, 2018). As noted previously, reflection, reflexivity and transformative learning are contingent on the kinds of SL activities which students are required to engage in, as well as the conscious will of SL participants to bring about personal transformations.

Rational discourse is the third phase in understanding Mezirow's (1990;1991) TL theory. Rational discourse is defined within TL theory learning as a type of discussion/communication with others that focuses on personal and social belief systems and assumptions, and it is objective and logical. This is essential so that any inconsistencies, blind spots, or biases in held assumptions and beliefs can be identified and corrected (Howie & Bagnall, 2013). For this type of fair and productive communication to occur, Mezirow (1994) identified certain conditions in the discourse stage of learning, stating that the participant may acquire (a) accurate and in-depth information; (b) freedom from compulsion and self-deception; (c) the ability to weigh facts and assess arguments objectively; (d) the capacity to allow for a variety of perspectives and empathy for others; (e) the capacity to critically evaluate assumptions and their consequences; and (f) the capacity to critically decide on the next course of action.

In SL projects, the ten conditions of rational discourse mentioned above can be enabled through deliberate design and planning. Service-Learning projects are typically implemented in real-world community contexts. The project generally requires students to gather background information on these communities to understand their needs and engage with them (Celio et al.,2011). Service-learning lecturers often support SL projects by providing preparatory readings, organising guest talks, or sharing relevant information. Such activities help ensure that students are equipped with accurate and comprehensive information, grounding the dialogue in authentic real-world experiences (Bringle & Hatcher, 1996; Eyler & Giles, 1999). Service-learning projects offer opportunities for students to collaborate with group members from diverse backgrounds (Choi et al., 2023). Service-learning lecturers can encourage students to adhere to group rules and maintain group agreements or engage in reflective journaling, which can help them uncover deep-seated biases. These activities can foster emotionally safe spaces for rational discourse to occur.

In SL, critical reflection and class discussions provide a space for students to engage with multiple perspectives (Mezirow, 1990). These are often guided by SL lecturers who encourage students to participate in class discussions and guide them through case studies or reflective dialogue prompts that challenge them to evaluate competing narratives critically. As students get to work directly with diverse communities, this naturally allows students to integrate and be

introduced to unfamiliar perspectives. When SL lecturers incorporate reflective writing (online/offline), storytelling or group debriefs, students are encouraged to build empathy as they engage with diverse viewpoints. Exposing students to new experiences and individuals, SL contributes to students developing a more open mindset and being empathetic (Felten & Clayton, 2011).

At the same time, SL projects may confront students with unfamiliar realities that may challenge their preconceived notions about the communities that they serve. Through the facilitation of guided reflective practices, group discussions and feedback, students may reflect and examine their assumptions in the light of new encounters (Mezirow, 1991). Finally, the “action” in SL is not only about bringing a service to the communities but also about gaining knowledge and learning to act in a new way in light of their new perspective. Service-learning lecturers play a role in encouraging reflective sessions to help students assess their future roles in society, enabling them to think about how their learning in their SL projects translates into socially responsible action. This is in support of Mezirow’s (1994) idea that, through fair, honest, and respectful dialogue, individuals can critically reflect on different views, and that helps them make well-informed decisions on the next course of action.

While there may be SL projects that include the aforementioned conditions, it is possible that these conditions might not be met. Students may not engage deeply, may complete the assigned tasks without any critical reflection on their biases and assumptions, or the broader societal issues involved. Additionally, the SL experience may not challenge stereotypes or biases. Moreover, group discussions could be dominated by a few students, which may limit opportunities for engaging with multiple perspectives or listening empathetically. Lastly, if there is no shift in meaning perspective, the SL experience, although educational, may not be transformative. In such SL projects, transformative learning, specifically perspective transformation, may not occur or may remain incomplete. Therefore, intentional design, structured reflection, and deliberate facilitation by SL lecturers are essential components of SL projects. The rational discourse phase of the TL theory aligns with the principle of reciprocity.

While not always the case, through reciprocal dialogue, SL relationships between students and community members are cultivated. Students engage with community members, and throughout the project, they may build trust, which lays the foundation for their engagement to be increasingly meaningful. These interactions enable students to realise that their role is not solely to provide a service in the community, but they also to learn from community members (Jacoby, 1996; Salam et al., 2019). Fougère et al. (2019) further articulate that reciprocal learning positions all individuals as learners and teachers.

Within SL projects, students tend to develop trust and rapport with their group members enabling them to complete SL projects through rational discourse. Group members can then communicate openly and question each other about their experiences. Moreover, the dialogue, involvement and guidance of SL lecturers, students' learning experience is enriched and they can acquire new perspectives while working on strategies for future actions.

In light of this, it can be stated that reciprocity in SL projects provides a platform for the rational discourse mentioned in TL theory. Learning is facilitated through meaningful discourse and questioning that take place among all participants in a SL project. In these interactions, it is possible to observe many of Mezirow's (1991) conditions for proper discourse:

- Students may receive accurate background information to understand the communities from their peers and community members.
- Service-learning participants should be free to express their viewpoints.
- Service-learning participants should acknowledge and respect diverse viewpoints during discussions.
- Students should demonstrate empathy as they engage with new and unfamiliar perspectives.
- Service—Learning Lecturers Should prompt students to think critically about their assumptions and biases.
- Students may choose to explore the next steps collaboratively or to act alone.

While not all conditions mentioned by Mezirow can be measured explicitly, the structure and the way SL is implemented and facilitated make it possible to create an environment in which these rational discourse conditions emerge.

The fourth phase of TL learning is acting on the transformed mindset. Transformative learning is not only about personal growth but also encourages individuals to take action to uplift their communities positively (Misawa, 2024). Within SL, once a student's perspective has shifted through critical reflection, students can plan a course of action. They have the opportunity to redevelop prior assumptions, generate new frameworks, and construct new perceptions that will influence future action (Hatcher & Bringle, 1997). To implement a plan of action, students need to acquire new skills and knowledge. These new, inclusive, and expansive ways of thinking integrate with the rest of a student's life as the student reintegrates into society under the condition guided by this new perspective (Bursaw, 2012). In other words, once a student makes sense of an experience, he or she may decide to act upon it (action). They could use the new way of thinking or new ideas and thoughts as guides for experimenting in the real world, using their transformed way of thinking and the knowledge gained in the preceding phases (as noted in Figure 3.1).

An illustration of this would be a student involved in a healthcare project educating disadvantaged communities on the importance of hygiene to prevent diseases. This student may have a complete shift in prior understandings of hygiene and the spread of diseases and may choose to act on their new perspective, perhaps by creating a community outreach initiative or organising campaigns and workshops that teach hygiene. The action component of TL theory is embodied in the fabric of SL because it provides students with a platform to act on their transformed understanding, to reflect, adapt, and grow continuously, both personally and academically. However, as mentioned earlier, students may need to unlearn prior perspectives and be open to “unlearning” (Misawa, 2024) for transformation to occur in their SL projects. This suggests that not all students may go through perspective transformation and act on it immediately. As Mezirow (1990) explains, action generally follows from a shift in perspective, but it may not always occur at once. New perspectives may first emerge in awareness, attitudes, or ways of seeing, with concrete actions unfolding later as those shifts consolidate.

The four phases will be used as a lens to determine whether students who have participated in SL projects progress through any of these four phases that are crucial for transformative learning to occur. Thus, it will be possible to demonstrate if students experience transformative learning with the current SL model at this UoT. Next, limitations in the TL theory are presented.

### **3.5 Limitations of transformative learning theory**

Scholars (Cranton, 1994; Taylor, 1997; Maiese, 2017; Carter & Nicolaidis, 2023) critique TL theory’s strong emphasis on rational and analytical thinking and critical reflection, arguing that it disregards the importance of emotions in learning. Taylor (2007) argues that emotion plays a crucial role in the process of changing one’s perception, making affective learning a critical yet unexplored component of transformative learning. Although Mezirow (2000) later acknowledges the significance of emotions, asserting that “effective participation in discourse and transformative learning requires emotional maturity, awareness, empathy, and control,” critics still argue that the TL theory remains predominantly cognitive (Schneppfleitner & Ferreira, 2021). More recent studies support this critique, demonstrating that rational discourse alone is insufficient and emotions such as guilt, shame, grief and anger play a crucial role in transformative learning experiences (Carter & Nicolaidis, 2023; Hoggan & Higgins, 2023).

Despite evidence supporting the importance of emotional learning, there is little research on how to engage emotions effectively in practice, especially about critical reflection and the role of specific emotions, such as grief, guilt, and rage (Taylor, 2007). Dirkx (2006:17) addresses this concern by suggesting that one needs “to consider a learner’s emotions as transparent or

literal windows that reveal experienced realities", highlighting the role of emotions in understanding learning.

As noted earlier, Mezirow (2000) acknowledged the importance of emotional maturity in the TL theory. This suggests that, though TL theory is not completely dismissive of emotions in the learning process, it seems to emphasise the need for them to be effectively challenged within rational discourse. Hoggan and Higgins (2023) state that, although discourse is framed as rational, emotions are still present in exchanges and these shape engagement when one is participating in rational discourse, influencing how individuals process transformative experiences. Service-learning projects have the potential to promote emotionally-charged debates and reflective dialogues by providing a platform for students to immerse themselves in real-world experiences. Through integration with communities, students may experience emotions such as empathy, frustration or even discomfort, which could lead to deeper reflection and transformative learning.

Taylor (2006) criticises Mezirow's TL Theory paradigm for placing the learner at the centre of the transformative process, calling it excessively individualistic and autonomous. However, the argument that the TL theory is individualistic is not entirely correct. While TL theory encourages individual critical reflection, it is certainly not devoid of interaction with others. Mezirow's (1991) concept of discourse requires communicating with others. In SL projects, students are encouraged to talk to each other and community members, which helps them learn from their experiences. The concept of discourse, central to the TL theory, involves relational dynamics. Discussions and interactions with others heavily influence students, even though they are at the centre of their transformative process. The individual centralises the transformative process, yet it navigates through a broader social context.

Other criticisms of the theory have focused on its application in unusual circumstances (Nyamunda, 2018). This concern originated from a qualitative study by Mezirow (1978) that focused on women returning to work or school after an extended absence. Similarly, studies such as Baumgartner's (2001) on how HIV-positive individuals change have further highlighted this issue. Nohl (2015) adds that the groups studied were limited to a specific social group, making the applicability of the theory to other situations unknown. Taylor (2007) also posits that the TL theory confines itself to formal settings like workshops and universities. Consequently, it is necessary to broaden the perspective to include informal contexts that would result in greater external influence.

Service-learning is a learning strategy that combines educational theory with the legitimate application of academic ideas in practical scenarios. This entails students participating in practical experiences which extend beyond standard classroom discussions via project

participation (Lemieux & Allen, 2007). Non-traditional settings are typical environments in SL, whereas formal settings, such as classrooms and universities, are more typical for conventional education. However, students can still have substantial transformative experiences in these non-traditional settings (Nino et al., 2011).

Despite these concerns and criticisms, the TL theory remains widely accepted and applied across various fields of study. As seen in Table 3.2, the TL theory has evolved, refining and expanding on the initial ideas. It could be said that no theory is flawless; the strength of a theory rests on its ability to be tried and tested, as well as critiqued and refined over time. Additionally, when flaws in a theory are identified, this does not mean that the entire theory has been invalidated; rather, it presents an opportunity for further research, refinement, and improvement. Therefore, despite the criticisms and modifications, the TL theory is still relevant for this study. The theoretical constructs of Kolb's (1984) model will be used as a lens to gain insight into different learning styles. This will be discussed in detail next.

### **3.6 Kolb's Experiential learning theory**

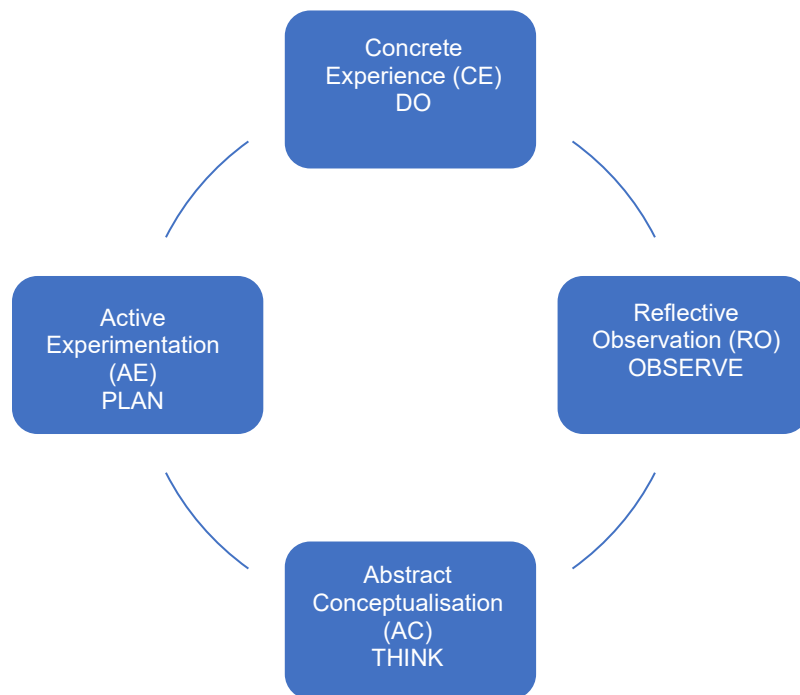
This study aims to understand the learning styles of a specific group of Gen Z students at a UoT. To achieve this, Kolb's Experiential Learning Theory (ELT) was employed as the framework to explore and analyse their learning styles. This section begins with an explanation of Kolb's (1984; 2015) ELT, which provides the foundation for the four learning styles derived from the experiential learning process (Koob & Funk, 2002) and tested using the Kolb Learning Style Inventory (LSI) (1976; 1984). Although this study employed only the four learning styles to understand the Gen Z students' learning styles, the entire ELT framework is explained: as it is inherently tied to the complete learning cycle, it cannot be discussed in isolation. The theory outlines how individuals move through the stages of learning. This is essential to how the learning styles relevant to this study emerged. Additionally, the LSI's description and criticisms, along with their impact on this study, are examined. Finally, a justification for utilising the LSI to interpret student learning styles is provided.

The ELT presents a comprehensive and integrated explanation of how learning occurs, alongside a non-linear model for understanding the progression of adult development (Kolb, 2014). In other words, learning does not occur through a fixed, step-by-step process; instead, it can move in different directions, based on context and experience. Kolb developed a detailed model of experiential learning processes based on Dewey's theory (Saltmarsh, 1996).

Kolb (1984; 2015) highlighted experiential learning as an effective method for integrating education, personal development, and growth. Kolb (1981; 1984) based his ideas on the principles of experiential learning. Kolb and Kolb (2005:194) describe the Kolb theory as a process supported by six principles:

- (1) engages students;
- (2) builds on students' beliefs and ideas;
- (3) necessitates the resolution of the conflict between dialectically opposed modes of adaption to the world;
- (4) adapts to the world;
- (5) results from synergetic transactions between the person and the environment, and
- (6) produces new knowledge.

According to Kolb and Kolb (2005), learning is the process of acquiring knowledge through the "transformation" of experience, based on the six principles above (Kolb & Kolb, 2005). Kolb's experiential learning cycle comprises four phases (see Figure 3.3): concrete experience; abstract observation; abstract conceptualisation; and active experimentation (Kolb & Kolb, 2005); Akella, 2010; Mcloed, 2017; Mtawa, 2017). While Kolb's broader theory allows for flexibility in movement between phases (depending on the student and context), the learning cycle itself is presented as a structured sequence. The four phases of learning in the ELT model are presented here:



**Figure 3.3: Experiential learning model**

**(Adapted from Kolb, 1984)**

Akella (2010) describes the four phases of learning seen in Figure 3.3 as follows: when a student actively participates in an activity, this is referred to as a concrete experience (e.g., laboratory session, field class, workshop). When a student consciously reflects on what

occurred, how it impacted them, or what they observed during the experience, it is known as reflective observation. Abstract conceptualisation refers to when a student begins to make sense of their experience by connecting it to previous knowledge, theoretical concepts and course material. Active experimentation occurs when the student applies what they have learnt, such as preparing differently for any future public interactions.

Kolb's model represents a one-directional, sequential learning cycle, where each stage leads logically to the next: concrete experience then reflective observation, moving to abstract conceptualisation and active experimentation. This sequential order refers specifically to the learning cycle itself, even though ELT as a whole supports non-linear adult development.

This study primarily employs Kolb's Learning Inventory (LSI), which draws on the full ELT to contextualise the learning styles, acknowledging it as a flexible yet structured process through which students transform their experiential learning experience into knowledge (Kolb, 1984; McLeod, 2017). Kolb's learning cycle starts with a new experience, which is encountered in the concrete experience stage; students reflect on the experience to understand it in the reflective observation phase, and it is through this reflection that a new idea may emerge, or an existing idea may require modification in the final stage known as an active experiment.

Notably, while the learning cycle presents a step-by-step structure, learners may enter at any point, depending on their learning preferences. Kolb (1984; 2015) notes that not all students utilise the stages of the learning cycle equally; rather, they prefer to focus on one or two stages. This may be a result of their preferred learning styles and methods of use. Using a Learning Style Inventory (LSI) grid, Kolb and Kolb (2013) identified four learner groups: Divergers, Assimilators, Convergors, and Accommodators. It is at this point that this study positions itself. It focuses on these four distinct learning styles to examine the learning styles of the Gen Z participants in this study. The following section elaborates on these four types of learning.

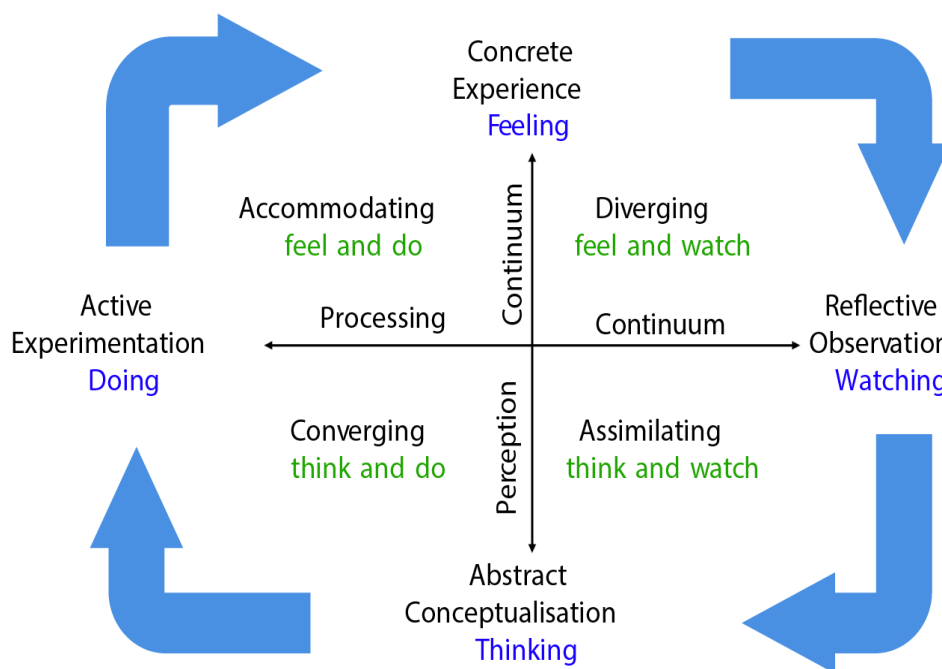
### **3.6.1 Kolb's four learning styles**

Kolb's (1984) learning styles emphasise the process by which students prefer to learn. It is a cyclical process (experiencing, reflecting, thinking and then acting) directly linked to the way students process and assimilate new information. The four learning styles are derived from the four-stage learning cycle illustrated in Figure 3.3. According to Kolb (1984), individuals do not all learn in the same way, as various factors, including one's social environment, educational background, and cognitive structure, influence the learning process. These learning styles are found on two distinct continua. The horizontal axis, referred to as the Processing Continuum, represents how individuals approach tasks; the vertical axis, known as the Perception Continuum, reflects how an individual thinks, acts, or feels (McLeod, 2013; 2017). The two

main criteria used by Kolb (1984; 2015) help demonstrate an individual's unique learning style. Figure 3.4 illustrates this continuum.

In the figure, where the horizontal line (the Processing Continuum) and the vertical line (the Perception Continuum) meet, four quadrants are formed, each of which represents a unique learning style. Kolb (1984) claimed that individuals cannot simultaneously perform both variables on a single axis (such as thinking and feeling). In practice, he suggests that a student cannot be fully immersed in an intense hands-on activity with emotion while also trying to engage in detached analytical thinking. Instead, learners tend to shift between these modes depending on the task, context or learning environment.

Consequently, a learning style is the result of these two options. As seen in Figure 3.4, an individual may lean towards "Thinking" on the Perception Continuum and "Doing" on the Processing Continuum, which places them on a specific quadrant of the cross at a specific time. Kolb (1984; 2015) argues that individuals engage primarily on one continuum at a time, feeling or thinking, or either watching or doing. However, this does not mean this is a fixed position, but rather illustrates the flexibility in learning, where the learner will shift to different modes, depending on the learning environment.



**Figure 3.4: Kolb's learning style continua**

**(Adapted from Kolb, 1984; Kolb & Kolb, 2013)**

The next section describes the LSI (1985), which Kolb (1984) introduced as part of his ELT. Kolb brought in the LSI mainly to help individuals have a better insight into their learning styles

and to use this insight to enhance the effectiveness of their learning processes. Therefore, while this study does not utilise the LSI to identify a student's learning style, it is used to provide explanations and descriptions of different learning styles as part of data analysis and discussion. The primary rationale for not using the LSI was to avoid reliability and validity concerns levelled against the LSI test (described under LSI criticisms) (Bergsteiner, et al., 2010). Additionally, it was concluded that it was preferable for students to reflect critically on their learning style, as opposed to obtaining the findings from a learning style questionnaire.

### **3.6.2 Description of the four learning styles**

According to Sudria, Redhana, Kirna, and Aini (2018:91), "a learning style relates to the preferred technique to learn, such as absorbing, processing, and managing information through remembering, reasoning, and/or problem-solving." It should be noted that the four learning styles draw parallels with other learning styles, which broadens the scope to more than the four mentioned by Kolb (1984). For example, when examining the characteristics and descriptions of Kolb's (1984) four learning styles, there are parallels with Gardner's (1993) theory of Multiple Intelligences. Although these two theories originate from distinct theoretical underpinnings and do not serve the same primary purpose, there is an overlap between them.

While Kolb (1984, 2015) emphasises the process of learning and identifies four learning styles: Converging, Diverging, Assimilating, and Accommodating (see Figure 3.4). The four learning styles are based on how individuals prefer to gather and process the information they engage with. In contrast, Gardner's (1993, 1999) theory emphasises the different kinds of intelligence that humans possess, such as interpersonal, intrapersonal, and logical-mathematical. Despite these foundational differences between the theories, certain learning styles from both share similar descriptions and characteristics. The main purpose of referring to other theories, such as Gardner's (1983, 1999), is to expand the discussion on learning styles, even though there are differences. For clarity and consistency with terms, "learning styles" will be used throughout this section.

Kolb and Kolb (2005:196-197) provide the following summary of these four learning styles. Concrete Experience (CE) and Reflective Observation (RO) are the predominant learning skills in the divergent approach. This learning approach is best suited for analysing concrete problems from multiple perspectives. This is described as "diverging" because individuals with this learning style perform better in settings requiring the development of new ideas and concepts, such as "brainstorming" sessions. This learning style is characterised by broad cultural interests and a desire to gather information. They have an interest in other individuals, are imaginative and passionate, and tend to specialise in the arts. In a formal learning environment, these individuals listen with an open mind and are receptive to customised

criticism. They are learners who prefer to watch rather than do. This divergent approach can be aligned with the interpersonal learning style. Individuals with this learning style interact well with other individuals and work effectively (Gardner, 1993) in groups and collaborative environments (Kolb, 1984).

Kolb and Kolb (2005) continue by claiming that a person with an assimilating learning style possesses both AC and RO as dominant learning abilities. These individuals can organise the information they receive and comprehend it logically and succinctly. In contrast to divergers, individuals with this learning style are less interested in other individuals and are more focused on abstract notions and ideas. It can be claimed that these individuals value the logical soundness of a theory over its practical utility. This learning method is essential for improving information efficacy and care in the science industry. In a formal learning environment, this would include readings, lectures, time to reflect, and the exploration of analytical models. Kolb's (1984) assimilating learning style emphasises abstract concepts and reflective observations, a style which aligns closely with the choice of linguistic, visual and logical-mathematical learners (Gardner, 1993) who enjoy processing information through language, logical reasoning and visual aids.

Other learning styles similar to the description of the assimilating learning style are those that lean more towards an intrapersonal learning style. They have a deep self-awareness and find it easy to introspect, during which absorbing, understanding, and reflecting are key aspects (Kolb, 1984). In addition, linguistic and logical-mathematical learning styles are aligned with the assimilating style of learning. Students with strong linguistic intelligence have a strong ability to use words effectively, both in their speech and writing abilities (Gardner, 1993). On the other hand, students who possess the ability to analyse and work out problems effectively and carry out mathematical equations and investigate issues scientifically, possess a logical-mathematical learning style (Gardner, 1993). These learning styles easily align with the assimilating learning style (Kolb, 1984) because the students gravitate towards logical ways of thinking and abstract conceptualisation. These students prefer structured ways of thinking, concise reasoning and explanations, and analytical models of learning (Gardner, 1993).

Kolb and Kolb (2005) explain further that an individual with a converging learning style has dominant AC and AE learning capacities. These individuals learn best when theories and concepts are applied practically. They are capable of finding answers to these difficulties and questions. Individuals with this learning style possess talent that is essential for technological and specialised occupations. They prefer to experiment with new concepts, simulations, laboratory assignments, and practical applications in a formal learning atmosphere. This learning style is aligned with the intrapersonal learning style; they often prefer to work alone or in technical environments and enjoy self-driven tasks (Gardner, 2017).

Kolb and Kolb (2005) conclude their summary by discussing the accommodating learning style. Both CE and AE are dominant abilities in this style. This learning style is characterised by a preference for learning through "hands-on experience". They typically prefer preparing for and engaging in novel and challenging situations. In addition, they behave based on instinct rather than on a logical evaluation of a circumstance or problem. This causes them to rely more on other individuals for knowledge than on their technical skills. This learning style is essential for success in action-oriented professions such as sales and marketing. In a formal learning environment, individuals with this learning style "prefer to collaborate with others to complete projects, conduct fieldwork, define goals, and experiment with various methods to achieve a task (196-197)". The accommodating learning style is aligned with the kinaesthetic learning style because they thrive in hands-on experiential learning environments where they enjoy learning by doing (Gardner, 2017).

Kolb's (1984; 2015) model of four learning styles has been broadened by other researchers (Abbey et al., 1985; Hunt, 1987) to incorporate additional learning styles. Nonetheless, this investigation considers Kolb's four parallel learning styles mentioned in the passages above. Table 3.2 provides a concise and broad overview of the alignment between learning styles and their broad descriptions.

**Table 3.2: General characteristics of learning styles (Kolb & Kolb, 2005:196-197)**

<b>Divergent Learning Style</b> <b>(Interpersonal learning style)</b>	<b>Convergent Learning Style</b> <b>(Intrapersonal learning style)</b>	<b>Assimilating Learning Style</b> <b>(Linguistic /Logical-mathematical learning styles/Visual)</b>	<b>Accommodating Learning Style</b> <b>(Hands-on-learning/ Kinaesthetic style)</b>
Learning through feeling and observation, knowledge is gained	Learning through reflection and practice	Learning through reflection and observation, visual aids to understand/abstract concepts	Learning/through feeling and doing
Superior inventiveness and imagination	Excellent practical ability to apply ideas and theories	Ability to comprehend and generate inductive theories and reasoning	Excellent capability to conduct programs and experiments
Seeing issues from multiple perspectives/open/good at brainstorming	Improved performance in instances where there is just one possible resolution.	Combining many methods and observing them in a broad context. Linguistic-reading, writing/engaging through language/ Logical-reasoning, recognising patterns	Enthusiastic about new experiences/ working in real-life contexts
Interested in forming connections/working collaboratively	Unfeeling and uninteresting	Individualistic (incapable of forming several partnerships)	Taking risks, brisk, and hurried
Interested in courses in the arts and humanities	Individualistic/prefer to work alone/not too reliant on social interaction	Accurate, reflective, and rational  Not paying attention to the implementation of theories and ideas in the real world	Concerned with the relevance of the concerns  Using intuitive trial-and-error methods to solve issues
The consultants, organization specialists, and managers	Physical Sciences, Engineering, Computer Science, and so on	Basic Sciences and Mathematics Researchers, planners, and philosophers study the fundamental sciences and mathematics	Teaching, nursing, marketing, and sales

This research focuses on the four aforementioned learning styles and their characteristics, which are used to draw parallels with the learning styles identified by this study.

### **3.7 Chapter Three summary**

Chapter Three presented the theoretical frameworks used in this current study. From the preceding discussions, it is possible to draw the following conclusions regarding TL theory. The four concepts of disorienting dilemma, reflection, rational discourse, and action are best suited to comprehend the transformative learning of Gen Z students in SL initiatives for this study. In addition, once the research has been completed, certain critiques levelled against TL theory could be responded to. The latter part of the chapter transitioned to Kolb's (1984) ELT and focused on LSI, which illustrates four learning styles: Divergers, Convergengers, Assimilators, and Accommodators. These will be utilised as a lens to gain deeper insight into the learning styles of student participants. Although the LSI test was not used, understanding it was necessary, as Kolb's ELT is an integrative theory. Both Mezirow's (1990;1991) TL theory and Kolb's ELT will be employed when analysing the data (to be discussed in Chapters 6 and 7). The next chapter discusses the research methodology employed in this study.

## **CHAPTER FOUR**

### **Research Design and Methodology**

#### **4.1 Introduction**

This study aims to adapt the current Service-learning (SL) model for Generation Z (Gen Z) students at a specific University of Technology (UoT) to align more closely with their learning styles, learning preferences and characteristics. The relevant literature was presented and discussed in Chapter Two. The theoretical frameworks outlined in Chapter Three guide the research questions and approach for this study. Chapter Four details the research methodology employed for this study. It provides a detailed description of the research process, including the study design, data collection, and analysis procedures. In addition, key decisions made in the methodology, such as the choice of study site, participant selection, and the approach to data collection, will be discussed. This chapter also addresses the researcher's reflexivity and potential biases, trustworthiness in qualitative research and ethical considerations that guided the study. Through the above explanations, the chapter seeks to justify the approach taken, as well as offer transparency in how data were gathered and analysed to answer the research questions.

Chapter Four begins with the explanation of research aims and questions (4.1.1). Next, pragmatism, the philosophical stance that guided the study, is discussed (4.2). Thereafter, the qualitative and quantitative research methods are discussed (4.3), and the research design is presented (4.4). This is followed by a description of the site and participant selection for this study (4.5). Next, the data collection methods (4.6) and data interpretation and analysis (4.7) are discussed. Following these, the commitment to credibility is addressed (4.8); and finally, the chapter summary (4.9) is provided.

Notably, the data for this study were collected during the COVID-19 pandemic. Due to limited interpersonal contact during the pandemic, the facilitation of face-to-face, semi-structured interviews and focus group interviews was restricted, with most needing to be conducted online due to health and safety regulations. However, the limitations placed on SL activities during the pandemic were also beneficial for the study, as the gaps in SL pedagogy became more apparent when universities shifted to temporary measures or were forced either to cancel or postpone SL projects. These gaps in SL pedagogy and sudden pivots in SL activities provided additional insight into the kinds of aspects of the current SL model that needed more flexibility at this UoT.

#### **4.1.1 Research aims and questions**

This research sought to adapt the current SL model at one UoT to align more appropriately with the needs and preferences of Gen Z students. By exploring their learning preferences and characteristics, the study sought to inform the adaptation of the SL model. Many SL projects were cancelled or postponed during the COVID-19 pandemic. This highlighted the restrictions in current SL models, providing more reason for a flexible and responsive approach during a crisis.

The study was guided by the main research question and sub-questions. The main research question addressed in this study is:

- *How can a service-learning model be developed for Generation Z students at a UoT?*

The main research question was addressed using four sub-questions. Derived from the main question, these were deliberately structured to explore key aspects relevant to the Gen Z students, including their learning styles, preferred learning environments, characteristics and their SL experiences. While each sub-question addresses a specific aspect of the Gen Z student participants, collectively they provide insights to inform adaptations required to make the existing SL model more flexible and adaptable to different contexts.

1. *What are the learning styles and learning preferences of Generation Z students at a university of technology?*
2. *What are the characteristics, motivations to learn, and personal outlook of Gen Z students at a university of technology?*
3. *How do Gen Z students experience transformative learning in service-learning at a university of technology?*
4. *How might Gen Z students perceive SL projects in the year 2030?*

The next section addresses the philosophical framework employed for this study.

#### **4.2 Pragmatic paradigm**

Pragmatism prioritises practical inquiry (Kaushik & Walsh, 2019) and is open to multiple research methods (Crewell & Creswell, 2018a) to address real-world problems. The references to 'practical enquiry', 'multiple research methods', and 'real world problems' resonate with characteristics of this study. This pragmatic paradigm allowed for the integration of various methods to gain deep insights into the Gen Z students' SL experiences and a better

understanding of them as students. This study is situated within a pragmatic worldview, which departs from the more common philosophies used in research: positivism and interpretivism (Morgan, 2007; Kivunja & Kuyini, 2017).

Typically, quantitative research is conducted under a positivist paradigm in which there is only one objective reality which is distinct from the researcher's perspective (Maarouf, 2019). In other words, researchers using a positivist paradigm remain detached from the subject matter, to ensure that their personal opinions and biases do not influence the outcomes of the study. By contrast, interpretivism maintains that multiple realities exist (Maarouf, 2019). Researchers are not isolated from these studies (Johnson & Onwuegbuzie, 2004). Essentially, their perspectives, experiences, personal beliefs, and backgrounds play a pivotal role in the understanding and interpretation of data.

This study focuses on understanding the experiences of Gen Z students. The study may appear aligned with interpretivism yet is firmly rooted in pragmatism. The aim of the study was not only to understand the learning preferences, characteristics and SL experiences of a specific group of Gen Z students but also to use this understanding to create a practical and adaptable SL model, making pragmatism a more suitable paradigm. Pragmatism was popularized by early researchers such as Pierce whose aim was to connect thought and action (MacFarlane, 2012) and James (Cherry, 2023), who proposed tracing the consequences of every idea as a way for individuals to solve problems; and later Dewey (1859–1952), who tried to close the gap between thought and action by defining action as conducting experiments under controlled situations, with thought serving to guide those experiments (Weaver, 2018; De Oliveira, 2023). This historical grounding is important for this research study, as each of these researchers frames knowledge not through abstract reflection but as something that is both shaped and tested through practical engagement.

This orientation reflects the aims of this study: to generate actionable insights into Gen Z students' learning preferences, characteristics and SL experiences and apply these insights into the development of a flexible SL. Dewey's (1938) experimental approach to learning directly supports the integration of a SL model that is continuously adapted and refined through application. This makes the pragmatic paradigm especially fit for this study, concerned as it is with flexibility and real-world application.

Rai and Lama (2020) point out that pragmatism is derived from the Greek word *pragma*, meaning action and practice. It is a philosophy that emphasises action over abstract theories. There are no absolutes in concepts such as truth, reality, and value; instead, they emerge through their usefulness in real-world situations. Pragmatism is concerned with what works in practice and assesses ideas based on their consequences and practical outcomes. This

philosophy aligns well with the context of the study, as it allows the researcher to explore Gen Z experiences, not only for understanding and interpretation but for actionable insights to inform the structure and function of a flexible SL model for them.

This study aims to respond to the current generation of students known as Gen Z who bring distinct learning preferences, characteristics and digital influences into higher education (Ishak et al., 2022). The teaching and learning needs of Gen Z students are constantly changing, making it difficult to define and have a one-size-fits-all approach. A pragmatic approach is therefore necessary as it emphasises flexibility in adapting teaching methods to meet the evolving needs of Gen Z, for this study, particularly within SL contexts.

Pragmatism is a practical paradigm in that it emphasises that knowledge and action are not separate but interconnected, meaning that knowledge should lead to action (Revez & Borges, 2019; Elgeddawy & Abouraia, 2024). This interconnection underpins this study as it aims to gain a deep understanding of Gen Z students, to inform the development of a flexible SL model (action). Generation Z students are growing up in an era of rapid technological, cultural, and educational shifts (Seemiller & Grace, 2017). Their learning preferences and characteristics are constantly changing. In light of this, a pragmatic worldview becomes essential for this study as it supports ongoing real-time responsiveness and iteration, which are necessary for the shifting realities of Gen Z students. This pragmatic worldview therefore allows the study to focus on what works in the present educational context.

The pragmatic paradigm also supports the use of multiple data-collection instruments to answer research questions (Creswell & Creswell, 2018a; Revez & Borges, 2019). Consequently, rather than being limited by a single philosophical lens, the selection of instruments is directed by their capacity to provide relevant insights. As pragmatist researchers contend, research questions take precedence over philosophical considerations (Tashakkori & Teddlie, 2008; Morgan, 2007, 2014). This aligns with the focus of this study, which sought to answer its research questions in a practical and context-sensitive manner. Since pragmatism regards truth as contextually grounded and ever-evolving, it resonates well with the changing nature of education, particularly concerning the evolving needs of Gen Z students. This study deemed a mixed-methods research approach to be the most appropriate, as discussed next.

### **4.3 Mixed-methods approach**

This study employed a mixed methods approach, encompassing qualitative (semi-structured and focus group interviews) and quantitative (survey) data collection instruments. By adopting this approach, the qualitative methods provided an in-depth understanding of the participants

lived experiences, while the quantitative methods offered broader patterns and measurable trends, enabling a more holistic understanding of the research questions. The qualitative and quantitative methods are discussed next in this section.

A key reason for using a mixed methods approach is that it allows for the collection, analysis and combination of qualitative and quantitative data in a single study, providing a more holistic understanding of the research phenomenon (Creswell & Garrett, 2008; Cohen et al., 2018). In a similar vein, Johnson and Onwuegbuzie (2004) assert that combining the strengths and weaknesses of both paradigms helps to compensate for the flaws inherent in each. This rationale underpins the decision to choose a mixed methods design for the study.

Denzin and Lincoln define qualitative research as:

... a situated interpretive activity that seeks to understand the world. Qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural setting, attempting to make sense of, or interpret, phenomena in terms of meanings people bring to them (Denzin & Lincoln, 2011:3).

In this study, qualitative methods, namely semi-structured interviews and a focus group interview, were employed to understand how a specific group of Gen Z students at this UoT experienced and learnt through their SL projects. These methods allowed for a deep engagement with the participants' values, their perspectives and sense-making processes, which align with the naturalistic and interpretive goals of qualitative inquiry. The intention of this study was not to generalise but to understand the lived experiences and perceived transformation of the Gen Z students in their SL initiatives.

Another important factor of qualitative research is that it prioritises the voices of study participants (Denzin & Lincoln, 2011). Therefore, semi-structured interviews were employed for Gen Z students to express their learning styles, preferences, characteristics, and SL experiences in their own words. These valuable insights informed the adaptation of the SL model to align better with their needs and preferences.

Qualitative research also offers a comprehensive perspective and does not isolate individual factors such as age, gender or prior experience but instead seeks to provide a comprehensive understanding of the phenomenon under study (Yin, 2014). In this study, this approach helped understand how Gen Z participants' learning preferences, characteristics and SL experiences influenced the way they engaged with their SL projects. It was not about measuring one aspect but about seeing the full learning process of the Gen Z student.

Another important factor for employing qualitative research is that it allows the researcher to adapt the research process, depending on what is emerging from the data (Merriam & Tisdell,

2015). This flexibility allows qualitative researchers to remain open and flexible to adapt their study as new themes emerge and explore unexpected findings in the data. Mixed methods research is inherently iterative. McLeod (2024) stresses the need for adaptability and flexibility throughout the research process. These qualities are vital when engaging with an evolving student cohort like Gen Z. This study embraced this adaptability, making space for any new insights as the study progressed.

Critics may claim that, since qualitative researchers rarely utilise numbers, it is difficult or impossible to summarise their findings and observations (Ismail et al., 2021). However, the ability to simplify results has become easier with the development of technology and qualitative data analysis techniques. Additionally, this criticism can be mitigated by including a quantitative method to collect data, such as an online survey, which this study adopted. The inclusion of quantitative data not only strengthens the overall research design but also serves both to validate and triangulate the qualitative findings.

In this study, an online survey was used to collect data from Gen Z students involved in SL projects. This method allowed the researcher to identify trends, common responses among participants and measurable aspects of their learning preferences, characteristics and SL experiences. Incorporating this method complemented the qualitative findings by providing a broader insight into this specific Gen Z cohort's shared perspectives. By combining both methods, a more nuanced and comprehensive understanding of the research problem was possible.

By combining qualitative and quantitative data, this study followed an exploratory sequential mixed-methods design, in which the qualitative data were collected and analysed first; this was then followed by the quantitative phase to extend and summarise patterns identified in the qualitative findings (Creswell & Plano Clark, 2018). In designs such as these, it is the qualitative insights that guide the focus of the overall study, while the quantitative data are used to explore the prevalence of patterns across a wider sample size, allowing integration during interpretation (Onwuegbuzie et al., 2010; Fetters et al., 2013). The research design selected for this study is presented next.

#### **4.4 The research design**

For this particular study, a qualitative case study methodology was deemed most appropriate, as it allowed for an in-depth exploration of a specific group of Gen Z students within a UoT setting. This method allows for the integration of multiple methods of data collection, encompassing semi-structured interviews, an online survey, and focus group interviews, to provide a holistic understanding of the phenomenon under study.

In line with this methodology, this study adopts both exploratory and descriptive research designs. The exploratory approach is justified by the limited existing research on SL models that can be effectively adapted to the learning needs and characteristics of Gen Z students in the South African higher education context. The existing literature on Gen Z discussed in Chapter 2.13 provides a valuable global perspective (Seemillier & Grace, 2016) but tends to lack grounding in localised educational contexts. However, broader generational aspects have been studied, such as their technology use and social learning preferences (Cilliers, 2017, 2021) which offer insights into Gen Z's use of technology and social media rather than offering a comprehensive understanding of their learning preferences across disciplines. While Cilliers's research provides useful local insights into how Gen Z students interact with social engagement tools, it remains limited to specific modules and lacks broader disciplinary coverage.

Simultaneously, this study is descriptive: it seeks to build a detailed profile of this Gen Z cohort to inform the adaptation of a flexible model of SL. This descriptive design is appropriate for displaying complex social and educational dynamics as they naturally occur in real world contexts (Blumberg et al., 2005; Creswell & Poth, 2018b). The case study methodology therefore provides a strong framework for gaining practical insights into Gen Z learning styles, learning preferences, characteristics and SL experiences at a UoT. Both the exploratory and descriptive designs are grounded in the case study methodology, as discussed next.

#### **4.4.1. Case study**

Before presenting the case study, it is important to note that this research adopted a mixed-methods approach situated within a case study methodology. Qualitative methods provided the interpretive depth needed to explore the students' lived experiences, with semi-structured interviews and a focus group interview allowing for detailed discussions and observations that revealed students' learning preferences, characteristics and SL experiences.

A quantitative online survey was used to gain broader insight into the learning preferences, characteristics and SL experiences of this cohort of Gen Z students. The methods used in this study were applied within the bounded system (explained later in the chapter) of the case. This is in alignment with the pragmatic paradigm underpinning the study, which supports the use of multiple methods to explore complex real-life issues. Next, the case under study and the contextual boundaries are introduced.

According to Stake (2005), case study research is not a methodology but rather a choice of what to examine (i.e., a case within a defined system). This study adopted Creswell's (2016) understanding of a case study methodology that examines a bounded system (case) by using

multiple data collection instruments as sources of information. In this case study, the bounded system includes a specific group of Gen Z students at a South African UoT who were drawn from various faculties. This bounded system is not only defined by the institution and the generation, but also the shared engagement in the SL educational conditions during the COVID-19 pandemic-era. Yin (2003) argues that a case study design is particularly appropriate when the focus is on understanding a phenomenon in a real-life context. This case study approach is appropriate for exploring how these Gen Z students understood, experienced and navigated SL, specifically in light of their generational learning and the contextual factors that affected higher education during the pandemic.

Additionally, a case study allows the use of multiple methods for data collection, allowing for the triangulation of methods for the credibility of the study. Triangulation of data balances subjective effects by combining data from multiple sources (Flick, 2004). In interviews, participants may provide deep personal insights; however, these could have been influenced by the participants' recall basis. In contrast, an online survey may lack depth due to its structured quantitative response items. Therefore, by combining these two methods, the strengths and weaknesses of each are balanced, offering a more holistic picture of the phenomenon under study (Flick, 2004).

Once the decision was made to conduct a case study using a mixed methods approach, establishing the specific type of case study most suited to this research was next. According to Yin (2014), case studies fall into one of three categories: exploratory, descriptive, or explanatory. Conversely, Stake (1995) classifies case studies into three categories based on case selection: intrinsic, instrumental, and collective. An intrinsic case study focuses on the case itself due to its particular interest; an instrumental case study is one where the case is used as a vehicle to explore and understand broader issues or phenomena that extend beyond the specific case itself; and a collective case study involves studying multiple cases to investigate a phenomenon (Stake, 1995). This study adopted an instrumental case study design, as the aim of the study was not only to understand the case for its own sake but to gain comprehensive insights into Gen Z students' learning preferences and characteristics.

The bounded case, involving Gen Z students at a UoT who participated in SL during COVID-19, allowed the researcher to explore how the current SL model can be adapted to be more flexible in meeting the needs of the current and future generations. This aligns with Stake's (1995) definition of instrumental case studies, where the case is not selected because it is intrinsic or unique, but because it provides insights into a broader concern. The instrumental case study used for this research enabled the researcher to view the case as a lens through which to explore a wider educational question: *how can a flexible SL model be developed for Gen Z students at a specific UoT?* This demonstrates the alignment with Stake's (1995)

perspective mentioned earlier. It is also consistent with the study's aim to inform and improve SL models in higher education. Table 4.2 presented next outlines how the case study method is not only appropriate but also essential to addressing the objectives of this research.

**Table 4.2: Case study strengths in the context of this research**

<b><i>Salient traits and advantages of case study (Stakes, 1995; Yin, 2014, 2018)</i></b>	<b><i>Current case study research</i></b>
<b>Design and category</b>	Instrumental case study
<b>Two elements of a case</b> <ul style="list-style-type: none"> <li>• The subject</li> <li>• The analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Gen Z students</li> <li>• Their SL experiences</li> </ul>
<b>Bounded system</b>	A single UoT/specifically, a defined group of Gen Z students enrolled in SL programmes.
<b>A holistic, in-depth study</b>  Detailed exploration of the case assists in explaining the intricacies of real-world circumstances that surveys and experimental research have failed to capture adequately.	Provides an In-depth exploration of the SL experiences, learning preferences and characteristics of Gen Z students in their academic environment.
<b>Multiple viewpoints</b>	Perspectives from both SL lecturers and Gen Z students enrich the understanding of the case.
<b>Multiple data collection methods</b>	Semi-structured interviews, focus group interviews and an online survey.
<b>Real-life context</b>	All data were collected and analysed within the institutional environment of a single UoT.

The use of an instrumental case study enables an in-depth exploration of a bounded system, specifically the SL experiences of Gen Z students at a particular university of technology (UoT). This approach provides a holistic understanding of the Gen Z student learning experience, which could be difficult to capture through the use of other research methods. The purpose of the online survey was not to generalise findings but to complement the qualitative data retrieved from the semi-structured interviews and the focus group interview. This combination provides a holistic understanding of the case and aligns with the foundational aims of qualitative case study research pointed out by both Stake (1995) and Yin (2018).

Subsequently, this methodology is not only appropriate for this study but also justified in its ability to capture diverse perspectives of the educational experiences of a specific generational cohort. Therefore, the instrumental case study design was not to study the case for its own sake but to generate insight into how SL is experienced by Gen Z students, within a specific institution and generational context. Next, the site selection and participants are discussed.

#### **4.5 Site selection and participants**

The site selected for this study is a University of Technology (UoT) in South Africa. It was the employment site of the researcher, which helped provide accessibility to both Gen Z student participants and SL lecturers who participated in SL projects. The familiarity that the researcher shared with the institution enhanced trust and access for this study, which were important, given the strict health and safety rules which imposed logistical difficulties as a result of the pandemic. Besides the ease of access provided to the researcher at this UoT, other factors contributed to its selection as the most appropriate site of study. Firstly, the UoT is widely recognised and known for its provision of SL opportunities afforded to students. This is relevant to the current study, which seeks to understand Gen Z students' experiences with SL. Secondly, the UoT has an established Centre for Community Engagement and Work Integrated Learning, with SL situated under this umbrella (CPUT, 2021). This provided the researcher with a rich and suitable environment to explore the SL experiences of Gen Z students in a meaningful way.

Secondly, this UoT has articulated a vision for 2030, which seeks to create a smart, multi-disciplinary student-centric education ecosystem (CPUT, 2021). This vision is in line with the current study objective to contribute to the adaptation of the current SL model by making it more adaptive to the learning preferences and characteristics of this specific Gen Z cohort. The alignment between the focus of this study and the UoT's priorities therefore further validates this site selection.

The projects selected for the study were based on the recommendations of the Community Engagement Unit, which coordinates the SL projects at the institution. Despite attempts to recruit students from all six faculties, responses were received from five faculties only: the Health and Wellness Sciences; Business and Management Sciences; Education; Engineering and the Built Environment; and Applied Sciences. As mentioned, this study was initiated during the COVID-19 pandemic, which could be a possible reason for the lack of a substantive number of responses, despite several attempts to recruit more participants. In addition, pandemic-related academic disruptions, transition to online learning, student stress, and limited SL projects are possible reasons for the reduced willingness to participate in this study. However, data saturation was reached with the sample size of seven students for the semi-

structured interviews, seven SL lecturers for the focus group interview and 37 students who responded to the online survey. Information redundancy was reached, a point where there is no new information, codes or themes are extracted from the data (Braun & Clarke, 2019), which became apparent with the repetition of ideas and consistency across all three data sets.

As explained, this study yielded data from three different data instruments: semi-structured interviews, a focus group interview and an online survey. Although the participants for the semi-structured interviews and the survey were different, the questions were similar and deliberately designed to explore the same focus areas, such as Gen Z students' SL experiences, learning preferences and characteristics. Importantly, all research questions were answered by the participants, and the specificity of the questions assisted in getting precise, clear responses. Subsequently, the number of codes, categories and themes was sufficient to answer the study research questions. Multiple data collection methods also enhanced the credibility of the findings, as they allowed for triangulation (discussed later in this chapter) across data sets. This helped to reinforce the depth and trustworthiness of the data generated.

#### **4.5.1 Participant selection (non-probability)**

For this study, participants were selected using non-probability sampling, specifically purposive sampling, a sampling method where the researcher chooses participants based on their alignment with predefined criteria relevant to the research objectives (Acharya et al., 2013; Ali, 2020). In this case, selection was guided by the inclusion criteria, namely, participants being Gen Z students who had participated in SL projects in the last two years; and the Community Engagement Manager also provided guidance by helping identify participants that were best aligned with the study focus.

In contrast to probability sampling, where individuals in the population have an equal chance of being selected, non-probability sampling does not guarantee equal selection opportunities (Ali, 2020). The study employed purposive sampling, a deliberate choice for recruiting participants who fit the specific inclusion criteria (mentioned above), ensuring that participants had the relevant knowledge and experience to contribute meaningfully to the study.

The criteria for recruiting students were two-fold: participants were required to have engaged in SL in the last 2 years; and they needed to belong to the Gen Z cohort. Selection criteria for the SL lecturers were broader: they needed to have facilitated a SL project at this UoT; and currently be teaching Gen Z students (enabling them to share deep insights into the learning preferences, characteristics and SL experiences of this generation). Vitally, there was no direct relationship between the Gen Z student participants and the SL lecturer participants. The students had not engaged in SL projects implemented by the SL lecturers involved in the focus

group. The primary reason for this was the COVID-19 disruption, which led many SL lecturers at this UoT either to postpone or cancel their SL initiatives. Consequently, it was not possible to align the Gen Z student and lecturer participants within the same SL project. However, all semi-structured student participants were either involved or had recently completed a SL project at the time of data collection. These projects were adapted to align with the conditions presented by the COVID-19 pandemic, such as minimal contact with other individuals.

This research employed two non-probability sampling techniques: purposive sampling and snowball sampling. Initially, a purposive sampling method was employed to identify SL lecturers and Gen Z students who had participated in SL projects. However, owing to an insufficient number of responses from student participants after several requests to lecturers and departments to share brief information and an invitation to participate in this research, the researcher shifted to snowball sampling as a secondary method for the student group only. In this way, student participants who accepted the invitation to participate in this study and who were in contact with other potential participants were requested to recruit fellow SL participants for the semi-structured interviews and the survey.

Purposive sampling is often employed in research to identify and determine the individuals who are information-rich and proficient in the study being conducted (Etikan, 2016). Considering this, the researcher met with the Community Engagement Manager of the institution who identified SL lecturers who facilitated and managed appropriate projects across different faculties at this UoT to participate in the focus group interview. Communication with the Community Engagement Manager was imperative to provide an overview of all SL projects at the institution. Additionally, it provided guidance and the opportunity to communicate with SL lecturers, who were requested to recruit Gen Z students to participate in this study.

As mentioned previously, many SL lecturers either cancelled or postponed their SL projects during the COVID-19 pandemic. One SL lecturer who continued to work on SL projects was able to recommend a total of three students out of a cohort of ten who met the criteria and participated in an adapted version of SL. However, three students were insufficient for the first dataset (i.e., semi-structured interviews). For this reason, the researcher recruited additional individuals to participate in the research from the three who had already responded. This snowball sampling process is intrinsically iterative: selected participants guide the researcher towards other potential participants, who are subsequently approached by the researcher; they, in turn, recommend additional contacts (Noy, 2008). This snowball sampling process was effective, and four more students agreed to participate. In total, seven students were recruited to participate in the semi-structured one-on-one interviews. The interviews were scheduled and conducted after all seven students had accepted.

All students who consented to participate received an email invitation in which the purpose of this study was described. The students were informed of the two semi-structured interviews to be conducted with them and the related date and time. Additionally, participants were notified about the study aims, the voluntary nature of their involvement, the anonymity of all participants and their right to discontinue participation at any stage. They were also given the researcher's contact information for any questions or concerns.

Gen Z students selected for the semi-structured interviews and questionnaire had to meet the following requirements:

- (a) They had to be born after 1994, falling into the Gen Z category; and
- (b) They had to have been involved in a SL project in the last two years at the time of the interviews.

The latter was necessary because students were required to have a comprehensive and in-depth understanding of their SL experiences, and the learning opportunities that SL projects could afford them. When collecting data, the researcher kept these criteria in mind. Table 4.3 provides a profile of the seven students who participated in semi-structured interviews. The identity of students was protected by referring to them merely as 'participants. The engagement of these students in SL projects from across faculties demonstrates how this cohort of Gen Z students applied their academic knowledge in communities during a time of disruption.

A total of seven SL lecturers participated in the focus group interviews. To avoid bias and to protect their identities, detailed profiles are not provided in this study. This approach ensured that all participant voices were given equal consideration in the analysis regardless of their qualifications or SL experience.

Another data set in the form of an online survey was employed. The SL lecturers assisted in recruiting Gen Z students who had not participated in the semi-structured interviews to participate in the survey. On behalf of the researcher, the SL lecturers sent an email explaining the study and the criteria for completing the survey; and 37 students responded.

Regarding the selection of SL lecturers for the focus group interview, the Community Engagement Manager contacted SL lecturers from several UoT faculties and encouraged them to participate. In addition, email invitations were distributed to all SL lecturers, requesting them to participate in the focus group interview. A synopsis of the study and reasons for their involvement in the study were included in the invitation letter. Although invitations were sent to more than 20 lecturers, only seven agreed to participate. One reason for this low response could be that this study started during the pandemic, when educators were still adjusting to Internet platforms. The fact that most SL lecturers postponed or discontinued their SL projects

is another possible explanation for why there were only seven participants. Nonetheless, the seven participating SL lecturers provided additional data on the Gen Z students at this UoT.

The sample sizes for each dataset were considered appropriate for the qualitative and exploratory nature of this study. The semi-structured interviews with seven Gen Z students enabled the collection of in-depth, experience-based accounts aligned with the study objectives, while the focus group interview with seven SL lecturers facilitated the gathering of multiple perspectives within a single interactive setting. The online survey, completed by 37 students, served a complementary role by capturing broader patterns across the same target population and supporting triangulation across data sources.

The focus group interview and survey are discussed further in sections 4.6.2 and 4.6.3. Table 4.3 outlines the data sources for the semi-structured interviews.

**Table 4.3: Tabulation of data sources for semi-structured interviews (Gen Z students)**

<i>Data Source</i>	<i>Faculties</i>	<i>Service-learning</i>	<i>Project</i>	<i>Format</i>
<b>Participant 1</b>	<b>Faculty of Education</b>	<b>SL/Pandemic</b>	<b>Tutoring</b>	<b>Online</b>
<b>Participant 2</b>	<b>Faculty of Education</b>	<b>SL/Pandemic</b>	<b>Tutoring</b>	<b>Online</b>
<b>Participant 3</b>	<b>Faculty of Applied Sciences</b>	<b>SL/Pandemic</b>	<b>Teaching unemployed ladies how to commercialise black mussels</b>	<b>Online</b>
<b>Participant 4</b>	<b>Faculty of Business Management and Sciences</b>	<b>SL/Pandemic</b>	<b>Emergency medical services (EMS)</b>	<b>In-person</b>
<b>Participant 5</b>	<b>Faculty of Health and Wellness Sciences</b>	<b>SL/Pandemic</b>	<b>Emergency medical services/ course practical's</b>	<b>Online</b>
<b>Participant 6</b>	<b>Faculty of Health and Wellness Sciences</b>	<b>SL/Pandemic</b>	<b>Emergency medical services/ course practical's</b>	<b>Online</b>
<b>Participant 7</b>	<b>Faculty of Engineering and the Built Environment</b>	<b>SL/Pandemic</b>	<b>Solar panels/renewable energy education</b>	<b>In-person</b>

All seven Gen Z student participants shown in Table 4.3 engaged in SL projects that aligned with the policies set out for SL at this UoT. However, these projects were implemented when health and safety rules were adjusted during the COVID-19 pandemic, implying that they were adapted to adhere to the health and safety protocols. One of the adaptations is that the time

spent in a community was less than under normal circumstances, and certain projects had to transition to an online format to be completed. This was a challenging period in which SL lecturers were making efforts to continue SL projects under strict conditions. This posed challenges as the researcher needed to identify student participants and 'normal' SL projects for this study.

**Participants 1 and 2:** These students were enrolled in the Faculty of Education, studying to become teachers. The degree includes a service component involving the students in an online tutoring programme during the COVID-19 pandemic. The SL activity was both facilitated and assessed by SL lecturers. The students tutored school learners in subjects aligned with their academic specialisation. Students who were tutored benefited from receiving extra classes on a specific subject, whereas the student participants gained a valuable opportunity to deepen their content knowledge and practise their teaching skills in a virtual setting which simulated real world scenarios.

**Participant 3:** The master's degree candidate in Food Science and Technology from the Faculty of Applied Sciences was advised to participate in a SL project that aligned with her research topic to enhance her understanding of concepts if she practically applied what she was researching in the real world. The SL project in which she engaged taught fishermen's wives from Saldanha Bay and St Helena Bay (Western Cape communities) how to commercialise a product (black mussels) to supplement their income. The students benefited from gaining real-life experience in their chosen field of study, while the women benefited from learning how to become entrepreneurs.

**Participant 4:** This student was enrolled in the Faculty of Business and Management Sciences and participated in the Emergency Medical Sciences (EMS) SL project, highlighting the projects multidisciplinary nature. A key aspect of the student's programme of study focused on logistics and project planning applied in executing the EMS SL project. This entailed coordinating key aspects of the project, including scheduling structured community feedback. This student also assisted with recording the community members' project reflections which were captured on video interviews.

**Participants 5 and 6:** Emergency Medical Sciences students were enrolled in a degree programme in the Faculty of Health and Wellness Sciences. Service-learning projects are part of a programme module that focuses on teaching health and personal health care to communities. The SL project focused on students sharing their academic knowledge about healthcare with community members to enable them to take better care of themselves; and students also learn from the communities how they can be better taken care of for future SL engagement. Community members therefore also provided students with practical experience.

**Participant 7:** A student from the Faculty of Engineering and Built Environment participated in the same EMS project, again showcasing the transdisciplinary nature of the projects. The community in which EMS students taught a community about health services was in an area which experienced unexpected electricity blackouts. The student was requested to be part of the project to take care of the solar panels to provide electricity. The student provided the electricity required by managing the solar panels, which was a relatively new idea. The community benefited from the solar panels, keeping the electricity on for the duration of the SL project. The student was able to showcase his academic understanding of renewable sources through the functionality and management of these solar panels.

The participation of both Participant 4 and Participant 7 not only enhanced the impact of the EMS SL project but also created a space for knowledge exchange across disciplines. It illustrated how students from different disciplines can contribute meaningfully to shared community issues, enhancing both their learning and project outcomes.

**Data from the seven one-on-one interviews** alone were not enough to provide sufficient detail to construct a comprehensive profile of Gen Z students or to inform a flexible SL model tailored to their needs. Additional data collection methods were therefore used to triangulate and enrich the interview data. This included a lecturer's focus group interview and an online survey. The data also respond to broader gaps identified in the literature, as even limited research explored in depth the SL experiences of Gen Z students, along with their learning preferences and characteristics in a South African context.

Semi-structured interview participants did not participate in the survey. Each student data set, i.e., the semi-structured interview and the survey, was completed by one student cohort. No student participated in both the semi-structured interview and the survey. This was intentional to ensure that no student provided the same data in two different data sets, and as such, to avoid repetition of data in the semi-structured interview and the survey from the same participants. This is in line with pragmatic thinking, taking all necessary steps to answer the research questions as comprehensively as possible. The next section details how the data were collected using the different data instruments.

#### **4.6 Data collection methods**

As shown in Table 4.4, three data-gathering instruments were used to access the data for this study. The rationale for using these three data-gathering instruments revolved around the concept of triangulation and its importance in validating data and analyses. It also helps researchers gain a broader and more holistic picture of the topic under study (Bryman, 1998; Fielding & Schreier, 2001; Kelle, 2005; Bans-Akutey & Tiimub, 2021). Studying phenomena

using a single method is inadequate for gaining an in-depth understanding (Mason, 2006). This is especially true when studying human experiences.

Notably, although different student cohorts participated in the interviews and survey, both groups required the same inclusion criteria and were drawn from the same target population. This separation was necessary to avoid duplication of data, and research rigour was supported through triangulation across instruments as mentioned above. This section has provided detailed information and rationale for the use of the three data instruments. The datasets were generated and collated within six months. Table 4.4 outlines the multiple data sets.

**Table 4.4: Data collection instruments**

<b>Instruments</b>	<b>Participants</b>	<b>Tools</b>	<b>Analysis</b>
1. Semi-structured interviews	Students (7)	NVivo Software (data analysis)	Thematic analysis Inductive/deductive reasoning
2. Online Survey	Students (37)	Google Forms (generating data)	Descriptive analysis for open-ended questions/Graphs for closed questions and MCQ
3. Focus group Interview	Service-learning lecturers (7)	NVivo Software (data analysis)	Thematic analysis Inductive/deductive reasoning

#### **4.6.1 Data Set 1: Qualitative data: Semi-structured interviews**

##### **4.6.1.1 Insights gained from the semi-structured interviews (data set 1)**

Two semi-structured interview guides were developed for the student participants. The interview guides were designed to explore learning styles and learning preferences, characteristics, motivation to learn, personal outlook on life and SL experiences. Together, the two interview guides allowed for a broad profiling of the Gen Z cohort. The rationale of these interview guides is presented below, following a discussion on qualitative data.

##### **4.6.1.2 Interview One - Question guide**

The rationale for including both the semi-structured interview questions and the online survey was to exhibit the relevance of the questions and showcase their alignment with the study's objective. Interview guide 1 elicited data regarding students' learning styles, learning preferences, characteristics, motivation to learn, and personal outlook on life to generate a profile of this specific cohort of Gen Z students at this UoT.

The first interview guide included a total of 13 questions. Question 1 was a general question as an icebreaker and to get participants comfortable answering the rest of the questions. Questions 2–4 focused on participants describing themselves and included aspects such as their outlook on life and their involvement in their studies. The theme created for this was *Characteristics, motivations to learn and personal outlook of Gen Z students (Theme 2)*, where the different codes and categories nested under this theme address the different elements of who participants are and are supported by the students' own words.

*Question 5* was intended to elicit a participant's SL involvement and is addressed under Theme 3: Service-learning experiences. Three categories are presented with this theme, namely, learning during SL projects, learning styles and learning formats during projects

*Question 6* is related to learning style. The aim was to understand the participants' dominant learning style and to assess whether there was a particular learning style favoured by this group of Gen Z students. This is addressed under the first theme: *Learning Styles and Learning Preferences (Theme 1)* in Chapter 6.2

*Questions 7–8* also relate to Theme 1: Learning Styles and Learning Preferences, as they describe the students' communication methods. Understanding how students communicate assists in knowing what kind of communication they are most comfortable with and in what type of environment they are most likely to learn effectively.

*Question 9* relates to *questions 7 and 8* and is addressed under the same theme as above. The aim was to address how students communicate with others.

*Question 10* addressed *social issues*, specifically to understand Gen Z's views on social issues and assess whether there are particular social issues that they care about. This was necessary to understand the nature of these Gen Z students and if as individuals they were aware of the world in which they live and the pressing issues that communities face. Their responses were presented under *Theme 4: Insights on ideal SL projects for 2030 from Gen Z students*.

*Questions 11, 12, and 13* all correlated with SL projects. Students shared insights into their transformative learning experiences during the project. Service-learning is meant to be a transformative pedagogy; hence, it was important to explore if transformative learning had occurred for students within the current SL model. *Question 13* addressed the different phases of TL theory, such as critical reflection and rational discourse and how these aided the student participants in learning, leading to transformation and action. This is presented and addressed in *Theme 3: Transformative learning experiences of Gen Z students in SL*.

#### 4.6.1.3 Interview Two – Question Guide

The second interview guide concentrated on obtaining data from participants, specifically on their SL experiences. It included 13 questions. The intention was to gain a holistic view of students' experiences with their SL projects.

*Question 1* was a general question about themselves and how they were involved in SL projects. *Questions 2 and 4* were significant questions on students' learning styles. Extracting knowledge on this specific Gen Z cohort's learning style during the projects helps to understand what is best for them when developing a flexible model of SL. The responses to these questions are presented under Theme 3: Transformative learning experiences of Gen Z students in SL.

*Question 3* was also connected to the above objective.

*Question 5* was related to the community and helped garner insights into students' perceptions of the community. This was addressed and presented under Theme 4: Insights on ideal SL projects for 2030 from Gen Z students.

*Question 6* was connected to Question 5.

*Questions 7, 8, and 9* were related. All three questions related to learning from SL projects. The student responses to these questions are presented under Theme 3: Transformative learning experiences of Gen Z students in SL.

*Questions 10 and 11* were related to fleshing out data to gain insight into how SL projects impacted and influenced students. Responses are presented under Theme 3: Transformative learning experiences of Gen Z students in SL.

*Questions 11, 12, and 13* were connected in that they explored the best format of SL projects for the current generation of students and the ideal SL project in the future. Responses are presented under Theme 4: Insights on ideal SL projects for 2030 from Gen Z students in this study.

As a flexible and powerful technique, qualitative interviewing enables researchers to capture individual perspectives and interpret personal experiences (Rabionet, 2011; Ali et al., 2024). The researcher used semi-structured interviews because certain questions focused on specific themes related to the research questions and sub-questions, as illustrated above. The voices of the participants were a priority. A list of prepared closed- and open-ended questions was used to organise the semi-structured interviews. According to Bailie (2020), semi-structured interviews allow researchers the freedom to probe more deeply and work with new information

that emerges by following up on important and necessary points. It also allows room to depart from the interview questions as new information reveals the need for further probing (Baillie, 2020). Adams (2015) postulates that semi-structured interviews are ideal when the researcher wants to learn about an interviewee's individual opinions, views and experiences on pertinent elements. In the current study, these concerned their SL experiences, learning preferences and characteristics.

Semi-structured interviews allowed the researcher to build rapport and trust with the Gen Z student participants. The initial questions were for relationship-building before questions focusing on learning preferences and SL. Building rapport at the inception of each interview allows participants to feel comfortable sharing sensitive information with others (this might not have been the case if focus group interviews had been used). Adams (2015) notes that, in a focus group interview, respondents might not be open to a researcher's probing, open-ended questions on issues. Certain questions that Gen Z students were required to share were personal, so semi-structured interviews were more suitable.

The participants were interviewed online using Microsoft Teams. The interviews were recorded on both Microsoft Teams and a mobile phone voice recorder. Recording the interviews on the two platforms eliminated any chance of data loss. Two semi-structured interviews were conducted in person, and five online, as the country was still in lockdown due to the COVID-19 pandemic. Certain students were comfortable with the use of cameras during the interviews, while others were not. Those who chose the video interview experienced internet connectivity issues and later switched to audio. The only impact noted with audio recordings was that nonverbal cues were not visible, such as facial expressions that would have helped better understand students' reactions. Aside from this minor setback, the semi-structured interviews ran smoothly, without interruption.

Anderson and Kirkpatrick (2016) point out that creating trust and rapport early in the interview is one of the most important criteria for a strong story interviewer. Two semi-structured interviews were conducted per participant. During these, the researcher had to practise listening carefully without interrupting. According to Maple and Edwards (2010), researchers should carefully and analytically listen to the presented experiences. They add that learning to ignore one's prejudices, beliefs, and expectations and to listen carefully to what is being said rather than 'hearing' what one expects to hear takes much training and practice. In this study, building rapport and trust was especially important, given the virtual nature of the semi-structured interviews and the generational context of the student participants. The researcher remained aware and mindful of these principles, listening attentively without interrupting; and effort was made to suspend any personal assumptions to enable the capturing of the authentic voices and lived experiences of the participants.

The first interview asked students to share their learning preferences, characteristics, motivations to learn and personal outlook on life (Appendix B). The second interview aimed to learn more about their SL experiences and perspectives on SL as a teaching or learning approach (see Appendix C). When all the data were collected and transcribed, the transcripts were emailed to the students for verification. This study aimed to verify all transcripts individually with seven participants to ensure that all the shared information was captured accurately. Semi-structured interviews lasted approximately one hour each. (A detailed rationale of questions is provided in Chapter Five, the Results and Findings chapter.) This chapter clearly illustrates the purpose of the interviews and the relationship between the interview questions and the objectives of the study. Even though seven participants in the semi-structured interviews provided rich data, additional complementary data were obtained from the SL lecturers' perspectives regarding student learning in SL projects to gain an observer's perspective on the Gen Z student. An online survey was employed as another instrument for data generation as presented next.

#### **4.6.2. Quantitative data: Online survey (data set 2)**

The 25 questions in the online survey covered elements about students' Internet usage, learning methods, characteristics, motivations to learn, personal outlook on life, perspective on social issues, SL experiences, and their views on SL projects in 2030. Most questions were similar to those that the researcher asked the participants in the semi-structured interviews. The difference was that the respondents to the online survey were given multiple-choice questions (MCQs) with options to choose the best response to certain questions. The overlap of questions from both the semi-structured interviews and the online survey was deliberate for triangulation purposes, as the intention was to elicit as much data as possible to create a meaningful profile of this specific cohort of Gen Z students at this UoT.

The online survey included both open- and closed-ended questions. Open-ended responses were coded using the NVivo 14 data analysis software. The first step involved exporting all responses into an Excel spreadsheet. The data were then cleaned by correcting formatting issues and removing incomplete entries before being imported into NVivo for coding. Each open-ended question was assigned specific, mutually exclusive codes, allowing each response to fit clearly into one category, which provided clarity and precision. The coding process facilitated the clear organisation of responses. NVivo subsequently generated a detailed data summary sheet (see Appendix F), illustrating the frequency of responses for each code.

The closed-ended questions were coded differently as they had predefined response options. Responses were categorised based on the options provided to participants, and the frequency

of each category was calculated to determine how many participants had selected each option. The open-ended questions are presented in a descriptive format. By contrast, closed-ended questions are displayed using graphs, accompanied by explanatory text. The difference in presentation stems from the nature of the questions: the structured options for closed-ended questions are best understood visually.

The questions will be presented in the order in which they were asked, starting from number one to number twenty-five. A description of all the questions and the rationale for each question is demonstrated. The number associated with the responses refers to the frequency of participant responses to that specific question. It is important to note that, although 37 students completed the online survey, not all 37 students responded to each question.

The purpose of the online survey (Appendix E) was to obtain additional data on students from the Gen Z cohort at a specific UoT. It is important to note that this survey was not an original survey, but an adaptation of an earlier study conducted in the United States. The original study aimed to uncover the learning styles, preferences, motivations, communication preferences, characteristics, perspectives, community engagement views and trends of Gen Z students (Seemiller & Grace, 2016) in an American context. The original survey's constructs and question types resonated closely with this study, making it a suitable instrument for this study.

The major difference between the original and this adapted study survey was the inclusion of specific questions on Gen Z students' SL experiences. The original survey included questions on community engagement, and the adapted survey for this study had more specific questions on students' SL experiences and how students experience transformative learning through SL projects, questions which are not in the original survey. A discussion of the rationale behind all items in the online survey is presented in Chapter Five. It should be noted that the researcher contacted the original creators of the survey via email and received permission to use and adapt their instrument for this current study (see Appendix H).

Google Forms was used to construct and distribute the survey as it automatically collects responses, and data may be exported for analysis to either Google Sheets or Excel. Both open-ended questions, multiple choice questions and "choose all that apply" questions were included. Additionally, models and scales from previously published literature (Kolb, 1984; Mezirow, 1990) (discussed in Chapter Three) were used to inform the online survey. Moreover, to ensure that the analysis would be correct and consistent, the researcher deliberately included questions about the theoretical components of the study in both the semi-structured interviews and the survey.

It was important to test the potential of the survey once it had been compiled. This was done by using a pilot sample of participants drawn from the target population. A pilot study

investigates whether something is feasible and whether it should be pursued by the researchers. A pilot study is carried out on a smaller scale than the primary study (Anupama et al., 2023). It draws attention to any misspellings, unclear questions, or other issues that could compromise the effectiveness of the instrument (Jones et al., 2013). To identify areas requiring further refinement, it was administered to a sample of students from the target group. Nine students participated in the pilot study. Notably, these nine students were not administered the final online survey, so there was no duplication of data.

The pilot survey was administered by the respective SL lecturers at this UoT. The SL lecturers from different faculties requested students to volunteer to complete the online survey via email. The volunteers had to meet the criteria of the study: students needed to have been involved in SL projects in the past two years; and born after 1994. Before they completed the survey, the nine volunteer students were assessed by the SL lecturers to check that they were appropriate for the pilot study (Anupama et al., 2023).

The pilot study enabled the researcher to assess whether respondents fully understood the instructions and questions, as well as whether the questions bore consistent meanings for each respondent (Kelley et al., 2003). The written feedback on the survey clarified that several questions required simplification, as they were overly complex; some required further clarification regarding the meaning of SL, as not all the students had a uniform understanding. This insight necessitated refining the SL questions to avoid ambiguities or misunderstandings. After all of these problems were resolved, the survey was revised for circulation to the intended audience. Next the focus group interview is presented.

#### **4.6.3 Qualitative data: Focus group interview (data set 3)**

Seven SL lecturers participated in a single focus group interview. They were recruited from different faculties at the study site. Importantly, the intention was to recruit SL lecturers who facilitated SL projects with the student participants who had participated in the semi-structured interviews. However, this proved to be a challenge, as data for this study were collected during the COVID-19 pandemic, when SL lecturers cancelled or postponed SL projects due to lockdown measures and health and safety measures. Consequently, the relationship shared between the student participants and SL lecturers is that they were all involved in SL projects, even though they could have been involved at different times.

Furthermore, students who completed the online survey could have been part of SL projects with SL lecturers from the focus group interview, as the SL lecturers assisted with circulating the online survey. However, data are not available to provide evidence for this. Considering that there were questions in the focus group interview (see Appendix D) that overlapped with questions in the semi-structured interviews and online survey, it was still possible to triangulate

from the data. Considering the overlap of questions, a separate question-by-question rationale for the focus group interview was not required. The SL lecturers are regarded as secondary participants in this study, as their contributions were used to supplement the contextualization of the primary data generated from the Gen Z students by offering an observer and SL lecturer perspective on SL pedagogy and student engagement within the same institutional context.

The goal of the focus group interview was to learn more about SL lecturers' perspectives on SL projects, as well as how they conceptualised SL projects as pedagogy. Another aim of the focus group interview was to obtain a lecturer's viewpoint on the current Gen Z students at this UoT. The questions in the focus group interview were related to practices and observations by SL lecturers, providing a third perspective to add to those of the Gen Z participants. Seven SL lecturers agreed to participate in the focus group interview to discuss SL during the pandemic, SL in general, and their observations of Gen Z students' SL experiences, learning preferences, and characteristics. It was important to establish SL lecturers' perspectives of SL pedagogy since they planned, facilitated and assessed SL projects completed by Gen Z students.

Morgan and Spanish (1984) explain that focus group interviews involve bringing together multiple individuals to engage in a discussion about a topic of mutual interest to the participants and the researcher. The authors suggest that the data gathered can be used independently or in conjunction with other types of data collection. In this study, the focus group data were used in conjunction with the semi-structured interviews and online survey to provide a richer, triangulated understanding of the phenomenon under study. Gundumogula (2020) stress that selecting participants for focus group interviews is a critical and significant effort if the sample is representative. For this study, SL lecturers were purposively selected based on two criteria: they had to have managed and implemented a SL project within the past two years; and they had to be currently teaching Gen Z students at this UoT. By including the observations and perspectives of these SL lecturers, the study aimed to develop a comprehensive understanding of Gen Z students experience SL and how the current model is perceived by lecturers. A focus group interview guide was developed specifically for the SL lecturers (see Appendix D).

It was important to guide the discussion appropriately in the focus group interview to avoid domination by one or two participants (Adam, 2015). The quieter SL lecturer participants were asked to engage directly to ensure that they had a fair opportunity to share. Additionally, the researcher asked each SL lecturer individually to share their thoughts on the questions. The researcher managed the Microsoft Teams app used for the online focus group interview, and all SL lecturers were granted opportunities to engage fairly in the discussion.

## 4.7 Data analysis and interpretation

In this section, the way data were processed and analysed is discussed, including data from the online semi-structured interviews, the focus group interview and the survey. The different steps taken are discussed separately.

Creswell (2016) posits that it is difficult for qualitative researchers to analyse text and other types of data. He continued by noting that the task of portraying data in graphs, tables, matrices, and narrative styles compounded this difficulty. The analysis and presentation of the different datasets, as well as the vast volume of data collected, add to this complexity. In the vein, Patton (1980:297) explains the following:

Qualitative approaches produce large amounts of data. When data collection is complete, students will be confronted with a vast amount of knowledge for which I have not been able to discover a method to prepare. It can be intimidating to sit down and try to make sense of the pages of interviews and entire field notes.

To mitigate these challenges and allow for a simpler process, data analysis was performed concurrently with data generation. Recordings were promptly compressed and submitted for transcription. A qualified transcriptionist accurately transcribed the data from semi-structured and focus group interviews. Google Forms was used to collect results from the survey and display them in graphical formats. The survey included both multiple-choice questions and open-ended qualitative responses.

Survey data were processed through a descriptive coding approach. Responses were grouped according to predetermined codes that were devised based on content similarity. For instance, responses that related to experiencing transformation, such as “experienced personal growth” and “possessed new skills”, were placed into separate codes to capture specific ways that students experienced transformation when participating in SL projects. The codes were then analysed for frequency to identify recurring patterns and to identify the prominence of specific themes across the survey responses. This descriptive coding method was suitable for summarising general patterns from the qualitative responses. This was different to how the other two data sets were coded, as explained next.

To analyse the data and identify common patterns in the data, and align them with the research questions, thematic analysis was employed to code the transcripts of the semi-structured interviews and the focus group interview. The use of NVivo 14, a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) package, was employed because it is compatible with various study designs and analytic methodologies and aligns well with thematic analysis (Zamawe, 2015; Dhakal, 2022). Linneberg and Korsgaard (2019:6) point out

that “software allows for researchers to provide better presentations of the data and findings, achieving higher levels of quality regarding the findings”. In practice, NVivo 14 allows seamless thematic coding; and it allows for a streamlined process when selecting relevant data and coding it effectively. It also proves instrumental in managing and sorting the overwhelming volume of data, which helps alleviate concerns, as echoed by Patton (1980).

Data analysis centred on identifying semantic themes. Braun and Clarke (2006:84) distinguish between semantic and latent thematic levels. At the semantic level, “within explicit or surface interpretations of the data, the researcher does not delve beyond the participants’ written or spoken words”. In contrast, the latent level “begins to discover or study the underlying concepts, beliefs, and ideologies that are theorised to shape or inform the semantic content of the data”. In this study, the primary focus remained on the semantic level to ensure that the analysis authentically reflected the participants’ experiences and perspectives, specifically those of Gen Z students and SL lecturers. However, the researcher also carefully considered any deeper meanings underlying what the participants said about their SL experiences, learning preferences and characteristics. This dual attention allowed the study to remain firmly rooted in the participants’ voices while also acknowledging broader interpretive insights.

This study employed both inductive and deductive methods for analysing data (Fereday & Cochrane, 2006). Analysis began with deductive coding, which utilised a set of predefined codes aligned with the research goals. All key concepts related to Gen Z, such as learning styles, learning environments, characteristics, and SL experiences relevant to the study objectives, formed a solid foundation for data analysis and interpretation. These concepts helped create the initial coding framework and offered the researcher a structured approach to guide the analysis. However, starting with predefined codes requires caution to prevent potential bias (Medelyan, 2023). This caution is necessary because researchers may concentrate too much on confirming existing concepts, potentially overlooking new or unexpected insights. To mitigate this, inductive coding was also used in the analysis. This method allowed new codes and themes to emerge naturally from the data, without being confined to existing codes (Bonner et al., 2021; Medelyan, 2023). Although this approach is considered more detailed and comprehensive than deductive coding as it provides a more complete view of the emerging codes (Medelyan, 2023), it is not entirely free from bias. Even without predefined codes, the researcher still interprets the data, decides what constitutes a theme, and determines which patterns are significant. Therefore, while this method may reduce bias, it cannot be deemed completely unbiased.

To enhance the transparency and credibility of the coding process, several elements were employed. The researcher maintained a reflexive journal throughout the data analysis to make a note of any potential bias, assumptions and to document decisions taken. These steps,

recommended by Nowell et al. (2017), helped ensure that the coding process was not only rigorous but also accountable.

To conduct a rigorous thematic analysis, once all transcripts were imported into the analysis software tool, Braun and Clarke's (2006: 87-93) six-phase framework was employed. The next six steps, namely familiarisation with the data, searching for codes, examining the categories, reviewing themes, defining and naming themes, and writing up, elucidate the iterative process of inductive coding combined with deductive coding, providing a more holistic and nuanced understanding of the data. This six-step process, outlined by Braun and Clarke (2006:87), provides a structured, systematic, and transparent approach to data analysis, thereby enhancing the validity and reliability required in qualitative research. This data analysis process was used to create the codes, categories, and themes used in this study. The main purpose of the six-step process was to determine the structure and transparency of how codes were categorised and then became themes. These steps are discussed below.

***Familiarisation with the data:*** As with any qualitative data analysis procedure, the researcher thoroughly immersed himself in the material by reading and rereading it. To analyse the data, the focus group and interview transcripts were repeatedly read to identify recurring patterns and trends, which allowed for detailed notes as initial patterns emerged. Recurring data patterns and trends were developed, and the researcher recorded careful notes and annotated them.

Coding the data was an integral part of the familiarisation process. A rigorous coding strategy was employed to identify repetition of concepts, ideas, and words, as these appeared in the data. One common code, for instance, was "format for best learning". This code was applied when participants discussed the type of learning format that worked best for them, whether hybrid, face-to-face, or online. An illustration of codes, categories and final themes is presented in Chapter Five. This systematic approach to data coding ensured that all related responses were consistently categorised using standardised codes, thereby enabling detailed thematic analysis.

***Searching for codes:*** In this step, a thorough and systematic process was undertaken to move beyond isolated codes (codes that stand alone and have no connection to other codes) to identify broader categories and themes that encompass broader insights and patterns within the data.

Each code was continually reviewed and improved by rewording, merging or splitting, as necessary, between the iterative process of moving back and forth between the raw data and the developing codebook. The codes that emerged through the data analysis process were evaluated for their relevance and alignment with the study objectives. Once all codes were

sufficiently refined, clusters were created using codes with common concepts or overlapping concepts. As data analysis progressed, clusters were revised and refined to ensure that they captured data meaning as accurately as possible, while contributing to answering the research questions.

**Examining the categories:** Another important aspect of the data analysis was assigning names to each cluster, forming categories. Category names were chosen that, as accurately as possible, captured the significance of the codes they included. This required returning to the codes that had been made and evaluating them to ensure that the names reflected the participants' voices and perspectives. Each category was assigned a name that resembled a thematic label (Braun & Clarke, 2006), encompassing the core idea of the clustered codes.

This process confirmed that the categories were effective in both the coded excerpts and the entire dataset. The researcher needed to evaluate whether the categories produced a coherent and engaging narrative about the data to begin to elucidate the characteristics of each theme and how themes were interrelated. The naming of each category underwent several revisions to ensure it accurately reflected the participants' perspectives. Revisiting and refining categories helped the researcher stay true to the nature of the qualitative data that were emerging during analysis.

**Writing:** A crucial aspect of analytical procedures involves the seamless integration of analysis and explanation of data with examples. This integration aims to present readers with a persuasive and coherent account of the findings, while simultaneously positioning the research within the framework of existing scholarly literature (Braun & Clarke, 2006; Creswell & Poth, 2018b). This approach is crucial to the analytical process, enabling a holistic interpretation and contextualisation of research outcomes.

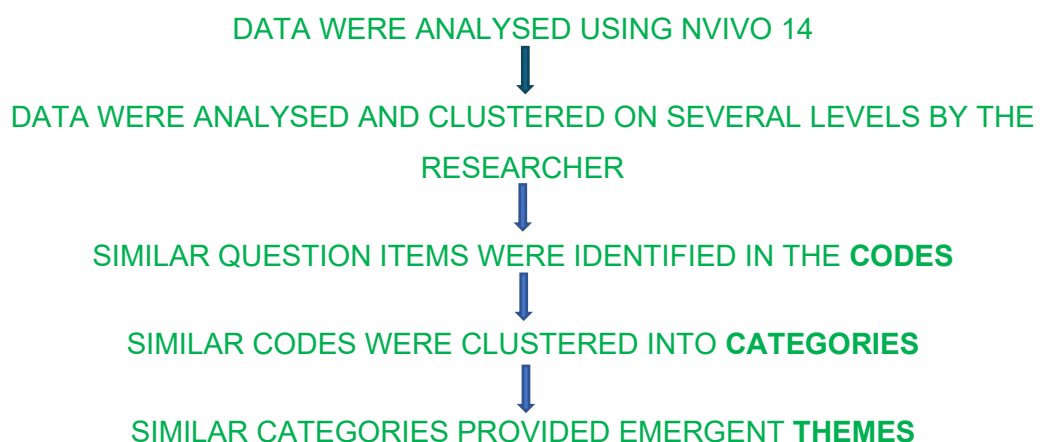
This was a laborious and rigorous approach to thematic analysis. However, this allowed for a clear presentation of what emerged from the data, which could then be expanded, interpreted, and aligned with the existing literature in the discussion and analysis sections (Chapters Six and Seven). It also allowed the data to be presented in a structured format and highlighted the flow of codes from clusters into named categories, which helped to identify the themes in this study. This was done for all themes in this study. The analytical process and the coding structure is discussed next.

**Data Analysis:** In order to ensure transparency in how findings were derived and present a depth of analysis, this section outlines the process through which raw data were transformed into codes, then into categories, and ultimately into different themes. This understanding of the analytical process is crucial for the reader to grasp how the findings presented in Chapter 5 align with both the research questions and the study objectives.

Each transcript for the semi-structured interviews and the focus group interview was coded using the computer-assisted qualitative data analysis software NVivo 14. The codes were subsequently exported to Microsoft Word for further manual analysis. During this stage, the researcher re-examined the codes and identified numerous interrelated patterns. Similar codes were grouped to explore their underlying meanings and relationships.

To deepen the analysis, the researcher colour-coded the data using different colours, for example, blue for learning approaches and green for SL experiences. This colour coding enabled visual clustering, which assisted in categorising the codes more effectively. The groupings were imported back into NVivo 14 to identify overarching themes.

Codes were assigned to specific segments of the data that were significant to the research aims. The researcher revisited the coded data segments multiple times to ensure that all codes were consistent and accurate. By clustering related codes, it became easier to discern connections and assign appropriate categories. All coded segments that were similar were clustered together and assigned a category. Each category encompassed various codes with shared characteristics. Once all categories were created, themes that emerged across categories became more apparent (Appendix E: Data Summary Sheet). Figure 5.1 provides a visual representation of this explanation.



**Figure 5.1: Illustration of the multi-layered analytic process**

To illustrate the process explained above, participants discussed various aspects of their learning methods and preferences. Codes with similar characteristics related to learning were grouped and assigned to a relevant category. For instance, the following codes were associated with communication-related practices:

- (a) Daily time spent on social media
- (b) Importance of technology

- (c) Laptops and phone devices used
- (d) Most used platforms
- (e) Online communications
- (f) Relationship with social media

These codes were grouped under the category “**Communication Methods and Practices**”, which was further analysed in the context of learning. The process also assisted in managing codes across various aspects of the participants’ learning experiences. Synthesised data at the category level enabled the emergence of higher-order themes.

After naming and grouping all codes into categories, the categories assisted in disclosing deeper insights into participants’ experiences. In addition, the researchers identified themes pertinent to the study. As an example, one of the themes that emerged from the semi-structured interview data is “**Learning Styles and Learning Preferences of Gen Z students (Theme 1)**”. This theme emerged by integrating five categories, encompassing a total of 15 codes, all reflecting diverse aspects of learning. Through an iterative process of coding, **24 codes** were identified from the interview data, resulting in **13 named categories**. From these categories, four overarching themes were identified.

The semi-structured interviews and the focus group interview were coded and categorised as described above, which helped to identify patterns across the datasets to form themes. However, a more straightforward format was used to code the open-ended survey questions. Coding was conducted in response to survey questions. An illustration of this is when students were asked how they learned best, the responses were placed within separate codes to capture the different environments, such as “learning alone”, “learning at a desk workspace”, and similar variations. This descriptive coding process was suitable for summarising general patterns in the survey data. In contrast to the semi-structured interviews and the focus group interview which required a more layered thematic approach.

It is important to note that, during the iterations of the codes, clusters, categories, and themes, the research questions were constantly revisited to ensure that emerging themes from the categories were aligned with the investigative aims of the study. All level of codes, categories, and themes were detailed and linked to research questions as well as the objectives of the study. Additionally, to minimise subjectivity, the researcher aimed to maintain a neutral stance throughout the data collection and analysis process by maintaining a reflexive journal and making sure that all interpretations were grounded in the participants’ own words.

All four themes that emerged from the above analytical process are presented in Chapter Five. This structured presentation of the themes along with their relevant codes and categories assist in connecting the findings to the research questions providing transparency and depth. It also helps to understand the rigour with which the analysis was conducted. Next, the commitment to credibility in this study is discussed.

## **4.8 Commitment to credibility**

### **4.8.1 Positionality and reflexivity**

The researcher's position in this study was a key issue when collecting and analysing data. Reflexivity means that the researcher critically examines his/her role in the research process. It involves being aware of how a researcher's background, beliefs, and positionality might influence the study, including the questions asked, the data collected, and how data are interpreted. Reflexivity challenges the idea that the research is completely objective and acknowledges that the researcher is part of the knowledge-production process (Berger, 2013).

To mitigate bias and uphold research integrity, the researcher made a conscious decision not to include students who participated in any SL projects that he facilitated. Additionally, personal notes were systematically recorded, capturing observations, interactions, incidents, conversations, emotions and responses throughout this study, although they were not formally included as a data set for analysis. These personal notes helped the researcher to reflect on the research process, assess what was working, identify areas that required improvement, participant responses, informal conversations and also enable objectivity in asking questions during interactions. Their primary purpose was to support the researcher's reflective practice, assisting in assessing the effectiveness of the research approach taken, and to maintain objectivity in posing and framing questions to participants.

Personal notes contributed to the researcher's awareness of how his positionality might influence decisions throughout the research process, from formulating the research questions to data collection and analysis. This reflective practice allowed the researcher to have more authentic and open dialogue with participants, enabling their voices to shape the study. This ongoing reflexivity was essential for maintaining the integrity and credibility of the research (Berger, 2013; Holmes, 2020).

Reflexivity also allowed the researcher to manage the balance between insider and outsider viewpoints effectively. Insiders share cultural, social, and experiential backgrounds with their study participants, whereas outsiders do not, which might lead to challenges in fully grasping the subtleties of participants lived experiences (Holmes, 2020). In this study, the researcher

adopted a hybrid stance, simultaneously taking on both insider and outsider roles (Dwyer & Buckle, 2009). This dual positionality means that the researcher was an insider due to his familiarity with the institution, yet an outsider because he did not personally know the participants. This position enabled the researcher to comprehend the context and access participants more easily while upholding ethical standards during data collection and analysis.

#### **4.8.2 Trustworthiness**

Lincoln and Guba (1985) point out several criteria for trustworthiness, such as credibility, transferability, dependability and confirmability. These criteria are discussed below.

#### **4.8.3 Credibility**

According to Stahl and King (2020), enhancing credibility can be achieved through triangulation. The case study method used in this research facilitated the integration of various data collection methods within a single study, which enabled triangulation. This study accomplished triangulation by utilising three distinct data instruments: qualitative semi-structured interviews, a quantitative online survey, and a focus group interview. The research incorporated three separate data sets from different groups of individuals at three different times, allowing for an analysis from multiple perspectives. The researcher was able to compare and contrast participants' views across all three data instruments, further strengthening the credibility of the results. The responses from semi-structured interviews were compared with those from a larger student sample in the quantitative survey at this UoT, while the focus group interview data offered insights from SL lecturers that either supported or questioned emerging themes from the online survey and focus group interview. This method reduces bias and bolsters the reliability and conclusions of the research findings (Bowen, 2009).

#### **4.8.4 Transferability**

The concept of transferability, which refers to the extent to which findings can be applied in similar contexts, was addressed through thick description of the findings, as encouraged by Lincoln and Guba (1985) and Creswell and Miller (2000). Thick descriptions refer to the detailed and contextualised accounts of the participants. These accounts extend beyond actions to capture the deeper meanings, intentions, and cultural contexts underlying them, allowing for a deeper understanding of social phenomena (Denzin & Lincoln, 2005) and supporting meaningful interpretation and transferability of the findings (Creswell & Poth, 2018b).

The study offers detailed accounts of the research context, including participant demographics, site selection, and emergent themes, which are provided to ensure that readers can assess the applicability of the findings to other contexts. Stahl and King (2020) emphasise that such thick descriptions almost enable the reader to experience the context, thereby further supporting transferability. In this study, thick description was used not only in the presentation of the online survey data but also in the analysis of data generated from both the semi-structured interview and the focus group interview. This provided deep insights into the evolving learning preferences and characteristics of Gen Z students. These insights offer a transferable contribution to higher education practice globally. The findings extend the existing knowledge on Gen Z students by showcasing how this generation approaches learning in ways that challenge the traditional, teacher-centred pedagogies. Participants voiced flexible ways of learning that align with global trends that are emerging in the educational space. These preferences and the tension that arises with traditional forms of learning are relevant to a broad range of post-secondary settings, specifically those dealing with similar generational shifts.

The online survey adapted for this study was created by Seemiller and Grace (2016). The original data and findings have been referenced, built upon and employed in diverse contexts, including the United States, Brazil, Thailand, and Egypt, to better understand the nuances of Gen Z students (Seemiller & Grace, 2016; Seemiller et al., 2019; Farrell & Phungsoonthorn, 2020; Hammad, 2025). These studies adapted and used the survey instrument in different ways. This current study's adaptation of the instrument represents an innovative application within a South African context, demonstrating the survey instrument's potential for both flexibility and contextual adaptability.

#### **4.8.5 Dependability**

Dependability is essential for maintaining a consistent and transparent research process, which is vital for establishing trustworthiness. As noted by Stahl and King (2020), methods such as debriefing, reflexive bracketing, and audit trails can enhance dependability. In this research, the researcher used reflexive bracketing by keeping a reflexive journal, which encouraged the recording of personal reflections and positionality during the data collection and analysis stages. This approach helped the researcher to verify that the data accurately reflected the participants' voices and viewpoints. Regular debriefing sessions with supervisors and peers offered opportunities to examine emerging themes, question existing assumptions, and refine the analytical process. These external discussions strengthened the research's robustness by ensuring that the procedures were well-organised and transparent. By employing these strategies, the study adhered to the principles of methodological consistency and transparency, thereby reinforcing its dependability. These methods align with those

recommended by Stahl and King (2020) for enhancing the trustworthiness of qualitative research.

#### **4.8.6 Confirmability**

Confirmability is a crucial component of trustworthiness, emphasising the extent to which the findings genuinely represent the participants' views rather than being swayed by research bias, personal agendas, or misinterpretations. In this study, confirmability was maintained by employing a well-recognised and externally validated survey instrument, signifying that the quantitative outcomes were grounded in a dependable framework. For the qualitative segment, reflexive practices, particularly bracketing, played a vital role in enhancing confirmability. Bracketing requires researchers deliberately setting aside their preconceptions, beliefs, and prior knowledge about the topic under study (Stahl & King, 2020). This method aids in minimising any undue influence on data collection and analysis. Reflexive practices also allowed the researcher to disregard personal opinions. Any uncertainties from the researcher were identified and critically evaluated throughout the study to ensure that all emerging themes were based on participant data. Finally, ethical considerations were consistently observed throughout the study, further strengthening its trustworthiness.

#### **4.8.7 Ethical considerations**

The researcher secured ethical approval from the institution where the staff worked, and the students were enrolled to gain permission for conducting the study. Following institutional guidelines, all ethical clearances were obtained before data collection. This study emphasised establishing strong ethical principles such as trust, mutual respect, and transparency to engage both SL lecturers and Gen Z students effectively. The researcher designed the data collection process to ensure participants felt respected and safe, guaranteeing that all data would be kept confidential. Furthermore, both students and SL lecturers were assured of their anonymity throughout the research.

To uphold ethical standards further in this research, various measures were implemented that were tailored to the realities of this study. Students provided verbal consent through MS Teams, an online platform, to safeguard individual rights (Jardine & James, 2012). This platform was appropriate to use during the COVID-19 lockdown period. Participants also submitted signed consent forms to the researcher electronically; and they were reminded that their participation in the study was voluntary, with the right to withdraw at any stage. In this particular study, all agreed to participate in the semi-structured interviews and focus group discussion, and no participants chose to withdraw.

It is important to reiterate that the data collection process commenced during the national lockdown imposed due to the COVID-19 pandemic. This posed challenges to the availability of the participants and the flexibility required in scheduling the semi-structured interviews and ensuring digital and online access. Participant health and welfare were a constant priority (Jowett, 2020). The researcher also remained mindful that this research study should not create added pressure on SL lecturers and Gen Z student participants, as they were already navigating a challenging period.

#### **4.9 Chapter summary**

Chapter Four presented the study research design and methodology. Pragmatism was demonstrated as a philosophical view and executed using a mixed-method approach. An instrumental case study methodology was employed because this study was conducted at one UoT. The study focused on one pedagogical strategy, i.e., SL, and one Gen Z cohort. The chosen research design was flexible, allowing for multiple data collection methods and enabling triangulation of datasets. The study site was strategically selected and deemed appropriate for the study, as it was the employment site of the researcher, allowing for easy access to participants and ensuring a deep understanding of the context. Non-probability sampling was chosen for the study, initiated with purposive sampling and transitioning to snowball sampling to access more participants. Seven student participants were recruited for the semi-structured interviews, seven SL lecturers for the focus group interviews and 37 students for the online survey. A pilot study of the survey with nine participants was conducted to validate its effectiveness before it was distributed to the student participants. The researcher employed Braun and Clarke's (2006) six-phase thematic analysis approach to systematically examine the codes, categories, and resulting themes conveyed by the collected data.

Credibility was the cornerstone of the research process and was addressed through the trustworthiness and ethical considerations upheld in this study. This comprehensive approach to the research methodology helped make the findings both meaningful and accurate in a specific context. This also provides a solid foundation for the interpretation and discussion of the results, as unpacked in the next chapter.

# CHAPTER FIVE

## Research Findings

### 5.1 Introduction

This study aimed to identify learning styles, learning preferences, characteristics, and SL experiences specific to Generation Z (Gen Z) students at a university of technology (UoT) to inform a flexible model for future implementation of SL projects. In exploring students' SL experiences, their unique learning styles, learning preferences, motivations to learn, and personal outlook on life, the objective was to create flexibility in the current SL model so that it would be tailored to their needs. A mixed-methods approach (semi-structured interviews, an online survey, and a focus group interview) was employed to extract the data presented in Chapter Four. In keeping with exploratory sequential design, the findings presented in this chapter draw primarily on the qualitative data, with survey results used to contextualise and summarise patterns across the wider student cohort.

Chapter Five presents the findings from the various data collection methods, focusing on the aforementioned areas of this study. Seven Gen Z students participated in semi-structured interviews, and 37 different Gen Z students from the same UoT completed an online survey. The intention of using a separate survey group was to generate new data and encourage spontaneous, unbiased responses to 25 questions. For clarity, interviewees are referred to as "participants" and survey respondents as "survey respondents".

A focus group interview was held with seven SL lecturers to gain an observers' perspectives on the insider Gen Z cohort within SL contexts. Although there was no direct link between SL lecturers and student participants, their understanding of goals and learning objectives influences programme design and students' SL experiences, so their observations are pertinent to this Gen Z subset. Chapter Five reports the findings from the student interviews (n=7), the online survey (n=37), and the SL lecturer focus group (n=7). The findings are presented in the following sequence: semi-structured interviews, online survey, and focus group interview. The organisation and reporting in Chapter Five are structured as follows:

Section 5.1 Introduction

Section 5.2 Findings derived from the qualitative semi-structured interviews (data set 1)

Section 5.3 Findings derived from the online survey (data set 2)

Section 5.4 Findings derived from the Focus group interview (data set 3)

Section 5.5 Conclusion

## 5.2 Findings derived from the qualitative semi-structured interviews (data set 1)

### 5.2.1 Theme 1: Learning styles and learning preferences

Learning Styles and Learning Preferences, the first theme created from the semi-structured interview data, shows how different aspects are crucial when attempting to understand how Gen Z students approach learning at a specific UoT. Distinct categories related to understanding their educational approach enabled scrutiny of how they effectively assimilate new information while gaining insights into aspects such as *communication methods, format for best learning, best location for learning, ideal learning environment and preferred learning style*. The categories for Theme 1 of the semi-structured interviews to be discussed below are as follows:

**Table 5.1: Categories derived from Theme 1**

#### Theme 1: Learning Styles and Preferences

Category 1:	Communication Practices and Methods
Category 2:	Format for the Best Learning
Category 3:	Ideal Learning Environment
Category 4:	Learning Style
Category 5:	Location for the Best Learning (General)

#### 5.2.1.1 Theme 1: Category 1: Communication practices and methods

This category focuses on students' communication practices and methods. The following codes that emerged from the data analysis under this category were: *daily time spent on social media, the importance of technology, laptops, and phone devices used most, most used platforms, online communications, and relationships with social media*. These codes reflect how Gen Z students communicate and the methods they use, which is relevant to understanding their needs better. The following codes were illustrated and supported by the responses of the student participants in the semi-structured interviews.

##### (a) Daily time spent on social media (6)

The objective of this code was to determine whether the students' time spent on social media platforms contributes positively to their academic process and functions as an essential tool during the study period or whether these platforms are primarily used for social interactions. The following extracts provided insights.

Participants 1, 4, and 7 commented:

So for social media, I would say I spend about an hour to two hours each day on, you know, Facebook, TikTok and Instagram and then obviously I spend a lot more on WhatsApp because that's the primary means of communication between the family and the lecturers and the other students. So I would say all in all about six hours.

In a day I could say I spend almost three hours, and in the three hours, maybe one could say one hour in terms of communication with the people I'm close by, and the two hours sharing jokes.

Daily, I would, so I would be – I think WhatsApp would be the most. Facebook, I would scroll through it ... I would say three to four hours.

Social media plays a significant role in their lifestyles, with students spending time on multiple platforms depending on their requirements. This pattern was consistent across all seven participants, with WhatsApp emerging as the dominant social platform for both formal and informal communications. WhatsApp was used to contact educators and SL lecturers off campus when a learning query arose. In a more informal context, students used WhatsApp socially to chat with friends and family. However, there is no evidence to support that daily time was allocated to social media sites for educational purposes.

### ***(b) Importance of technology (3)***

This code aimed to determine whether the students' relationship with technology served as an aid or a hinderance to their learning process. The following extract by Participant 5 provided insight:

Very important. It's – the human race is in the technology age. We wouldn't have what we have today without it, so technology is very important to me. I couldn't do catch on work or prepare for certain lectures if I don't have the online lecture slides. I can't keep contact family, friends, all people close to me without my cell phone being able to phone and message them. I can't entertain myself by watching YouTube or streaming Netflix or something like without technology.

The above view was shared by three of the seven respondents, i.e., that technology plays a significant role in the lives of students. However, it should be noted that the above respondent was the only one who made a direct link between learning and using technology within this code. The other participants indicated that technology was used to browse different social media platforms; and there was no indication from all participants that this posed a hindrance to their studies.

### ***(c) Laptop and phone devices used most (7)***

The purpose of including this code was to determine whether the students at this UoT possessed technological devices. The data revealed that every student possessed a mobile

phone and laptop, with a subset of students possessing multiples of each, indicating that, as university students, they possessed devices that could be used to enhance their learning.

**(d) Most used social media platforms (7)**

The reason for this code development was to gain insight into participants' communicative patterns across a variety of social media platforms to help determine the extent to which they utilised these resources for educational purposes. The following extracts provided insights, as communicated by Participants 2 and 7:

... most definitely WhatsApp for messages or phone calls and then Outlook email supplied to us by the university.

I use WhatsApp, Messenger that's on Facebook, sometimes we organise Skype meetings or Microsoft Teams meetings.

WhatsApp emerged as the dominant platform used by all participants, exerting a significant impact on their communication strategies. It was also mentioned that it is a cheaper social media platform. Additionally, Facebook and Instagram were frequently mentioned by the majority of participants; however, their usage patterns were more variable and not solely geared towards educational pursuits. Furthermore, Microsoft Teams meetings and Microsoft Outlook applications were used as formal communication channels, presumably with educators. As Participant 2 mentions, it is supplied by the university, and it could be popular for academic purposes. Skype was only mentioned by Participant 7; therefore, it was concluded that it was not popular.

**(e) Online communication (5)**

Online communication refers to the modalities and preferences learners use to interact in a digital environment. This code serves as an indicator of comfort zones and helps determine whether there is any correlation between online interactions and learning outcomes. In addition, it helps determine whether this form of interaction is the preferred method for acquiring knowledge. The comments of Participants 1 and 5 in the following extracts provide insights:

... if it's with superiors, like lecturers and businesses, I use email because that is a formal way of communication. But when I'm chatting with, for example, my family or my friends or some of the students that I provide extra classes to we use WhatsApp ...

WhatsApp and emails, to send emails. But mostly WhatsApp because everyone it's easier to get through on WhatsApp and there're groups as well, so like classes or research groups where you can just – it's more convenient.

The responses presented appear to be representative of all study participants in the semi-structured interviews. WhatsApp is favoured for informal conversations with family members, friends, and conversations with study groups. The mention of study groups indicated that the participants are using WhatsApp for academic purposes. In contrast, electronic correspondence, such as email using the university student account, had become the preferred method of formal communication. Emails seem to be the primary method of official and professional communication with educators.

#### ***(f) Relationship with social media (5)***

Their relationship with social media refers to their linkage with learning. Therefore, this code was created to explore Gen Z students' relationships with social media and highlight their social media usage concerning learning and the social media sites used as a tool for learning. The following extracts provided insights. Participants 1 and 5 commented:

I – my relationship with social media I'm not active on Facebook. I have a Facebook account, I have an Instagram account and I have a TikTok account.

I do use social media but I don't use social media to communicate with people. It sounds weird but like I have social media accounts but I don't use it to talk to people or engage with people, I simply use it to look at things I've – look at my interests, look at things I find interesting,

These responses represent the preponderance of responses. Only one (1) participant identified that social media sites can be used for education.

#### ***5.2.1.2 Theme 1: Category 2: Format for the best learning***

This category was created to elicit what this cohort of students considered the best format for their SL projects. It was necessary to inform the development of a flexible model of SL.

#### ***(a) Best way to learn for service-learning projects (7)***

The majority of students indicated that face-to-face interaction was the most effective method of instruction for their SL projects. Participants 2 and 3 commented:

...Service Learning Project, I would prefer and I would say that what would work better is face-to-face ... the Service Learning Project is not something you can do over the internet, online or Microsoft Teams. Yes, you can have meetings, ... but the practical side you have to engage with them.

I think the best way would be for like interaction with the community ... That's the best way for them to learn because there's a lot you can learn from people in a community that you can't even find online ...

Interaction with communities was a common response among the student participants from the semi-structured interviews. They felt that actively working face-to-face with community members was more effective.

#### **5.2.1.3 Theme 1: Category 3: Ideal learning environment (7)**

The relationship between students' learning and their study environment plays a significant role in their academic achievement. This code was created to gain insights into the Gen Z students' ideal learning environment. Participant 5 commented:

... the current learning environment that I am in, I am really feeling like I'm at my best. At campus almost every day of the week learning with my friends and my peers and being able to engage with the lecturer directly.

The choice of a face-to-face (5) learning environment, as mentioned by Participant 5, was shared by the majority of participants in the semi-structured interviews. Students wanted a collaborative learning environment where they could learn not only with their friends and peers but also have direct access to educators.

#### **5.2.1.4. Theme 1: Category 4: Learning style (7)**

Learning styles refer to how students process and acquire knowledge that is best for them. The code derived from this category was: a mix (6), meaning that they had a variety of learning styles, which was the response from the majority of students. The following extracts provided insights into the learning styles of this specific cohort, as Participants 1 and 7 commented:

... I wouldn't say I'm exclusively using a specific learning style. I might, for example, switch to a visual style when I have to memorise, you know, pictures and stuff, or I can switch to an auditive style - or auditory style, like hearing, if I need to remember some kind of stuff, so it depends on the situation.

I'm a combination of certain styles. I think I do have a predominant one, because of how I have now grown.

The common learning styles noted were visual learning, kinaesthetic learning, intrapersonal and interpersonal learning. In addition, participants reported being adaptable and having the ability to switch to the learning style required for the task at hand.

#### **5.2.1.5 Theme 1: Category 5: Location for the best learning (general)**

This category is associated with the place where students learn best; in other words, whether students learn most effectively with other students in a classroom, in the real world, or online independently. There is one code nested within this category: face-to-face (4). This category overlapped with the format for the best learning category, as the majority of the respondents

responded that face-to-face classroom learning was their preferred location. Consequently, it is important to note that the participants in this study associated the best place for effective learning to be a face-to-face classroom environment. The following extracts by Participants 5 and 6 provided insights:

... the classroom environment or the lecture hall environment where I'm surrounded by like-minded peers and being lectured to or at, definitely ...

... I think mainly in the classroom ...

Face-to-face learning is the dominant choice of learning. In terms of location, which is the physical place where learning occurs, students choose classrooms and lecture halls. Therefore, it can be said that face-to-face learning was selected for location and environment.

#### **5.2.1.6 Summary of Theme 1**

The theme of *Learning Styles and Learning Preferences* consisted of **12 codes subdivided into five categories**, all presenting different aspects of the learning preferences and methods of this particular group of Gen Z students. Social media play a significant role in their lives, with WhatsApp being the dominant platform for both formal and informal communication. Facebook and Instagram were also mentioned, but their usage patterns were more variable and not solely geared towards educational pursuits. Microsoft Teams meetings and Microsoft Outlook were also mentioned as formal communication channels, specifically for emails and online meetings. There is no evidence to support the allocation of daily time to social media sites for educational purposes. All participants possessed mobile phones and laptops that were used for entertainment, social media and communication. They said that WhatsApp is used for personal and professional communication and is the most commonly used social media platform.

Seven participants chose face-to-face learning as their preferred way of learning, with the socially interactive aspect being the most effective. Moreover, the Gen Z participants from the semi-structured interviews prefer face-to-face locations and learning environments. In the category of the best way to learn from their SL projects, the majority of students chose a face-to-face approach. Students stated that working face-to-face with community members produced the most effective learning for them. Most respondents reported having a mix of learning styles, as well as being adaptable to changing their learning style to suit the task.

#### **5.2.2 Theme 2: Characteristics, motivation to learn and personal outlook of Gen Z students**

One of the most distinctive features of Gen Z is their ability to use the Internet at a young age, which has shaped their character, motivations to learn and personal outlook on life. Theme 2

consists of **four categories** and **11 codes**. The numbers in brackets associated with each code represent the number of responses to that code.

Theme 2 of the semi-structured interviews is as follows:

**Table 5.2: Categories derived from Theme 2**

**Theme 2: Characteristics, motivation to learn and personal outlook of Gen Z students**

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**Theme 2: Category 1: Motivation**

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**Theme 2: Category 2: Personal life outlook**

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**Theme 2: Category 3: Personality characteristics**

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**Theme 2: Category 4: Social Issues**

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These categories assist with interpretation and assigning meaning to the data by reviewing and describing the associated codes within them.

**5.2.2.1 Theme 2: Category 1: Motivation**

This category provides insight into Gen Z students' motivation in general and understanding of what motivates them. One code in this category is:

**(a) Sources of learning Motivation (7)**

This code was created to understand the motivation of Gen Z students to learn. The following extracts provided insight into the motivations expressed by two members of this group, Participants 2 and 6:

Personally, what motivates me is just wanting more out of life for myself, and for my family and also to do better, not just as the teacher, but to do better as a person and to help others.

I guess my parents motivated me to like work hard and the way – they had a hard time growing up. So I guess that's what motivated me to also do things, to be a change in other people's lives.

Most responses indicated that the students' motivation was to improve themselves, as well as to make a difference in the lives of others. Personal development was cited in all the participants' responses. The majority of the of Gen Z students was therefore motivated by wanting to improve themselves as individuals and simultaneously help others. They tended to see themselves not only as individuals but also as part of a collective body, and the motivation stemmed from both these arenas, so it was aligned with intrinsic motivation.

### **5.2.2.2 Theme 2: Category 2: Personal outlook on life (7)**

This is a standalone category with no codes, so it does not require further subdivisions. It covers only one aspect: the student participants' view of life. This is a significant category to include under this theme because knowing how this group of Gen Z students views life directly impacts their learning. The following extracts of comments by Participants 3 and 6 provide insights:

I want to say I'm positive, because I'm human, I do get those times where I am not as confident about certain things, but I try my utmost best to be positive about most situations.

I guess I feel like I try to be positive always. ... I feel like you have to be positive even when there're hard times. And you have to look at life in other people's perspective as well so I guess that's how I view life, try to be positive, good to others, love everyone.

All the participants stated that they were positive about their lives. Their words showed an awareness that life can be difficult, yet that they also believed that it was important to find a way to be positive about life (Participant 3). In addition, there was also an awareness of others and how being positive could affect them. Other participants linked being positive with taking action to try to achieve positive outcomes.

### **5.2.2.3 Theme 2: Category 3: Personality characteristics (7)**

Personality characteristics play a crucial role in creating a flexible SL model for Gen Z students, as a model should relate to individuals in terms of who they are. The two dominant codes for personality characteristics are **compassionate (4)** and **goal-driven and hardworking (4)**. The following extracts (Participants 3, 4 and 5) provided insights:

I think I am a kind person. I think I am a caring person, very giving and understanding.

I would say I am very compassionate, I always try think of someone else and how to always assist if I can ...

I'm a very hardworking person. I'm very passionate about what I do.

The majority of students mentioned compassion and goal-driven hard work.

### **5.2.2.4. Theme 2: Category 4: Social issues (7)**

All seven students showed a clear interest in social issues within the community. The dominant codes in this category were **gender-based violence (3)**, **substance abuse (3)**, and **youth and education (3)**. An additional code created in this category was students' perceptions and feelings about social issues, all of which were related in that they demonstrated an interest and expressed feelings and their perceptions about social issues. Although the codes in this

category highlight the social issues most frequently selected by this group, this is not the intention of this category. The codes are included to show that this specific cohort of Gen Z students are interested in social issues. The following extracts provided insights, as Participants 2 and 6 commented:

In my community I really wanted to make a difference especially in the lives of our teenagers. I really want to have an impact on their life because some of them, after school, they don't know what to do ...

... certain issues like drugs and poverty and so many other social issues that you find in communities. I don't believe it's good and I hope one day I could help in some way to help communities in helping with those problems and those issues.

The majority of the students mentioned wanting to help communities and have an impact on them. Additionally, all students showed interest in the various social issues prevalent in their communities. It is acknowledged that communities are not homogeneous and that the social issues identified here are context-specific, discipline-related, and contingent on the nature of the SL project and communities in which it is implemented.

#### **5.2.2.5 Summary of Theme 2**

Most participants expressed motivation to improve themselves and make a difference in the lives of others. They believed that a desire for personal development and being a part of a collective body were key motivators. Most participants mentioned compassion, goal-driven and hard work as characteristics that they identified with. They showed a clear awareness of, and an interest in, social issues prevalent in communities.

#### **5.2.3. Theme 3: Transformative learning experiences of Gen Z students in SL context (7)**

The third theme for the semi-structured interviews was SL experiences. There are **three categories** and **six codes** that encompass the many components that reveal insights into Gen Z students' SL experiences, as outlined next. Table 5.3 presents the categories that are discussed within this theme:

**Table 5.3: Categories derived from Theme 3**

#### **Theme 3: Transformative learning experiences of Gen Z students in the context of Service-Learning**

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**Category 1: Accessing learning through SL**

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**Category 2: Best approach for SL projects**

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**Category 3: Learning style during SL**

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### **5.2.3.1 Theme 3: Category 1: Accessing learning through SL (7)**

It was fundamental to understand how this specific group of Gen Z students were learning through their SL projects. The following extracts provided insights:

Participants 3, 5 and 6 commented:

Questioning helped me learn because when I went to the service learning I went there with the knowledge that I had which was from books, articles, reviews, and everything on paper. So having to ask the question based on all of those things that I knew and getting answers from people that are first-hand dealing with those things ... it helped bringing the knowledge that I had but then it also helped to put more weight on all the things that I had been reading.

Definitely in the communication with my fellow students ... definitely communicating there. Communicating with the community one hundred percent and a bit of the reflection as well talking afterwards ...

I think it did because when we all reflected at the end I remember, we really did learn something and feel like we did have some sort of change in our perspective of doing things.... We did feel touched in a way, I felt touched and changed in some of way ...

All seven students indicated that they had learned through communication, questioning, and reflection. Most of the responses mentioned that communicating with both their team members and the community helped them gain more knowledge and learn about the perspectives of others. The participants cited that, by questioning community members, they were able to better connect the learning they had done in the classroom to the real world. The questioning further assisted in obtaining a better idea of what was happening in the communities. For most of the students, the main purpose of the reflection was that it brought a change in perspective. All students experienced changes in certain ways, either through the expansion of how they could perform differently or through self-development.

As service-learning is a transformative pedagogy, it was vital to assess whether students developed and transformed during SL projects. This is a standalone category, as only one aspect is presented, as is the case in the previous category. The comments of Participants 1 and 4 provide insights:

... it changed me in a way that I must be more open towards people with various learning styles, especially in terms of the way people learn. It changed me in a way ... I must be more open towards suggestions. It changed me that I have to be more mindful about other people's beliefs and living standard and facilities.

Definitely in a way because I would see something in my own perspective but seeing it from someone else' opinion or perspective or views, I learnt, and I gain knowledge on that ...

As in the previous category, one of the significant points of change was in the perspectives of participants about being more open-minded towards others. Other participants reported that it helped them interact with individuals who were not like-minded, as well as learn about individuals from different cultures. Additionally, participants cited that they became more socially responsible through their SL projects.

#### **5.2.3.2 Theme 3: Category 2: Best approach for service-learning projects (6)**

This is a stand-alone category as only one feature is presented; hence, no codes were required. Students commented on their preferred approach to SL projects, particularly in relation to engagement with community members. Participant 2 referred to "*them*", meaning the community. The following comments by Participants 2 and 6 provide insights:

I would say what would work best is the face-to-face one. The approach before the pandemic would be the best approach because of the different benefits, and also what you can learn as a person from engaging with them practically ...

I guess it would be in-person, open like an open kind of working environment where students are able to work in groups and just be open and learn from others ...

The above responses are indicative of the views of most participants who acknowledged that a face-to-face (4) approach would be best, as SL is a hands-on approach to learning.

#### **5.2.3.3 Theme 3: Category 3: Learning style during service-learning L (7)**

The participants' learning styles were addressed under the theme of learning styles and preferences. There is only one category for understanding students' learning styles during SL projects, as illustrated in these extracts (Participants 2, 3 and 5):

My, the learning style whilst being or doing the project was busy with or doing, completing the project, was like how I learnt was doing stuff hands-on.

I prefer doing things more in groups and being more practical and even with the students, like assisting them with tasks, I prefer doing it in groups and showing them how to do things, rather than just telling them what to do.

Definitely hands-on learning style, physically engaging, physically helping, physically talking. ... being with the people, physically showing and physically engaging. Definitely that ...

The majority of participants from the semi-structured interviews chose *hands-on learning* (4) as their learning style during the project.

#### **5.2.3.4 Summary of Theme 3**

Theme 3 explores how Gen Z students experience transformative learning through their SL projects. Three main categories emerged. Firstly, accessing learning through SL, students learn through communication, questioning and critical reflection, which helps them connect their classroom learning with real-world experiences. Many of the participants reported a change in perspective, as well as open-mindedness towards diverse communities. Participants reported face-to-face SL projects as the best way to implement projects and favoured a hands-on, practical learning style.

#### **5.2.4. Theme 4: Insights on ideal SL projects for 2030 from Gen Z students**

This theme addresses the ideal SL model by 2030. It consists of one category (ideal SL projects) and two codes. The two codes are *(a) bringing change through community awareness* and *(b) bringing change through sustained involvement*. This category was intended to elicit from students what they thought ideal future SL projects would be. Both codes in this category will be discussed together, as they are interrelated in that they refer to bringing about changes in the communities.

##### **5.2.4.1 Aspects to include in a preferred service-learning project 2030**

This section presents participants' views on the aspects they considered important for an ideal SL project by 2030. Their comments reflect their experiences of SL projects that involve engagement and community needs and integration with the academic curriculum. The following extracts provided insights. Note that "they" refers to SL faculty.

Participants 1 and 2 commented:

So maybe a more motivated group of workers ... and maybe ... more programmes that will help the community, not just programmes academically, but programmes that will help them with their mental mindset and with their physical health, etcetera, that will help them, guide them in not making this, like, career choices but choices for them as well.

They make these changes based on statistics, based on things, but they never base those things on what's actively in the community. So, they don't go out. They don't go and talk to people who in the community, talk to victims, ... community members, talk to people who've lived there a long time, to get the history.

The responses indicated that these Gen Z students wanted more sustained SL projects so that they could see their impact. They also commented on having more community awareness by going into the communities and learning about them to be more effective in the projects. These Gen Z students' responses indicate that they wanted to bring about changes for the benefit of

the community. They further expressed that SL should be linked to social issues to see the change take place. All responses demonstrated that a change was required so that communities could be better served, and students were willing to become more deeply involved with communities and were willing to contribute to make change happen.

#### **5.2 4.2 Summary of Theme 4**

This theme provides insights into two aspects to be included in an ideal SL project for 2030. Students expressed a preference for projects with longer time frames to enable them to gain an in-depth understanding of communities, and their SL projects should be aligned with relevant social issues.

Seven participants reported that they learned through communication, questioning, and reflection, which helped them gain more knowledge and learn about the perspectives of others. They also mentioned that, by questioning community members, they were better able to connect their classroom learning with the real world. One of the crucial points of change was being more open-minded about other individuals. Other survey respondents reported that it helped them to interact with people who were not like-minded or learn about individuals from different cultures. Additionally, participants cited that they became more socially responsible through their SL projects.

### **5.3 Findings derived from the online survey (data set 2)**

This section presents the findings of the online survey, completed by Gen Z students involved in SL projects at the study site. The survey comprised 25 questions and was adapted from a survey conducted in the United States in 2014 (see Chapter 4.4). The purpose of the survey in this study was to gather additional insights from Gen Z students who did not participate in the semi-structured interviews, thereby obtaining fresh and more in-depth data.

The survey was completed by 37 Gen Z students from different faculties involved in the SL projects at the study site. Given the sample size ( $n = 37$ ) and the exploratory purpose of the survey data were analysed descriptively and are not intended to support statistical generalisation. Instead, the survey findings are used to triangulate and complement the qualitative data from the semi-structured interviews and focus group interviews. This was done to strengthen the overall interpretation of Gen Z students' learning preferences, characteristics and SL experiences. Next, the findings from the online survey are presented.

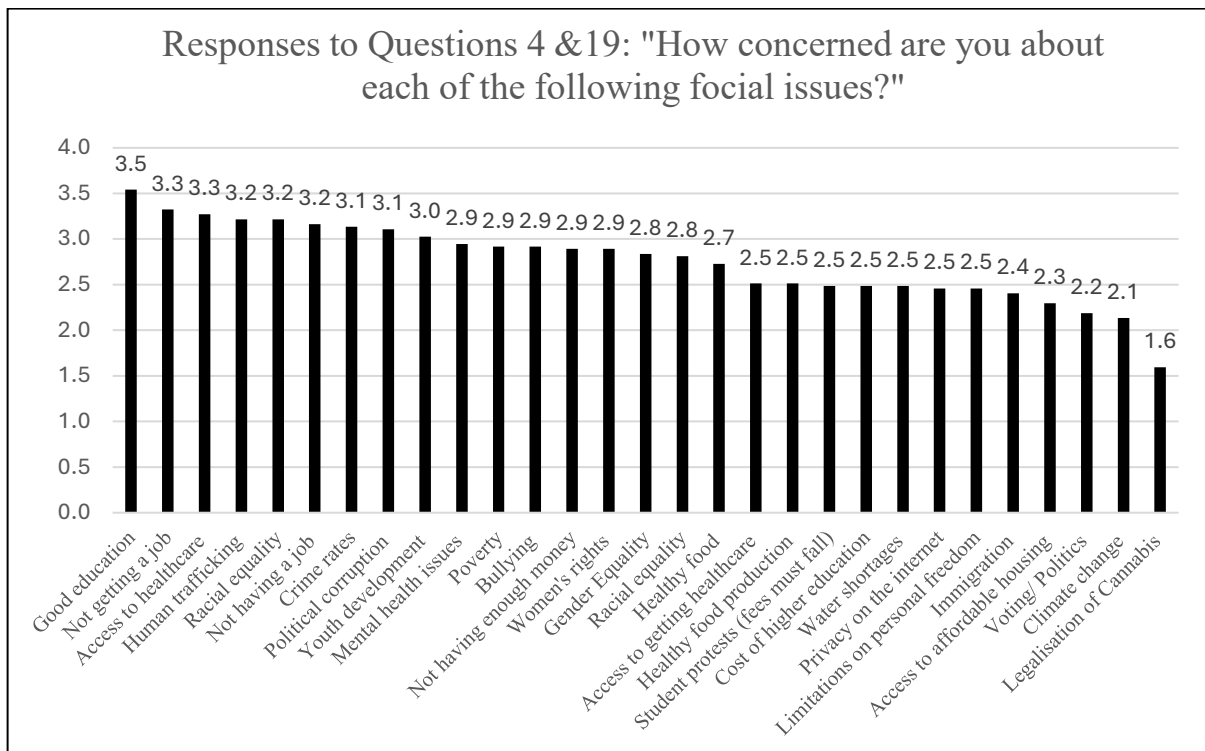
#### **5.3.1 Questions 1, 2 and 3**

Questions 1, 2, and 3 were designed to ensure that all students were enrolled in a programme of study at the UoT and met the criteria for being a participant in the study. The criteria were:

students needed to be born after 1994, and they needed to have participated in a SL project in the previous two years.

### 5.3.2 Questions 4 and 19

Both questions 4 and 19 are related and are therefore presented together in graph format (Figure 5.2) as they were closed-ended questions (i.e., respondents were asked to choose from among different options provided). The question was based on social issues.



**Figure 5.2: Social and community issues**

**Note: 4 = Very concerned; 3–3.9 = Concerned; 2–2.9 = Somewhat concerned; 1 = Slightly concerned; 0 = Not concerned**

Questions 4 and 19 were combined due to their similarity. The responses indicate that the students were concerned about social issues. A response of 4 would have indicated that students were very concerned; however, all responses were 3.5 and below, falling into the 'concerned' and 'somewhat concerned' range. The responses indicate that these students were aware of and concerned about prevalent social and community issues.

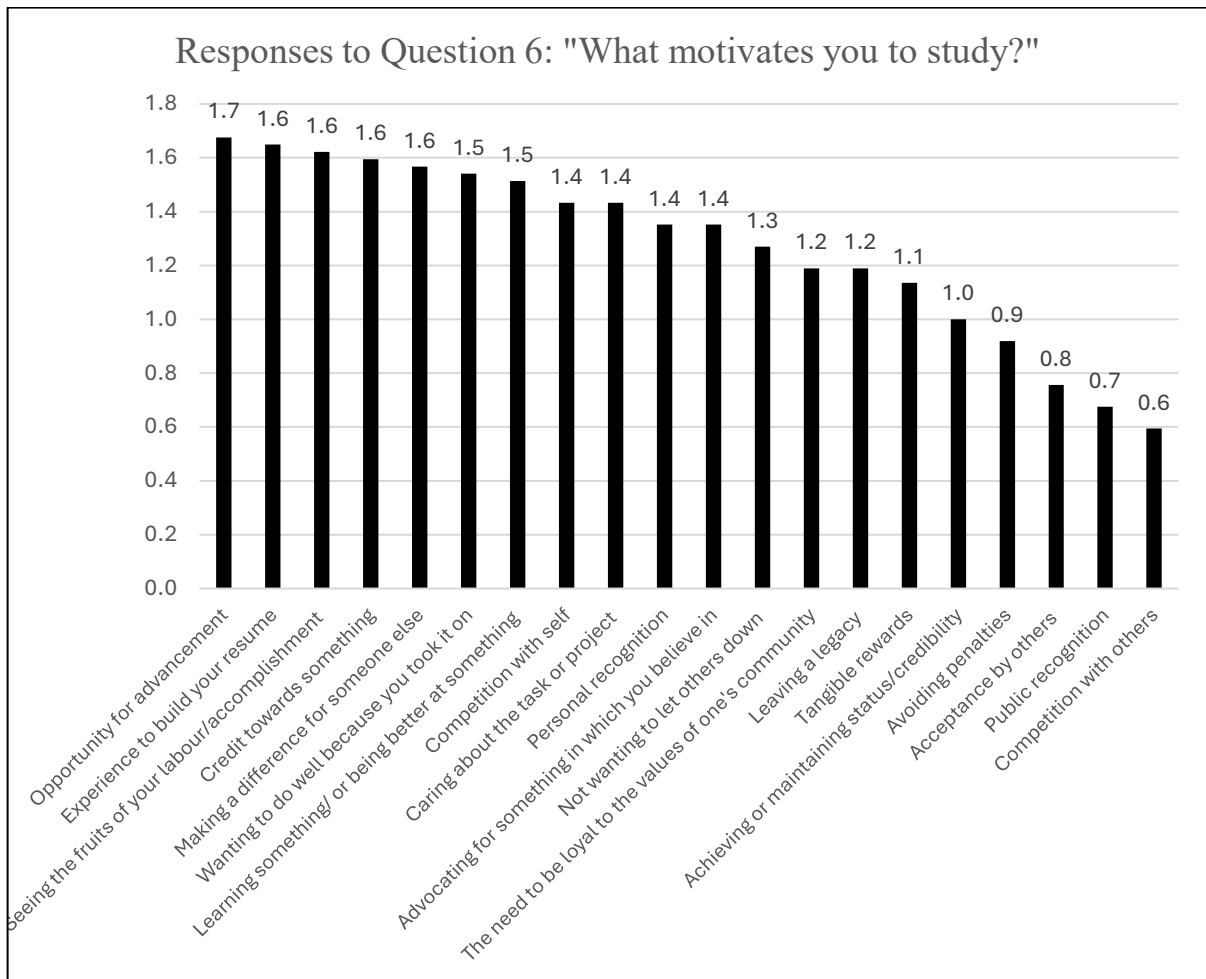
### 5.3.3 Question 5

This question was related to Questions 4 and 19. Students were asked if there were any other social issues they were concerned about. They cited 12 different social issues of concern that were not listed in Figure 5.2. Of a total of 37 students who completed this question, only seven

students stated that they were either not concerned about any issue or stated that the question did not apply to them. Based on the responses to questions 4, 5 and 19, the majority of Gen Z students were concerned with social and community issues.

### 5.3.4 Question 6

This was a closed-ended question that was elicited students' motivation to study. Figure 5.3 presents a descriptive overview of students' motivation to study; the discussion that follows interprets these patterns in relation to Gen Z students' learning motivations.



**Figure 5.3: Motivation to study**

**Note: 2 = Greatly motivates; 1.4–1.9 = Very motivated;  
1.1–1.3 = Somewhat motivates; 0.6–1.0 = Slightly motivates**

Responses that reached a bar score of 2 indicated an aspect that greatly motivated students. As illustrated in Figure 5.3, all responses reached a level of 1.7 but not higher than 1.8. This indicates that there was no single aspect that significantly motivated this group of Gen Z students. On the other hand, responses 1.4 and above indicate that some of these students were very motivated by certain elements, such as:

- Opportunity for advancement
- Experience to build a resume
- Seeing fruits of labour accomplishments
- Credit towards something
- Making a difference to someone else
- Wanting to do well because you took it on
- Learning something or being better at something
- Competition with self
- Caring about the task or project
- Personal recognition
- Advococation of things they believe in

Some aspects that somewhat motivated them are as follows:

- Not wanting to let others down
- The need to be valuable to one's community
- Leaving a legacy
- Tangible rewards

Some elements that only slightly motivated this group of students:

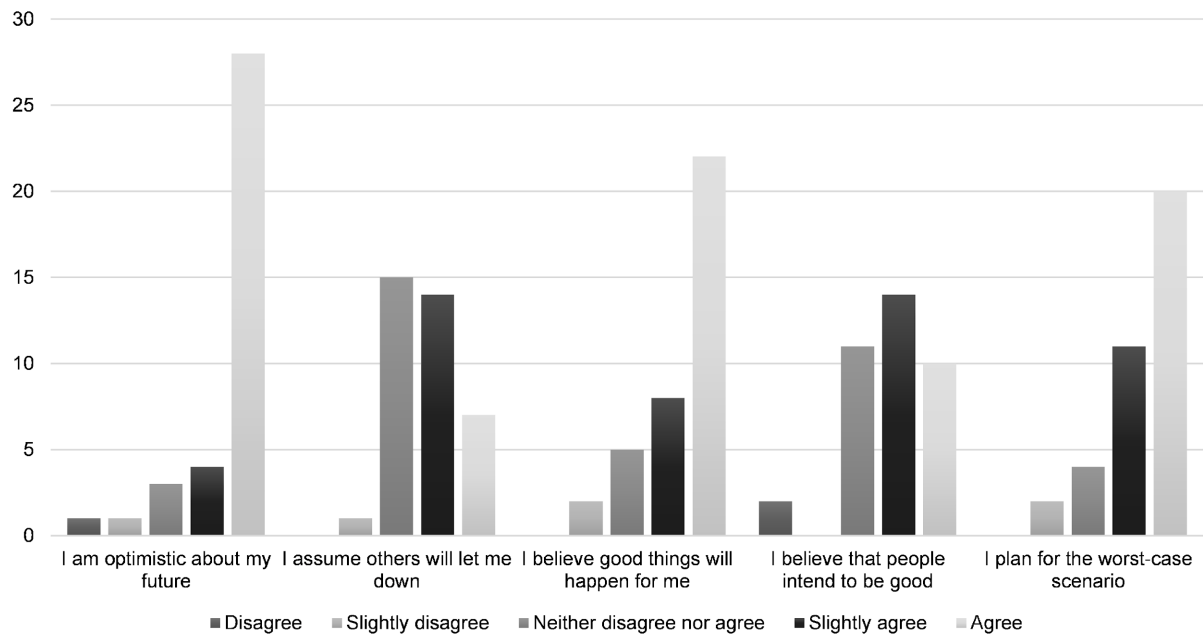
- Credibility
- Achieving or maintaining status
- Avoiding penalties
- Acceptance by others
- Public Recognition
- Competition with others

Figure 5.3 reveals that the students were motivated by certain elements, somewhat motivated by others, and slightly motivated by certain aspects. As seen, the majority of students fell into the very motivated category (with most responses 1.4 and above), indicating that fewer students chose elements in the somewhat motivated category, and even fewer in the slightly motivated category. Respondents were motivated by more intrinsic values, as seen above.

### **5.3.5 Question 7**

This question was directed at the respondent's outlook on life.

7. At each of the following personal views on life, please check the box that is most like you.



**Figure 5.4: Personal outlook**

This question was intended to glean insight into the personal view of life of the individuals in this specific cohort. Figure 5.4 indicates that the majority of students were optimistic about their future. This also indicates that most of them believe in positive outcomes; yet most also indicated that they planned for a worst-case scenario. Fewer students either agreed or disagreed that others would let them down; and, likewise, fewer students agreed that people intended to be good.

### 5.3.6 Question 8

The question was designed to identify how many hours a day this specific cohort of Gen Z students spent on social media. There were varying responses. The highest number of respondents (12) answered 1-2 hours a day; the second-highest number (10) spent 3-4 hours per day; and the third-highest number (7) spent 10-15 hours per day on social media. The lower number of respondents (6) selected 5-6 hours per day; and an equal number (6) spent 7-9 hours per day on social media.

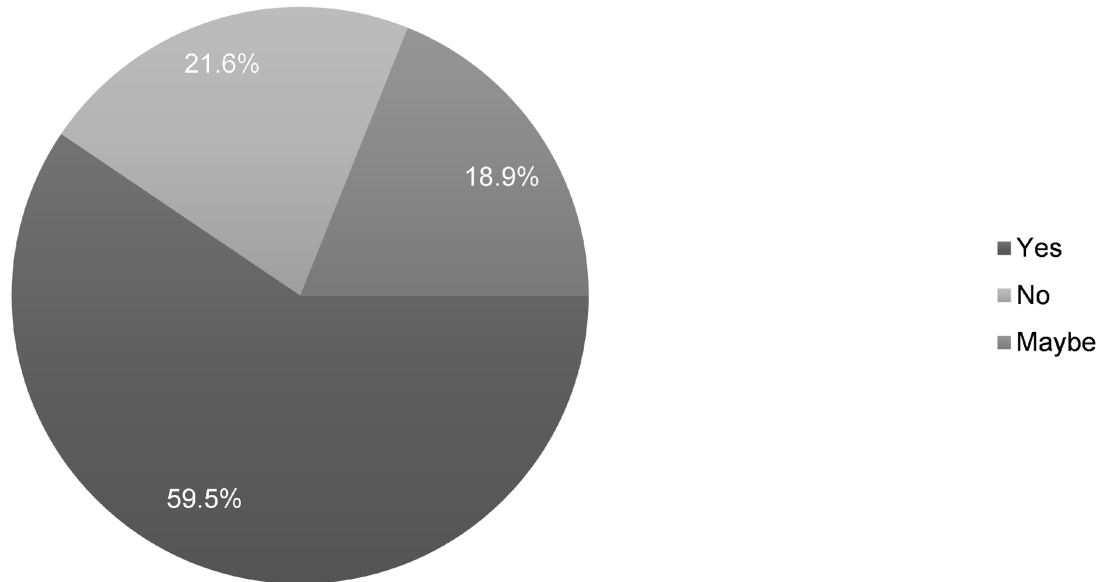
### 5.3.7 Question 9

Question 9 explored the types of devices students used to access online platforms and social media, as well as to assess whether they owned such devices. A total of 36 students answered this question, and their answers indicated that they possessed a device or devices to access the Internet: 15 students reported using smartphones and tablets, while 21 indicated that they owned a smartphone.

### 5.3.8 Question 10

#### 10. Are your parents actively involved in your studies?

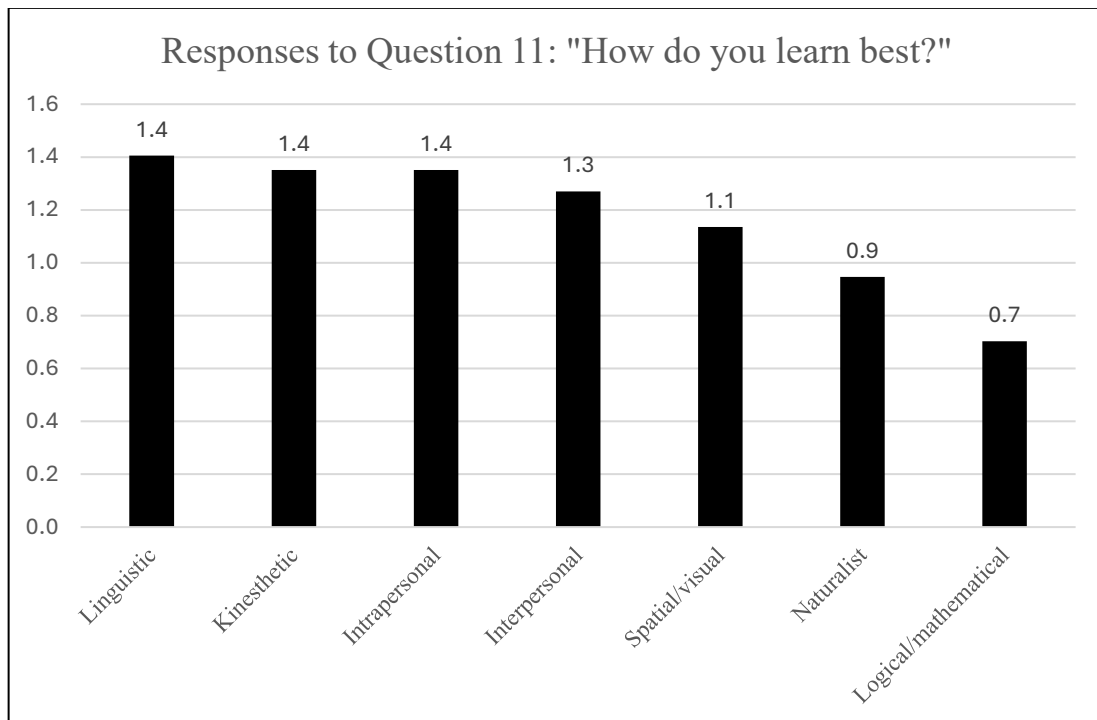
37 Responses



**Figure 5.5: Parent involvement**

The question aimed to determine whether the parents of this group of Gen Z students were actively involved in the children's studies. As shown in Figure 5.5, the majority of students responded in 'Yes'; fewer students responded 'No'; and even fewer responded 'Maybe'.

### 5.3.9 Question 11



**Figure 5.6: Best learning style**

**Note: 2 = Greatly effective; 1.4–1.9 = Very effective; 1.1–1.3 = Somewhat effective; 0.1–0.7 = Slightly effective**

The intention of this item was not to identify a single dominant learning style for this specific cohort of Gen Z students, but to establish what learning styles they chose as the more or less effective. As Figure 5.6 reveals that the responses did not reach a bar score of 2, it seems that no particular style of learning was regarded as greatly effective. Linguistic received the highest average rating of 1.4, Kinesthetic and Intrapersonal are just below 1.3, indicating that they were also relatively effective. Learning styles *Interpersonal and Spatial/Visual* are considered 'Somewhat effective' as they fall within a bar score range of 1.1–1.3, indicating that fewer students chose this option. The last three learning styles on the graph, *Naturalist, Logical and Mathematical*, received the fewest responses, falling within the bar score range of 0.1–0.7, hence, indicating that these learning styles are perceived as only 'Slightly effective'.

### 5.3.10 Question 12

Question 12 explored the conditions under which students felt that they learned best, rather than only mentioning a physical location. Responses indicated solitary, self-paced set-ups. Almost half of the students chose a desk with music (12); and the other two categories that received the most responses were the desk workspace (7) and listening to music (7). Two

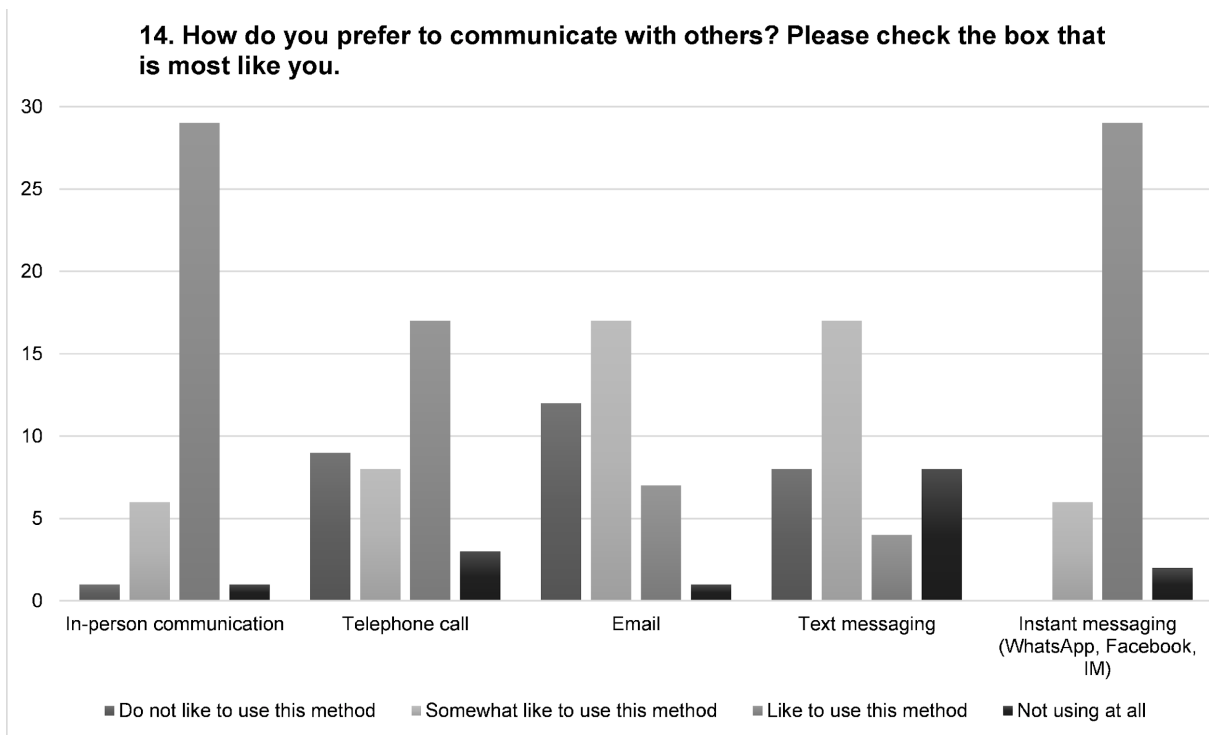
categories used music as a common denominator, suggesting that background audio-paired with a desk based set-up is a common preference for this group.

### 5.3.11 Question 13

Question 13 asked where/with whom students preferred to study. There was an overwhelming response to 'Learning on my own' (21). The second highest response was 'Learning with others' (9). The responses revealed that the best study context for most of this cohort of Gen Z students was learning on their own.

### 5.3.12 Question 14

This question was necessary to understand the communication methods that the respondents preferred.

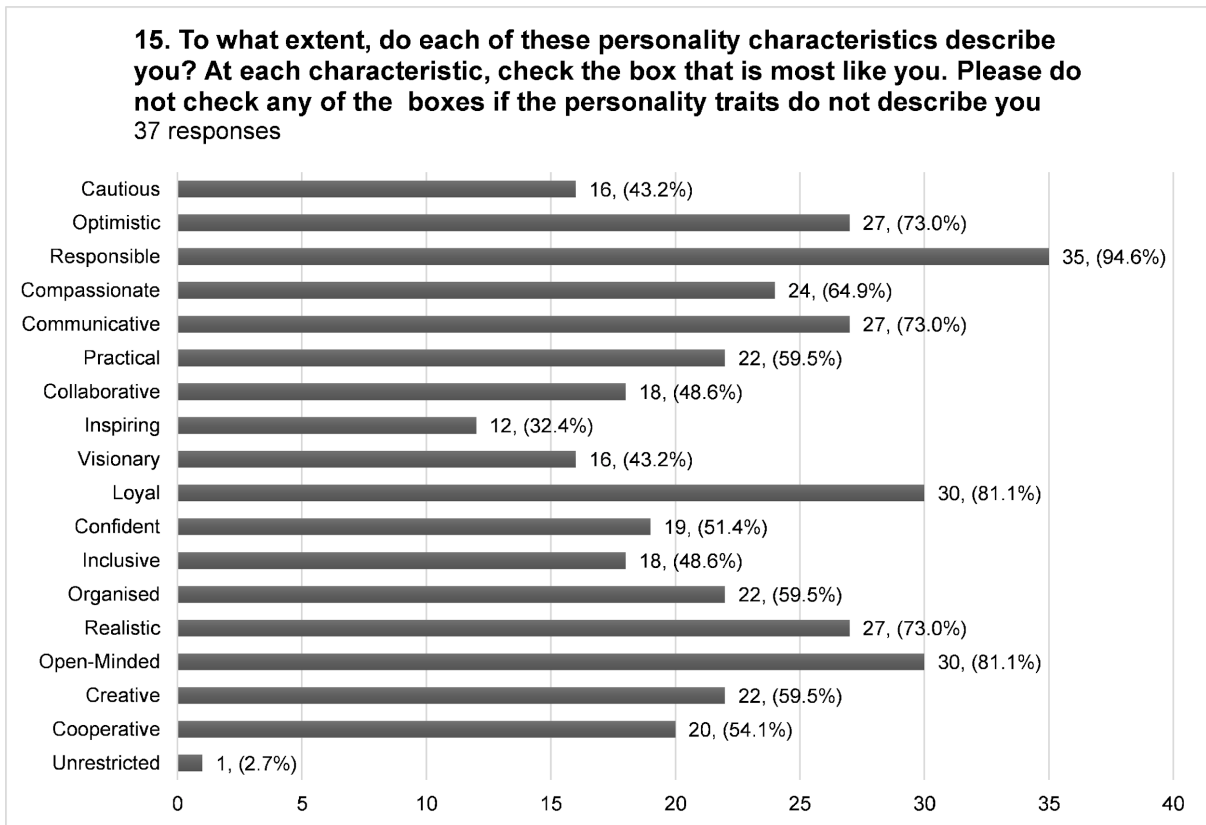


**Figure 5.7: Communication methods**

As exemplified in Figure 5.7, most students preferred to use in-person communication and instant messaging such as WhatsApp, Facebook and Instagram (IM) as ways of communicating with others. A few students chose telephone calls as their communication method; and a few students indicated that they liked using Email and Text messaging.

### 5.3.13 Question 15

Question 15 was designed to understand the personality characteristics that students identified with most.

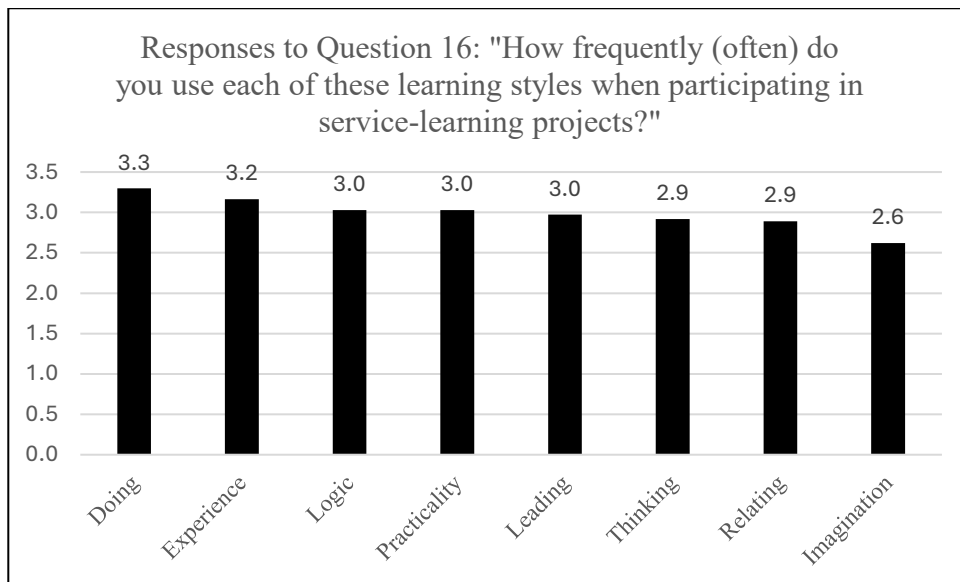


**Figure 5.8: Personality characteristics**

According to Figure 5.8, most students see themselves as responsible, loyal, and open-minded; and many considered themselves optimistic, realistic, communicative, compassionate, organised, creative, and practical. The latter personality characteristic received higher scores on the graph. More than half of the students considered themselves cooperative and confident, while half selected collaborative and inclusive; fewer than half of the students identified themselves as being cautious, inspiring, or visionary. The least selected personality trait, 'unrestricted' (2.7%), suggests that most participants saw themselves as more structured, disciplined or aligned with conventional norms.

**5.3.14 Question 16, 17 and 18**

Questions 16, 17 and 18 were all focused on determining the learning styles most frequently used by the students during their SL projects. These learning styles are the same as the general learning styles (Question 11), simplified here for ease of understanding.



**Figure 5.9: Learning styles during SL projects**

**Note: 4 = Always; 2.5–3.5 = Often; 2.0–2.4 = Sometimes; 1 = Rarely; 0 = Never**

Figure 5.9 reveals that various learning styles are often used during SL projects, and that no one learning style dominates during projects. The tallest bar is doing with experience, a close second, indicating a preference for hands-on learning and then working with the experience gained. No learning style achieves a low bar score, which would indicate that it is rarely or never used.

### 5.3.15 Question 20

Question 20 sought to understand if communication with group and community members helped students learn during their SL project. Responses to Question 20 indicated mixed experiences regarding the role of communication during SL projects. Nine out of 37 students disclosed that communication during the projects did not help them learn, while 7 students said that it did help (without specifying what they learned). The responses do indicate that most students learn through communicative practices during the SL projects.

The remaining 21 students mentioned how communicating with the community supported perspective taking, collaboration, empathy and personal development. These responses are important because they indicate that a significant number of respondents learned through meaningful dialogic interactions during their SL projects.

### **5.3.16 Question 21**

Question 21 sought to understand if reflection during and after the SL projects helped students learn. Most of the students stated that they learned about areas for improvement in reflection on the projects. Six students mentioned that reflection did not help them learn. Another three students said that it helped them learn, with no reason cited. A smaller proportion of students (6) indicated that they gained insight into the specific knowledge and skills acquired during the projects, and four students showcased that they had learned about the potential application and impact of skills within the communities they served (4). Fewer students stated that they had gained a greater perspective on the community and the issues that the community members faced (4).

### **5.3.17 Question 22**

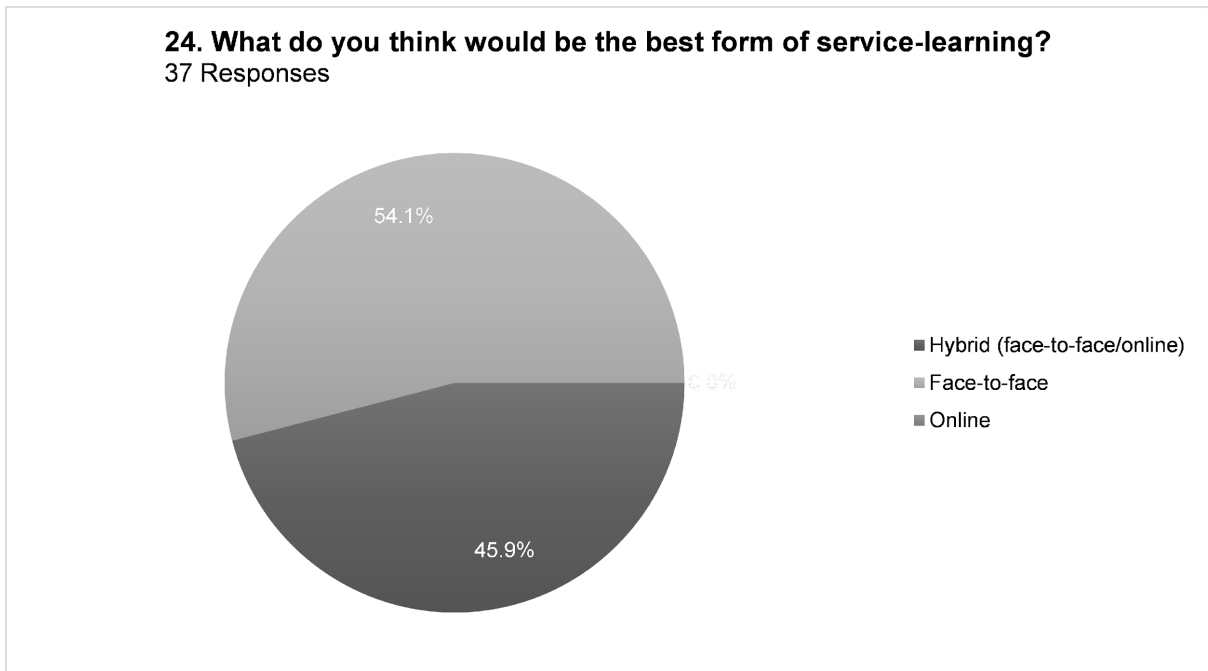
Question 22 sought to understand if questioning with community and group members helped students learn. Of the 37 respondents, 35 answered this question. More than half indicated that questioning helped them engage with others in a meaningful way, specifically in understanding the experiences of those they work with in the communities and in shifting their perspectives. Another 16 of the 35 students indicated that learning did not occur through questioning, while the remaining responses suggest that questioning served as a tool for interaction, dialogue, and engagement (even though not all respondents linked it to learning).

### **5.3.18 Question 23**

Question 23 sought to gain insights into how students think SL changed them. All student responses communicated that they had experienced various transformations. Most respondents (13) pointed to learning new skills and knowledge to help others. The second-highest response (11) was that they had learned about themselves and others. The lower responses specified that they had changed through personal growth (7) and become more aware of social issues and the community (6). However, only one survey respondent indicated taking action after their transformation.

### **5.3.19 Question 24**

The purpose of question 24 (see Figure 5.10) was to understand what the students considered the best form of learning in SL projects.



**Figure 5.10: Best form of service-learning**

Figure 5.10 reveals that most students considered a face-to-face SL would be the most effective format. Yet, almost half also mentioned that a hybrid format would be ideal. However, there were no responses for a fully online SL model, suggesting that it was not seen as the preferred option. This finding is presented here and further expounded in Chapter Six where the findings are discussed and analysed.

### 5.3.20 Question 25

This question was pertinent because the objective of this study was to develop a flexible SL model for Gen Z students. Therefore, it was best to inquire from these students what they considered the ideal SL project for their generation to inform a forward-thinking model. A total of 26 responses from respondents were included. Most students communicated that projects should focus on specific social issues (12). Fewer students commented that it should be centred on the use of technology (6) and that it should involve hybrid learning for students (5). While a total of 3 students mentioned the importance of face-to-face learning.

### 5.3.21 Online survey summary

The survey findings revealed that students were concerned about community issues. This was confirmed by students naming an additional 12 social issues not on the list. The majority of students considered themselves motivated mainly by intrinsic motivators, although extrinsic motivators were also noted. They also reported a positive outlook on life, but at the same time put plans in place for worst-case scenarios. The preferred devices for accessing online sites and social media were predominantly smartphones and computers; in-person communication

and instant messaging were selected as the dominant modes of interaction. Most participants (59.5%) reported that their parents were actively involved in their studies. The majority of students considered themselves to be responsible, open-minded, loyal, optimistic, realistic, communicative, organised, creative, practical, cooperative, confident, collaborative, and inclusive. In SL communication, critical reflection, and transformation are central, students described learning through communication and reflection while also gaining new skills and knowledge. Most students chose face-to-face as the best form of SL over hybrid and online formats, a pattern consistent with in-person communication.

#### **5.4 Findings derived from the focus group interview (data set 3)**

One focus group interview included seven SL lecturers. It was designed to generate data that differed from the student sample (Appendix D). The discussion focused on their observations of Gen Z students and their experiences of SL projects.

The focus group interview had only one theme: *Observations of Gen Z students and SL projects*. There were three categories and four codes. They are discussed and presented as follows:

**Table 5.3: Categories derived from Theme 4**

#### **Theme 4: Observation on Generation Z students and Service-Learning Projects**

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**Category 1: Gen Z students**

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**Category 2: Improving on structure and design**

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**Category 3: Generation Z students and Service-Learning experiences**

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##### **5.4.1 Observations on Generation Z students and Service-Learning Projects**

The discoveries made by the SL lecturers about the Gen Z students' characteristics, learning methods, and SL experiences are pertinent to the study, as they assisted in creating a profile of the specific cohort of Gen Z students at the study site.

###### **5.4.1.1 Theme 1: Category 1: Gen Z students**

###### **5.4.1.2 Characteristics of Gen Z students (4)**

This code was created to capture SL lecturers' observations on Gen Z students' characteristics. The following extracts provided insights:

I think that our Generation Z students, the current students that we have,... the myth that they don't have an interest in social issues and that they are totally self-absorbed. ... They can be quite self-sufficient if need be as well.

For some of our content for our subjects, some of the students needed to create things and they created amazing, where technology was concerned, they created amazing contributions to the project.....So I think in that aspect, that is something that I can say that they share. I think that a lot of our students are becoming more vocal and becoming more conscious in terms of social issues ... and also being able to speak on issues like that.

Most of the SL lecturers mentioned that the students are vocal and that they care and are aware of social issues and are not self-absorbed as they come across because of their relationship with their devices and online platforms. The SL lecturers further indicated that students communicated using technology to learn online and create academic content. The responses also indicated that this specific group of Gen Z students was committed, open, and self-sufficient.

#### **5.4.1.3 Ways that Gen Z learn best (3)**

The purpose of this code was to show how, in the view of the SL lecturers, this particular cohort of Gen Z students learns best in the context of their SL projects. Service-learning learning lecturers commented:

My experience has been that our current students learn a lot through interactive learning, being intricately involved in that learning process.

... they would create groups on their own WhatsApp groups; some students participated in the project on a Tuesday and others perhaps on a Wednesday. And they would create WhatsApp groups, each for a particular day and they would share resources, and they would be assisting each other. Even when it comes to assignments when they are not necessarily required to work together, I find that they somehow find ways and means to collaborate.... having the ability to take responsibility for their own learning and working independently has also I think, benefitted some students ... I think that I have learned incorporating multi-model means of teaching and learning, what they have created in their projects in terms of the media and technology, ...

The SL lecturers emphasised that students learned best through collaboration, wanting interaction with others, and being involved in the process of learning. At the same time, they showed that they were capable of working on their own and taking responsibility for their learning. Media and technology were also among the online learning tools students used to gain access to sources of information and insight into existing knowledge a topic (s).

#### **5.4.1.4 Theme 1: Category 2: Improving on structure and design**

It is important to note that the focus group interview was conducted amid COVID-19, so the SL lecturers were thinking ahead of how the projects could still be successful, uphold health and safety regulations, and maintain social distancing.

#### **5.4.1.5 Degree of flexibility in SL projects (4)**

This code was created to understand the flexibility in the current SL model at the UoT. The following excerpts from the SL lecturers shed light on their views:

... So we attempted to do kind of like an online training instead of the students going to the community, but the challenge was that the community do not have the resources to be able to view or listen or receive these online trainings. ... we have explored another way which is by developing a training manual and also the training poster which can be shared with these communities without the students being there or engaging with the community.

Service-learning lecturers shared their attempts to complete their projects during the pandemic. Through the adaptation of their projects, they also faced challenges, such as the community not having the resources to work online collaboratively. On the other hand, the shortage of resources at disadvantaged schools where several SL projects were implemented also posed challenges. SL lecturers attempted to minimise these limitations by adapting their SL projects to accommodate current circumstances. It was commented that students who participated in SL projects should be more involved in the projects so that they can find ways to complete their projects during a crisis period.

#### **5.4.1.6 Theme 1: Category 3: Generation Z students and service-learning experiences**

#### **5.4.1.7 Ways students learn from SL experience (3)**

The purpose of this code was to gain insights into the Gen Z students' learning. The SL lecturers reported their observations on the ways students learned during their SL projects. Service-learning lecturers commented:

I know students often reflect and say "I wish we could do more of this". And I think there is a huge growth, or from what I have witnessed,...

... at the end they need to as well indicate a reflection as well, indicating how they felt during the project,...

The responses from the SL lecturers show that students were required to engage in reflective practice and reflect on their own, indicating that critical reflection was regarded by the SL lecturers as one of the main ways that students learn through their SL projects. This confirms

that reflective practice should play an important role in the learning process for Gen Z students engaged in the SL projects.

#### **5.4.1.8 Focus group interview summary**

Service-learning lecturers found that Gen Z students were more vocal and aware of social issues and that they were not as absorbed as they appeared to be because of their relationship with devices and online platforms. They were committed, open, and self-sufficient; and they learned best through collaboration, interaction, and involvement in the learning process. At the same time, they demonstrated that they were capable of working independently and taking responsibility for their learning. Media and technology were also among the learning methods students incorporated into their SL projects. During the pandemic, SL lecturers faced challenges such as the community's lack of resources for online collaboration and the shortage of resources at disadvantaged schools. However, they saw the potential to minimise these limitations, such as creating training manuals that could be distributed to communities. SL lecturers noted that there was room for flexibility in the current SL model at this UoT, but not without challenges.

### **5.5 Chapter summary**

Chapter Five discusses the results obtained from three data sets: semi-structured interviews, an online survey, and a focus group interview. This chapter has explored the process of identifying, categorising, and organising codes into different groups to identify themes. The semi-structured interviews yielded valuable data about various aspects of Gen Z students. Data were organised into 24 codes, 13 categories, and ultimately, four themes. The data from the online survey were presented in a dual format, incorporating both graphical and textual elements. The focus group interview was organised into four codes, three categories, and one overarching theme. The three datasets collectively offered insight into the various aspects that define this specific group of Gen Z students, including their learning styles, learning environment, characteristics, motivation for learning, personal outlook, and transformative SL experiences. In addition, their perspectives on future SL projects were explored. The next chapter combines and synthesises these data through detailed analysis and interpretation.

# CHAPTER SIX

## Analysis and Discussion

### 6.1 Introduction

Chapter Five presented the findings of the various data sets of this study. Chapter Six synthesises these findings and explicates the themes: (1) the Gen Z cohort learning styles and learning preferences; (2) Gen Z characteristics, motivations to learn, personal outlook, and service-learning (SL) experiences; and their (3) perceptions of ideal SL projects in 2030 at a University of Technology (UoT). This synthesis constructs a holistic narrative of this specific Gen Z cohort to inform the development of a flexible SL model aligned with their learning approaches and characteristics. In Chapter Six, the sub-research questions in Table 6.1 are discussed in the context of the four themes that were explained and presented in Chapter 4.

Chapter Six focuses on the key findings of the study, with each theme contributing to a comprehensive profile of the Gen Z cohort. To maintain the focus of the study, not all focus group data were included in every theme discussion. This selective use of the data supported a meaningful exploration of key findings grounded in the most relevant evidence. To differentiate between data sets, the participants from the semi-structured and the focus group interview are referred to as 'participants' while the survey respondents are referred to as 'survey respondents. In the analysis and discussion, terms such as "majority" and "most" are employed. These are grounded in the statistical evidence provided in Chapter Five which indicated responses from more than half of the participants in semi-structured interviews and the highest percentage in survey charts. The themes and sub-research questions are shown in Table 6.1.

**Table 6.1: Themes and research questions**

	<b>Theme</b>	<b>Sub-Research Question</b>
<b>Theme 1</b>	Learning styles and learning preferences of Gen Z students	What are the learning styles and learning preferences of Generation Z students at a university of technology?
<b>Theme 2</b>	Characteristics, motivations to learn, and personal outlook of Gen Z students	What are the characteristics, motivations to learn, and personal outlook of Gen Z students at a university of technology?
<b>Theme 3</b>	Transformative learning experiences of Gen Z students in the context of SL	How do Gen Z students experience transformative learning in service-learning at a university of technology?
<b>Theme 4</b>	Insights on ideal SL projects for 2030 from Gen Z students	How might Gen Z students perceive SL projects to be in the year 2030?

Building on the above themes, this chapter aims to address the main research question: *How can a flexible model of service-learning be developed for Generation Z students at a university of technology?* By analysing and discussing the four themes, a holistic profile of a specific cohort of Gen Z students emerges, offering key insights into their learning preferences, needs and characteristics. Although all themes were explored separately, the emphasis on participants' consistent motivations and preferences across different learning contexts, along with the clarity of recurring patterns, highlights the interrelated nature of the themes. This coherence indicates a logical connection between the themes and reinforces the overarching narrative of Gen Z students and their SL experiences. This chapter provides the groundwork for Chapter Seven, which introduces the proposed flexible SL model. Next, the four themes are analysed and discussed.

## **6.2 Theme 1: Diverse learning styles and preferences of Gen Z**

This theme explores the different aspects of learning approaches of one cohort of Gen Z students at a specific University of Technology (UoT). These elements are organised into two categories for analysis and discussion: **learning style and learning environment in general**, and **for SL projects**. When these findings are synthesised with the online survey findings, it is revealed that respondents selected various learning styles for their SL projects and in general (see Figures 5.6 and 5.9); and it becomes evident that there is no dominant learning style among participants. These findings are discussed thoroughly under this theme.

### 6.2.1 Learning styles in General and in the Service-Learning projects

The terms 'effective' and 'somewhat effective' were used to evaluate how beneficial specific learning styles were for this cohort of Gen Z students, as these were the terms employed in the survey when they were asked about the best way they learned. An effective learning style refers to one that enhances the learning experience, while a somewhat effective learning style means that modest improvements are made to the learning process when applied to learning.

The findings indicated that this cohort of Gen Z students used a combination of learning styles. While semi-structured interviews revealed visual, practical, interpersonal and intrapersonal learning as most effective, the survey identified linguistic, kinaesthetic, and intrapersonal learning styles as most effective; and interpersonal and spatial/visual were somewhat effective (see Figure 5.6). These findings relate to the students' general learning styles. The differences in responses may stem from the semi-structured interview participants answering the questions on learning styles without being given any pre-defined categories. In contrast, the survey adopted a more structured approach where respondents had a pre-defined list of learning styles to rate on effectiveness, as presented in Chapter Five.

The findings were similar when it came to learning styles in their SL projects. The online survey respondents selected multiple learning styles (see Figure 5.9). While most participants from the semi-structured interview suggested that hands-on learning was the best way to learn (which aligns with the kinaesthetic learning style), this was not dominant, as participants also mentioned visual and auditory styles. Participant 1 echoes this sentiment of versatility: *... my working style is difficult to describe because each subject ... the learning style I use is a bit different....*

The two datasets demonstrate that this specific cohort of Gen Z students used a combination of learning styles in general and for their SL projects rather than relying on one dominant learning style. Participant 2 made this clear in the semi-structured interviews:

I learn best by, I'm a person that's a bit of everything, because I like to write the stuff down, make my own personal notes from the lecturer's notes my own notes so I can understand and visualise my the notes my understanding of a certain topic ... also, I like to practice like I am also hands on I want to know if do this, if I build this, how will this work.

This extract represents the view of most of the participants in the semi-structured interviews. It indicates that this group of Gen Z students are multimodal learners. As reviewed in Chapter 2:13, multimodal learners use multiple senses to learn and process information. The participant mentioned writing notes, which represents the reading and writing aspect of learning; taking notes illustrates that there is active engagement with the material in a textual format, which assists in reading and understanding information. The participant further mentioned wanting

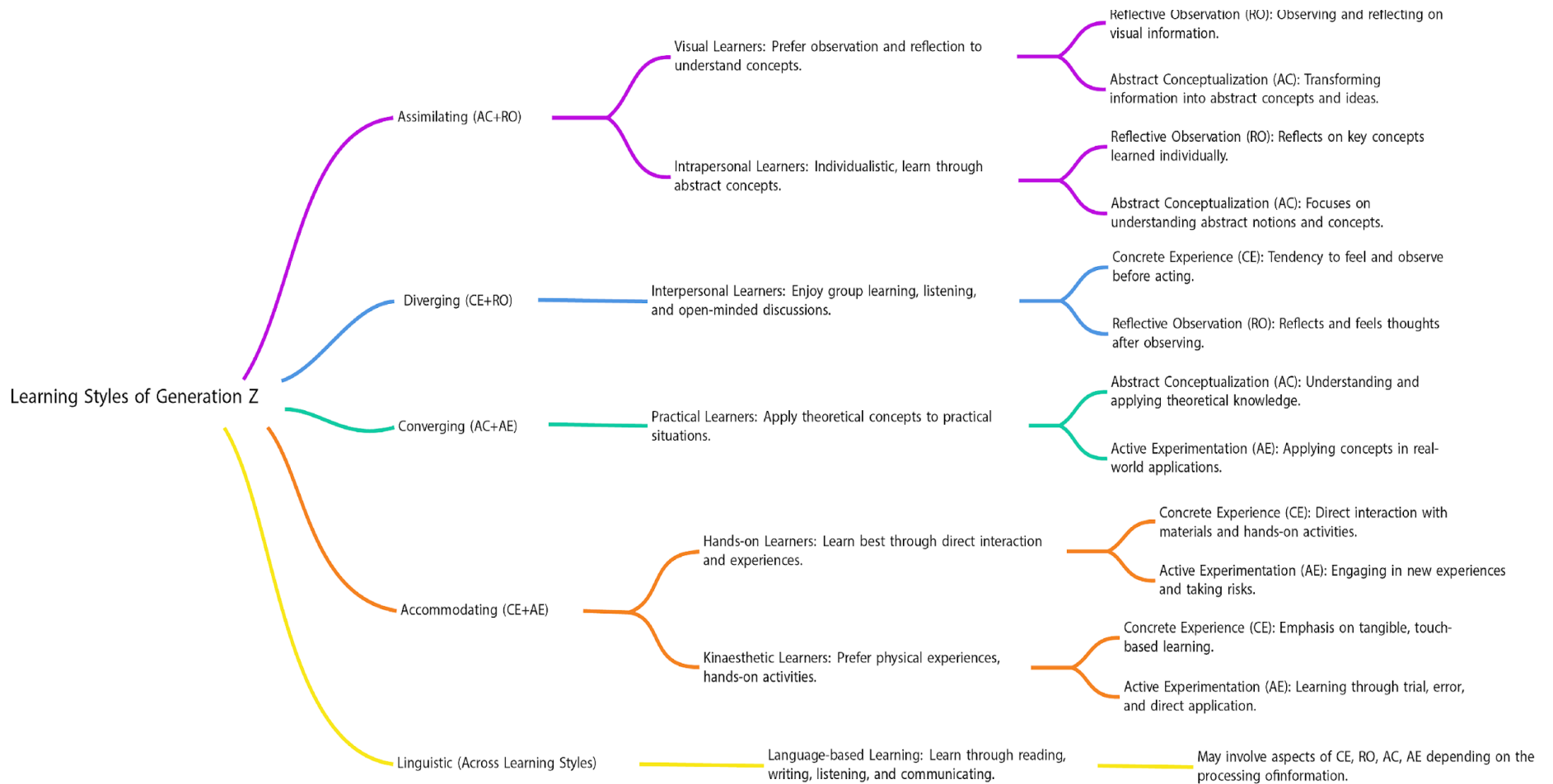
to visualise when learning; and finally, the kinaesthetic learning style was referred to, where there is a need to practise what is learned.

In a semi-structured interview, Participant 1 demonstrated that switching from one learning style to another depends on what is required for the task:

I would not say I am exclusively using a specific learning style. I might, for example, switch to a visual style when I have to memorise pictures and stuff, you know, or I can switch to an auditory style it ... depending on the situation ...

The adaptability demonstrated by this student is a hallmark of multimodal learning reported in Chapter 2.13, where a learner does not depend on one style of learning but uses and adapts to the most suitable learning style best suited to meet the requirements of the task. This shift in learning styles can be seen among Gen Z students unlike the previous Millennials. Millennials are characterised as digital pioneers who experienced the transition from traditional ways of learning to digital environments (Seemiller & Grace, 2016). In contrast, the Gen Z cohort was born into a fully digitised world that demands learning facilitated by technology and prefers interactive content and small amounts of information to digest (Schroth, 2019). Their adaptability and drawing upon multiple ways to engage and learn could be directly linked to technology and online learning.

Kolb's (1984) Experiential Learning Theory (ELT) (discussed extensively in Chapter 3.4) provides a useful lens for understanding these findings. The findings on learning styles within this theme provide a starting point for understanding the learning styles selected by this cohort of Gen Z students. While the students described a range of learning styles in their own terms, these may be further understood and interpreted through the lens of Kolb's ELT to provide a structured theoretical framework for understanding their diverse learning styles. It should be noted that this interpretation is grounded in the participants' responses, which showed elements of concrete experience, active experimentation, reflective observation, and abstract conceptualisation, aligning closely with Kolb's learning styles. For example, visual learning aligns with the assimilating style (Reflective Observation and Abstract Conceptualisation), while kinaesthetic learners often reflect the accommodating style (Concrete Experience and Active Experimentation). These interpretations, illustrated in Figure 6.1, enhance the theoretical rigour of the findings.



**Figure 6.1: Generation Z learning styles embedded in Kolb's experiential learning theory**

**(Adapted from Kolb, 1984:76-98)**

Figure 6.1 presents a three-layered framework: the first level outlines Kolb's (1984) four learning styles; the second layer incorporates the specific learning styles selected by the study participants; and the third layer expands on these by contextualising them within the ELT. Next is a discussion of these learning styles and their alignment with Kolb's ELT.

The most dominant learning styles identified by the majority of the participants were visual learning, kinaesthetic learning, independent (intrapersonal) learning and collaborative (interpersonal) learning. This indicates that students do not rely on a single, fixed learning style. Instead, they appear to be engaged in various learning styles, depending on the task demands, learning context, or personal preferences. As discussed in Chapter 3.4 visual learning is aligned with the assimilating learning style characterised by Reflective Observation (RO) and Abstract Conceptualisation (AC). This suggests that visual learners prefer first to observe (RO) and then reflect on and process the information (AC), often through watching videos, analysing diagrams and charts, or observing a demonstration. Similarly, intrapersonal learners who focus and learn independently also align with the assimilating learning style, focusing on abstract concepts, showcasing their preference for introspection and understanding key concepts.

In contrast, the interpersonal learning style corresponds to Kolb's diverging learning style, which emphasises Concrete Experience (CE) and RO. This involves group learning, listening with an open mind, and having an interest in engaging with others (Kolb & Kolb, 2005). Kinaesthetic learners tend to enjoy hands-on and practical activities and align with Kolb's (1984) accommodating learning style (Figure 6.1), which emphasises CE and Active Experimentation (AE). They may enjoy direct interaction with the materials as well as teamwork and taking risks in experiential tasks.

Survey respondents identified linguistic, kinaesthetic and intrapersonal as the most effective learning styles, while interpersonal and visual were considered somewhat effective. Although these findings were similar to those that emerged during the semi-structured interviews, linguistic learning emerged uniquely in the survey. Linguistic learners, as discussed in Chapter 3.4, thrive when learning concepts through language: reading content, writing, listening to explanations, and communicating with others. This learning style corresponds to Kolb's (1984) assimilating learning style that emphasises RO and AC where students are drawn to logical reasoning, theories, models and structured learning environments where they can read, study and reflect.

These diverse learning styles have important implications for higher education, specifically student learning within SL programmes. In practice, SL is often positioned as a student-centred approach, although it can still reflect traditional-centred methods if it lacks critical reflection and student agency (Saavedra, et al., 2022). In such cases, the educator remains the primary

authority and students are positioned as passive recipients of knowledge, rather than active participants in the learning process (Freire, 1972). This approach to teaching tends to overlook the diverse learning preferences and experiences of students. Consequently, a multimodal approach is suggested.

The findings on learning styles suggest that a shift to a multimodal approach may be more effective for this cohort of Gen Z students. As discussed in Chapter 2.13, this finding is supported by research conducted over more than 20 years, suggesting the sustained relevance of a multi-modal learning approach. This is demonstrated by researchers such as Felder and Silverman (1988) and, more recently, Mathias and Von Kriegstein (2023), highlighting the need to move beyond a one-size-fits-all approach in teaching. The findings of this study illustrate that a multi-modal approach, which integrates visual, kinaesthetic, linguistic, interpersonal and intrapersonal strategies, would be most effective for this Gen Z cohort.

This approach would require multiple methods of instruction that would cater to various learning styles simultaneously during a lesson. As an example, a lesson may include videos (visual), a printed copy of materials (reading/writing) and a hands-on activity (kinaesthetic). While it may not always be feasible to cater to every learning style simultaneously, employing multiple teaching approaches can enhance overall effectiveness. Offering diverse approaches for interacting with the concepts being taught might help students maintain their interest and involvement. By using an array of materials in different content formats, educators may more efficiently manage the cognitive load, enhancing retention and comprehension (Mayer, 2024). Visual learners can benefit from diagrams and infographics, while kinaesthetic learners can connect with the content through practical exercises and real-world encounters. Flexible approaches, such as interactive simulations and gamified learning, can cater to a broad spectrum of learning preferences.

In the literature reviewed in Chapter 2.13, it was clear that Augmented Reality (AR) and Virtual Reality (VR) can generate immersive experiences for students. It allows students to embark on virtual excursions and engage in interactive simulations. These flexible engagement strategies are integrated into the proposed flexible SL model to address the diverse learning styles of the Gen Z students in this study. The guidelines, planning implementation strategies, and training for using these tools while adhering to SL principles, and are detailed in Chapter Seven.

This analysis and discussion have highlighted the importance of acknowledging and adapting to this specific cohort of Gen Z students' varied learning styles by encouraging a more inclusive

and flexible educational approach. The next section discusses the best learning environment for them.

### **6.2.2 Generation Zs preferred general and Service-learning learning environment**

The findings revealed differing preferences between semi-structured interviews and survey responses regarding learning environments. In semi-structured interviews, the findings indicated that the majority of students preferred face-to-face interactions as the learning environment of choice when learning in general. The common desire among all participants was for an environment where they could collaborate with peers and receive support from educators for questions or assistance during learning. Participant 2 provided this insight:

My preference, my learning environment would be in the classroom, in a classroom personally, because in a classroom, you can ask questions, you can see your lecturer's body language, you can literally engage with your lecturer, or with your teacher, with your peers etcetera.

This illustrates a preference for traditional, classroom settings that facilitate nonverbal communication, which can be missed in online environments. Participant 5 echoed this sentiment: "At campus, almost every day of the week, learning with my friends and my peers and being able to engage with the lecturer directly". Most interview participants highlighted the value of immersive and interactive learning in physical spaces, emphasising the need for direct communication and social engagement in the learning process.

In contrast, 21 survey respondents predominantly preferred learning alone. No reasons were given for this preference. Notably, the survey asked "Where do you learn best? And about "best learning context" with examples given to illustrate a collaborative setting (independent or collaborative). While this was deliberate on the part of the researcher to allow respondents to interpret the concept broadly, in alignment with the study's exploratory aims, it seems as if the respondents viewed it narrowly, with their response referring to a solitary learning environment. Although this choice allowed for flexibility, the ambiguity could have influenced how the respondents interpreted the question. Additionally, the survey data were collected during the COVID-19 pandemic, a time when physical contact was either non-existent or limited for many students, which could have influenced their response choices. Students could have defaulted to their most familiar learning mode at that time.

While semi-structured interview participants had likely developed a stronger connection to their SL projects, as they had recently completed one before the start of data collection (see Chapter 4:3), this might have made the value of face-to-face SL more apparent to them. The survey respondents had possibly limited or no exposure to face-to-face collaborative learning due to the restrictions imposed by the pandemic. These findings align with other studies discussed in

Chapter 2.13, which indicate that Gen Z students value collaborative learning with educators and peers, but often prefer to study on their own and at their own pace. However, unlike prior studies that highlight the role of online tools, this study found no evidence that students who preferred studying alone were influenced by online tools.

Concerning their SL projects, both the semi-structured interviews and the online survey generated contrasting findings. The majority of the participants expressed a preference for a hybrid SL learning model, since they prefer the flexibility to learn theoretical content online coupled with the benefits of immersive face-to-face learning. Although the hybrid model was considered the preferred format, participants consistently stated that a face-to-face component for SL was indispensable for successful implementation of SL projects. Participant 1 explained: "... the best approach for service learning is a hands-on approach because then you can see for yourself, notice everything, observe everything, see how it is going". The same participant commented on the limitations of a purely online approach in rural areas: "... in the Karoo, they don't have that. They have to stand on a bush, on a roof, under a rock to find a signal, trust me I know that".

Face-to-face interaction in SL projects was seen as more effective pedagogically, given that communication and coordination accrue more gravitas for all SL participants when conducted in person. The practicality of in-person SL projects was commented on by Participant 2: "I would go with the old approach, the one face to face, doing it practically, being in the moment with the people and the community". This exhibits the importance of direct engagement in meaningful learning. Participant 1 sums up the learning environment for the participants in the semi-structured interviews as follows:

... a hybrid learning approach would be the best way because then you can cater to the students who can't physically attend and then you can also cater to the students who don't have the resources to do an online Service Learning Project.

Most online survey respondents selected face-to-face as the best form of SL (see Appendix E) but there was no major difference between hybrid (45.9%) and face-to-face (54.1%), demonstrating that students value the flexibility of both online and face-to-face modalities (i.e., multiple formats are required for this group of Gen Z students to learn effectively). This is in line with their global counterparts who also prefer combining and integrating digital and physical learning materials to enhance their learning experiences (Hammad, 2025). These preferences foreground a growing shift in educational experiences, where flexibility and student-centred approaches are vital to encourage both engagement and academic success.

In response to the findings in this section, a flexible choice-driven approach, such as the Universal Design for Learning approach (UDL) (discussed in Chapter 2.13), may be particularly suitable for this specific cohort of Gen Z students, as it offers multiple means of engagement. For these reasons, this concept has been integrated into the flexible SL model with guidelines for planning, implementation and examples provided in Chapter Seven. The next section analyses Gen Z students' characteristics, motivation to learn, and personal outlook.

### **6.3 Theme 2: Generation Z students' characteristics, motivation to learn, and personal outlook on life**

This theme provided insights into who Gen Z students are and how their characteristics, motivation and outlook affect their learning and approach to education. It includes their communication habits, particularly on social media and the Internet, which have profoundly influenced their perspectives on life, character, and motivation toward learning.

In terms of characteristics, the findings from the semi-structured interviews and survey were aligned in several respects. Participant 4's comment echoes that of the majority of the participants in the semi-structured interviews: "Hard work and once I put my mind to something, I want to complete it". This view was corroborated by Participant 2: "goal-driven ... If I put my mind on something, I will achieve it no matter how long it takes me". The other common characteristic mentioned was being caring and compassionate, as illustrated by Participant 3: "I think I am a caring person, very giving, and understanding". The excerpts from the semi-structured interviews suggest a balanced perspective. This cohort of Gen Z students is goal-driven and hardworking to better themselves, and they value the needs of others.

The data collection methods dictated the direction in which the Gen Z students answered the questions. The survey findings revealed that most students described themselves as responsible, loyal, open-minded, optimistic, realistic, communicative, compassionate, organised, creative, and practical (Figure 5.8).

During the focus group interview, SL lecturers observed similar traits: "They can be quite self-sufficient, and they do show patience and determination as well as you know, investment in things that they do". These observations support the findings from the semi-structured interviews and survey, emphasising the self-sufficiency and determination of Gen Z participants.

The findings align with the literature reviewed in Chapter 2.13, suggesting that this group of Gen Z students share similar characteristics with their global counterparts who are frequently described as hardworking and goal-oriented. This supports the Generational Theory, also discussed in Chapter 2.13, which posits that individuals born in a particular era often develop

shared characteristics and worldviews shaped by their environments. One key component of SL (see Chapter 2:6) is encouraging students to become more caring citizens and to develop a sense of critical citizenship with democratic ideals, fostering a shift from personal gains alone to community enhancement. The response of “doing something with my life” is about studying. This sentiment is reflected in Participant 5’s comment:

I think the idea that I’m doing something with my life that is going to enable me to look after myself, look after my family and help people and save people and look after other people. And I think, me knowing that that is what I’m supposed to be doing, at least that is what I feel I’m supposed to be doing and I’m doing it, that’s quite a big motivation.

This desire to make a difference in the lives of others emerged as a recurring theme in the semi-structured interviews and was evident across all disciplines. For instance, Participant 6 stated: “... love helping people. I have a passion for humans and helping people, especially those who can’t help themselves”. This group of Gen Z students’ intrinsic motivation to assist others not only drives these students but also reflects a commitment to societal betterment, as defined in Chapter 2.6.

The common characteristics that emerged from the three datasets showed students to be hardworking, determined, and compassionate. These characteristics could enable them to persevere with empathy in SL projects, overcoming challenges to make meaningful contributions to their communities.

### **6.3.1 Motivation to learn**

The findings from Gen Z participants in the semi-structured interviews expressed their motivation to improve themselves and positively impact others. These students demonstrated strong intrinsic motivation, aligning their efforts with personal goals and values, rather than seeking external recognition or rewards, as discussed in Chapter 2.13. The following excerpts provide further insight (Participants 2, 4, 5 and 6):

... what motivates me is just wanting more out of life for myself, and for my family and also to do better ...

I’m the first person to reach matric as well as having access or getting into a tertiary university to go and study further. So, it’s basically to encourage my other siblings and people around me that you can like go further and study.

... when I tutor, when I teach, the satisfaction that the students and learners that they get after I’ve helped them or taught them, is more than enough to motivate me to do better or to still keep doing what I’m doing.

... me knowing that that is what I'm supposed to be doing, at least that is what I feel I'm supposed to be doing and I'm doing it, that's quite a big motivation. I'm achieving the goal that was set up for my life.

These excerpts from the semi-structured interviews reveal that Gen Z participants are driven by personal life goals, altruistic purposes and self-improvement. Many were strongly motivated by their desire to help those in need, often rooted in personal experiences. Another strong motivating factor was their satisfaction when helping others and being driven by what they saw as their life purpose.

Survey respondents selected from a predefined list of motivating factors, as illustrated in Figure 5.3 (very motivated, somewhat motivated, and slightly motivated). The findings showed that most respondents selected more intrinsic motivators (above 1.4, falling into the "very motivated" category), elements that brought about personal improvement, a commitment to the task at hand, and self-competition. In contrast, the "somewhat" and "slightly" motivated categories (below 1.4) indicated more extrinsic motivating factors, such as tangible rewards, fruits of their labour, and public recognition (full list in Chapter 5.6). The survey findings align with the literature reviewed in Chapter 2.13: Gen Z students have both intrinsic and extrinsic motivations. However, the researchers discuss a more nuanced perspective: while Gen Z students globally are motivated by intrinsic factors, such as their desire to impact others and their values, they are also significantly driven by extrinsic factors, such as financial security and career stability.

This group of Gen Z students' inclination towards more intrinsic motivation demonstrates key attributes of their learning and their broader outlook on life. This may indicate self-determination in that they may engage in learning activities because they find them to be enjoyable and satisfying, not for a reward at the end of it (discussed in Chapter 2.13). Students motivated by intrinsic values tend to engage more deeply in learning, resulting in better understanding and retention of knowledge. While intrinsic motivation may not link directly to the SL context, it may enhance SL projects as it tends to encourage deeper engagement with the community context and foster collaborative learning between students and community members. Consequently, this motivation benefits both the students and the community by actualising the reciprocal and collaborative nature of the SL experience.

Additionally, intrinsically motivated students often exhibit resilience and, therefore, are more likely to persist through difficulties (Deci & Ryan, 1985; Ryan & Deci, 2000; Wu et al., 2021), perceiving them as opportunities to grow, as commented by Participant 2: "I will achieve it no matter how long it takes me". Such perseverance contributes significantly to the success of SL projects. When challenges arise, intrinsically motivated students are more likely to complete learning and community service components, ensuring the continuity and impact of the project.

### 6.3.2 Personal outlook on life

The majority of the participants in the semi-structured interviews demonstrated a nuanced approach to positivity. Participant 5 explained: “I feel like you have to be positive even when there are hard times”. This reflects the belief that while life might not always be easy, it is important to maintain positivity. This is corroborated by Participant 6:

... my outlook on life is definitely that as horrible as the world may seem sometimes as dark, as gloomy, as scary, ... there are other people like you, who are just as worried and just as scared and just as afraid,... scared of the bad things in this world but they still try every day to help make the world a better place.

Other participants who mentioned positivity stated that action is significant in cultivating a positive outlook. Participant 2 shared: “I believe that if you go through life with a positive mindset, with a kind heart and just doing good then that would be reciprocated back to you in loads”. This suggests that positivity can be initiated by active thinking and actions, creating a positive cycle of outcomes. The online survey findings mirrored these sentiments, with most respondents expressing optimism about their future and expecting positive outcomes in life, although they were aware of challenges and planned worst-case scenarios (see Figure 5.4).

This finding is particularly noteworthy, given that the study was conducted during the COVID-19 pandemic, a period marked by strict health and safety regulations (see Chapter 2.9). Despite this challenging context, this group of Gen Z students remained optimistic about their lives. This contrasts with studies discussed in Chapter 2:13, where Gen Z students reportedly portrayed a more nuanced outlook, recognising both positive and negative aspects. They expressed concern about global issues, like racial justice, climate change, violence, socioeconomic inequities, and mental health issues, often reporting high levels of stress and anxiety. This contrasts with the outlook of the South African Gen Z students. These differences could be attributed to cultural contexts. For example, as reviewed in Chapter 2.13, the Born Frees in post-apartheid South Africa express optimism and hope for the future. In contrast, the Gen Z students in American-based studies articulate a more balanced view due to the absence of a clear ‘before-and-after’ period like apartheid.

In summary, Generation Z students in this study revealed a positive attitude that makes it more likely that they would engage actively in learning activities, maximising opportunities to enhance their knowledge. Educators and SL lecturers may find it more rewarding to educate this specific cohort of Gen Z students, who are engaged and enthusiastic about their future, leading to a more vibrant learning environment and more meaningful SL projects. These students are adaptable and make the most of their learning experiences, despite the teaching methodology employed.

### 6.3.3 Communication preferences

The semi-structured interviews and survey findings indicated that WhatsApp is the most widely used social media platform for communication among this group of Gen Z participants. Participant 1 commented:

... for social media ... I spend about an hour to two hours each day on,... Facebook ... and Instagram and then obviously I spend a lot more on WhatsApp because that's the primary means of communication between the family and the lecturers and the other students. So I would say all in all about six hours.

Some of this was consistent with the other participants: they reported spending longer hours (4 to 8 hours) on social media, but WhatsApp was also their preferred platform for social and academic communication. As Participant 5 explained, "WhatsApp for messages or phone calls and then Outlook email supplied to us by the university". Other online tools mentioned for academic purposes included Microsoft Outlook and Microsoft Teams (university-provided platforms), which students enrolled at this study site could freely access to manage email accounts and participate in team meetings with faculty members and other students. Facebook and Instagram were commonly used for social purposes but not directly linked to learning.

The survey results indicated that most students spent approximately 5 hours per day on social media. However, despite this frequent use of online platforms, in-person communication remained one of the most preferred methods among respondents (see Figure 5.7). This suggests that while students are digitally connected, they still value in-person communication and see it as an important form of communication in both relational and educational contexts. This corroborates with studies discussed in Chapter 2.13, where Gen Z students still value face-to-face interactions to build interpersonal relationships and interpret complex emotional expressions.

The observations from the focus group interview confirmed data from the semi-structured interviews and survey, showing that WhatsApp is used by Gen Z for communication in SL projects. A SL lecturer observed:

They would create groups on their own – WhatsApp groups, some students participated in the project on a Tuesday and others perhaps on a Wednesday. And they would create WhatsApp groups, each for a particular day and they would share resources and they would be assisting each other.

The findings of this study were consistent with research by Cilliers (2017), which identified WhatsApp as the most used social media platform for Gen Z at a South African university. Cilliers' (2017) research highlighted that all Gen Z participants expressed having access to

social learning tools, such as WhatsApp, Facebook and Instagram accounts, although a small percentage indicated using the latter for academic purposes. The same research also showcased that WhatsApp was popular because of its easy accessibility, user-friendly interface, functionality for academic purposes, and affordability. Affordability was echoed by Participant 4, who commented: “Cheaper for me is WhatsApp and Facebook”. This demonstrates how the affordability factor plays a significant role in the use of social media platforms, particularly for students looking to communicate both socially and academically without additional costs.

The literature reviewed in Chapter 2.13 further emphasised that Gen Z students from other studies, mainly those conducted in North America, are in constant contact with others using the social media sites Facebook, Twitter and YouTube. They also use these platforms for school assignments and indicated using video as a learning tool; and 33% of them expressed watching lessons on an online platform. Additionally, they did not see the need to read; they used YouTube like Google, to find a video if they wished to learn a new concept, they searched online for a video to teach them. This contrasts with the findings of this study, where social media tools to learn were not identified explicitly by the Gen Z participants. Only WhatsApp was identified as an integral part of how students in this study communicated, both academically and socially. Microsoft Teams was primarily used for formal meetings, while Microsoft Outlook was used for university emails.

Although the findings did not explicitly show that this cohort of Gen Z students used social media platforms extensively for academic purposes, it is evident that online platforms are used. Integrating social media platforms that resonate with Gen Z students in this study could enhance the effectiveness of SL projects and make them more dynamic and engaging. Microsoft Sway and OneNote are integrated into the SL flexible model to support communication and collaboration during SL projects, enabling students to share resources, work together, and document their learning processes and reflections interactively. Additionally, the flexible model of SL includes gamification to leverage social media platforms to increase engagement, sustain motivation, and help students maintain positive attitudes throughout their SL projects.

To address ethical concerns about using social media platforms in academia, students should be fully informed about how the data they share is used and give explicit consent before they are asked to use it. Training for ethical use, planning and implementation guidelines for Microsoft Sway, OneNote and gamification are detailed in Chapter Seven.

The next theme explores Gen Z students' transformative learning experiences in SL.

## **6.4 Theme 3: Generation Z's transformative learning experiences in the context of service-learning**

The Transformative Learning (TL) theory framework was used to explore the transformative learning experiences of Gen Z students in the context of SL, as discussed in Chapter 3.2. The TL theory is underpinned by four phases. The first is a disorienting dilemma, which refers to a significant experience that an individual faces. The second phase involves critical reflection on this experience. The third phase occurs when rational discourse (communication) ensues with others to make sense of their experience. The fourth phase involves an individual taking action based on their transformed perspective (see Chapter 3.2 for a detailed explanation). These four phases are often mirrored in SL projects, as discussed in the reviewed literature (see Figure 3.2). Gen Z student participants were asked whether they encountered these phases during their participation in SL projects to determine whether transformative learning had taken place.

In the context of SL, the disorienting dilemma is provided by the SL projects themselves, so participants did not need to explain this phase explicitly. However, it was necessary to examine their critical reflection and rational discourse phases to assess if the final phase of transformation occurred and led to any actionable steps. This is illustrated below.

### **6.4.1 Critical reflection**

The findings from the semi-structured interviews (Chapter 5.3) indicate that all Gen Z participants experienced three of the four TL phases, leading to transformation. Participant 2 describes how reflection brought about transformation:

Because at the end of the day you are not the same person at the end of your service learning as you were in the beginning.... because you go in with certain expectations, with a certain mind-set, etcetera. And then at the end of your service learning you learned something. You are taking something with you when you're ending your service learning. So definitely reflecting in a reflection of myself and what I've learned and what they've learned really it helped a lot during my service learning ...

In the context of SL, Participant 2's experience exemplifies premise reflection, a core component of Mezirow's TL theory. Premise reflection involves more than surface-level changes; it challenges and transforms deeply-held beliefs and preconceived notions, ultimately reshaping one's understanding of the world. As discussed in Chapter 2, this depth of change is an indication of perspective transformation, where these deep shifts represent a fundamental reconfiguration of the individual's meaning perspective.

As described in Chapter 3.2, an individual's meaning perspective shifts, resulting in a reconfigured understanding of the self and the world. Participant 2's experience reflects this transformation, evolving from an initial mindset to a more enlightened self-perception. This is captured by the participant's assertion, "You are not the same person at the end of your service learning as you were in the beginning", a clear indication of a re-evaluation of their preconceived notions. This admission of learning suggests that the learning process was not just additive, but reconstructive, which is a key feature of perspective transformation. This pattern of transformation through critical reflection was also evident among other participants in the semi-structured interviews, for example, Participant 1:

... it changed me in a way that I must be more open towards people with various learning styles, especially in terms of the way people learn. It changed me in a way... I must be more open towards suggestions. It changed me that I have to be more mindful about other people's beliefs and living standards and facilities.

The participant recognised that individuals approach learning differently, and it is important to be open to it. This suggests growth in empathy and an inclusive mindset. The participant also reflects a deeper cultural and social awareness as he/she chooses to understand individual issues more sensitively. These shifts in worldviews and openness to diversity align with the concept of perspective transformation.

As emphasised in the literature (Chapter 2.7), critical reflection is an active process of inquiry. Dewey (1938) considered reflection to be a continuous process essential for learning and growth, a view that resonates with the premise of reflection described in the TL theory. Participant 2's narrative reflects this ongoing process of self-discovery and transformation through SL, reinforcing that critical reflection is not a one-time event but a continuous learning process. As Participant 2's SL experiences demonstrate, this process bridges service and learning, enabling students to integrate classroom knowledge with real-world experiences that drive transformation. This integration of experience and internal change reflects the concept of perspective transformation. This notion is further supported by the literature in Chapter 2.7.

Most of the survey respondents mentioned that they had learned through critical reflection. Respondents reported becoming more aware of the knowledge gained from SL projects, recognising the impact of their skills on the communities, and understanding the community's challenges. The survey findings corroborated those of semi-structured interviews. The students' voices demonstrate a pattern of learning that extends beyond theoretical knowledge to encompass personal growth and community awareness. One survey respondent explained:

As I reflected during my service-learning project, I realised that it takes a lot to cater towards each individual student. It seems obvious, when challenged with two very different students, I had to do my best to teach them in a manner that suits them best.

This reflection captures the core of SL: that learning occurs through active and reflective practices in SL projects and not just by passive observation. This reflection highlights how real-world experiences trigger a deeper level of consideration. What was originally considered “obvious” became a more nuanced understanding through hands-on practice, indicating premise reflection. The student had to reassess his/her prior assumptions about teaching, which is a clear demonstration of the start of perspective transformation, as reviewed in Chapter 3.2. This highlights how SL provides students with real-life experiences that require them to move beyond surface-level insights and reconsider their deeply held beliefs.

A respondent highlighted the transformative impact of SL on community perspectives: “Reflecting on what we did for the community helped a lot. To see how your input can help the community and how you can make a change was really effective”. This statement represents the view of the majority of survey respondents, who became aware of how their knowledge and skills impacted the community. Additionally, reflections on community issues deepened their understanding and extended beyond academic learning to include social awareness. Another respondent remarked on the harsh realities they observed: “The disadvantage children face over something that they cannot control is very real”. This statement reflects premise reflection, where students not only process new information but also re-evaluate their previous preconceived notions about social equity and justice in light of their SL experiences.

Moreover, another respondent articulated the integrative and introspective aspects of their learning process:

Service learning has helped me as a student reflect on my experiences and build critical thinking abilities, such as the capacity to connect seemingly unrelated aspects of an event in meaningful ways and the capacity to look for patterns and deep meaning in facts.

This statement is particularly reflective of premise reflection, suggesting a shift in cognitive processes, which is a hallmark of transformative learning (see Chapter 3.2). The respondent’s reference to “connecting seemingly unrelated aspects” and “looking for patterns of deeper meaning” signals a deeper level of reflection, in that the respondent was re-considering their understanding of both complexity and how they construct meaning. This is an indication that deep analysis reflects a restructuring of underlying assumptions, which is key to premise reflection. As discussed in Chapter 3.2, this cognitive shift lays the foundation for perspective transformation, as it demonstrates that the participant is not only gaining knowledge but also reshaping the way they interpret and interact with learning experiences.

It can be concluded that Gen Z students in this study engaged in critical reflection, with most students engaging in premise reflection, a deeper form of reflection that challenges core assumptions. They demonstrated a range of reflective insights, from personal development to enhanced critical thinking skills. These reflective processes not only suggest personal growth but also signal the onset of perspective transformation (see Chapter 3.2), as students re-evaluated and reconstructed their understanding of themselves and the world around them. These transformations represent a shift in their meaning perspectives, which aligns with Mezirow's concept of perspective transformation: students start seeing, processing and interpreting experiences through a fundamentally changed lens. The reflective aspect also helped certain students identify the reciprocal nature of the SL projects, as mentioned by Participant 3:

... it created more curiosity in wanting to learn more about the things that they share and knowing more about things that I already knew.

The above comment illustrates how reflective practices in SL promote mutual learning opportunities. However, it is important to note that this awareness of reciprocity was not representative of all students. This is discussed further in the Action phase (6.5). Participant 3's acknowledgement of learning from the community highlights the potential for reciprocal learning in SL, where students not only provide knowledge but also gain insights from the community.

The next phase of the TL theory is rational discourse.

#### **6.4.2 Rational discourse**

Most Gen Z participants in the semi-structured interviews stated that they had learned through rational discourse (communication). Through both organised and random conversations, they engaged with their peers and community members, leading to transformative learning, as articulated by Participant 5:

Communication with my immediate team that I was involved with when we ran our different programmes ... helped because we could discuss what needed to be done, how we were going to do it and then talk about it afterwards, how it went, how it could have gone better, what we should have done differently and what was positive about it. Communicating with people who weren't involved ..., so like other students from the service learning or from other departments of the university, just communicating with them ...

Participant 5's sentiments highlight how rational discourse in SL catalyses transformation. It illustrates rational discourse as a crucial component of transformative learning. Through rational discourse, new ideas are framed and altered; and this aligns with TL theory, as

reviewed in Chapter 3.2. As Participant 5 stated, the role of rational discourse in learning extends to the broader community and immediate members, illustrating that transformative learning is communal and not a solitary process. It is both social and relational, where ideas, reflection, and communication are shared. Through this process, one's assumptions and preconceived notions are challenged, leading to perspective transformation. Participant 4 stated:

... having to see the different perspectives and opinions and thinking's about a certain topic where I just come with my assumptions and then I would be able see no, but it is not so, it's the other way around.

This participant expressed how rational discourse helped to reframe their assumptions, indicating a fundamental aspect of transformative learning, specifically the shift in one's meaning perspective, which is the objective of SL programmes. This process promotes deeper levels of understanding, leading to both personal and academic growth by integrating academic and real-life experiences, as discussed in the literature in Chapter 2.7.

The majority of students in the semi-structured interviews highlighted the importance of rational discourse for transformative learning to occur. Participant 3 acknowledges the importance of interpersonal discourse and learning from direct experience with the community: "A lot of information that we wouldn't like find on the internet which the community members had". This again illustrates that certain aspects of learning can only be fostered through rational discourse with others. These dialogues challenge one's prior assumptions and worldviews, potentially resulting in perspective transformation. The above participant further illustrates the value of learning from community members, which is not necessarily available online. This shows the mutual learning and beneficial aspects of SL facilitated by rational discourse.

The online survey findings demonstrated that most participants learned through rational discourse. A common pattern that emerged among the respondents, similar to the findings from the semi-structured interviews, was the reassessment of their preconceived notions, as mentioned by this survey respondent: "Yes, because I learned a lot from them [the community] and the speeches that were given while we gathered, discussed and shared our opinions. They helped me see things from a new perspective than I previously did". This indicates that rational discourse and critical reflection play a pivotal role in promoting perspective transformation in SL projects. As mentioned, through active dialogue, learning is deepened, and assumptions are reconsidered. Rational discourse further promoted exposure to diverse viewpoints, as stated by another survey respondent: "I saw things from many different perspectives". These differing perceptions challenged students' understanding of concepts and broadened their knowledge. When individuals reflect on new perspectives and alter their prior assumptions,

this signals a shift in their meaning perspective, aligning with the core of transformative learning.

The rational discourse phase facilitates the exchange of knowledge, views, and experiences among all those involved in SL projects, as indicated by the findings of this study. When engaged in it, both students and communities are challenged to refine their views, which may lead to better understanding and more effective SL projects. As discussed in Chapter 2.7, SL is not only about students imparting their academic knowledge learned in the classroom to communities but also about learning from their lived experiences. Rational discourse facilitates this two-way learning process, which promotes empathy, critical thinking and ultimately perspective transformation. The final phase is action, discussed below.

### **6.4.3 Action**

Rational discourse is not just communicating and debating ideas; it also involves questioning, critically examining and challenging ideas, all of which promotes deeper understanding. Action needs to follow these dialogues. This is illustrated by a survey respondent:

... it made me realise the effect that different social issues have on everyone and made me realise how important it is for us to relate and to use this for the better to create a better life for future generations.

This statement captures the readiness of respondents to apply new knowledge to action. The respondent aspires to translate their awareness of the social issues in the communities into actionable goals for intergenerational impact, which aligns with the final phase of transformative learning: acting on the transformed perspective, as discussed in Chapter 3.2.

By contrast, the quote above was one of four instances across the semi-structured interviews and surveys where a participant expressed taking action on their new perspective. There was more of an indication of awareness of community issues, as reported by another survey respondent: "I became more aware of my surroundings and the issues that other people in my community are facing". This points to increased awareness of community issues; but does not describe what was done with that awareness. Similarly, Participant 4 in the semi-structured interviews commented:

I would say service learning has changed me in allowing me to look at matters ... if there is something that I'm not maybe faced with, then I wouldn't think about it. It might – someone else might have that challenge or is faced with it and sometimes you just take whatever you have for granted where that person might not have it. ... what changed me in the way – after, not just thinking about myself but also what others have,... not just to think about your own privileges and you know ...

The participant above highlights personal growth and empathy, demonstrating internal change and moving from a self-centred mindset to a more empathetic and socially aware one. This indicates a perspective transformation, a shift in how the individual sees themselves in relation to others and the world. The majority of student participants did not describe concrete activities due to this shift in mindset.

Transformative Learning Theory, as discussed in Chapter 3.2, is an integrative process of all four phases: experience (disorienting dilemma), reflective practice (critical reflection), communication (rational discourse), and acting upon the new perspective (perspective transformation). In Mezirow's (2000) view, action generally flows from internal transformation, but it may not always occur immediately; and, although involvement in the SL project may be seen as an action itself, particularly one that engages students in reflecting on their experiences. The transition from reflective insight to sustained or broader social action may require additional time, support and structure.

This indicates an area for further enhancement in SL programmes where a more explicit focus on action planning could benefit this cohort of Gen Z students. Nonetheless, the transformative potential of the other TL learning phases should not be underestimated, as they lay the groundwork for future action. While the action phase in SL pedagogy is crucial, it is through this phase that students develop practical skills, such as communication, teamwork, and problem-solving, which are all important for professional and personal development. Additionally, it promotes the reciprocity ethos of SL projects where the service to the community also serves as a learning experience for students (discussed in Chapter 2.7). Action can also catalyse critical reflection. When action is taken, it provides further material for students to critically reflect on their experiences, leading to continuous learning and growth.

Therefore, SL lecturers at the UoT may need to incorporate follow-up activities to help this cohort of Gen Z students translate their new perspectives into action. These activities could be in the form of follow-up sessions, possibly a few months after the SL project, to discuss progress or assess if students are ready for action; and then they can be guided in creating an action plan. In addition, mentorship programmes could also be established to help students discuss their transformed perspectives and how to act on them.

In summary, the findings indicate that Gen Z students learn through both rational discourse and critical reflection, resulting in perspective transformation; yet a gap remains in the action phase. To address this gap, a Transformative Learning Review (TLR) guide was developed. The impact of this guide and its integration into the flexible model of SL is discussed in Chapter Seven. The next theme explores what the Gen Z participants considered ideal SL projects in 2030.

## 6.5 Theme 4: Insights on Generation Z students' ideal service-learning projects for 2030

This theme was created to explore the insights of this specific group of Gen Z students regarding their vision for ideal SL projects in 2030. Before discussing the collected data, it is important to contextualise these findings, as perceptions and aspirations of Gen Z participants in this study do not necessarily align with established SL definitions or pedagogical frameworks. Service-learning is fundamentally a mutual exchange of benefits and learning between students and communities (Bringle & Clayton, 2020). However, the data reflect a more unilateral perspective focused on social activism. This alternative understanding of SL principles is addressed when the findings are examined in the context of SL pedagogy.

A recurring pattern in the semi-structured interviews was the emphasis on addressing social issues to improve communities. This common pattern is aligned with the views of the survey respondents, indicating that students see the need to “save the communities”. Participant 6 envisioned projects addressing a range of youth-related issues:

I will like deal with larger groups of students and the different issues that are going around with younger people I guess from drugs to poverty to education to – a lot of different aspects and some sort of way of like trying to help in that way.

This participant's vision reflects a comprehensive approach by suggesting large-scale student involvement to help mitigate various challenges young adults face in communities. In addition, the student expressed a need for solutions to young adults lived experiences. The student also indicates an awareness of social issues affecting the youth, as different social issues are mentioned. Similarly, Participant 5 highlighted how SL could catalyse change and activism:

I think that this generation is already quite understandable – what's happening in the community and I think service learning could help them show that or help them moving forward into making a difference, making a change.... this generation already is so susceptible to what's happening in the community, I think service learning could allow this generation to move forward in making the change in creating activism in making a difference.

The above statement is representative of the majority of the participants in the semi-structured interviews in that they were keenly aware of the issues communities are facing and had a commitment to social transformation. However, the participants focused on transforming communities with minimal reference to reciprocal learning that is central to SL. The exception was a postgraduate participant. Although an isolated case, it merits mentioning, as it encapsulates the reciprocal essence of SL. Participant 3 commented: “... having enough time to experience a community and learning from it.... I think that would be like my ideal service learning”. The isolated nature of this response enriches the complexity of the findings in this

study and serves as a reminder of the core tenets of SL principles, which are a mutual exchange of knowledge between students and communities and an experience for both. It is plausible to consider that SL concepts require an understanding of academic maturity. It could also be tied to the postgraduate participants' studies, which required substantial involvement in the communities, as discussed in Chapter 4.4.

The online survey results aligned with the findings of the semi-structured interviews, which demonstrated that the majority of respondents linked SL to addressing social issues. One survey respondent highlighted illiteracy as a key concern: "Being able to actually interact and help people that are illiterate by teaching them how to read and by giving them material to aid them". The respondent referred to illiteracy as another social issue that SL could help address in communities and suggested providing material for community members to learn how to do it.

Another respondent addressed environmental concerns:

The ideal service-learning project for my generation would probably be centred around bringing the community together to combat issues regarding nature, such as global warming. Pollution is such a big issue and becomes a bigger threat to future generations by the day. Unfortunately, individual efforts (such as recycling your waste or not using plastic straws) can only do so much. Big companies do so much damage that your most sincere efforts almost feel useless. Convincing these companies to change their destructive ways or suggesting less destructive alternatives could help.

The above excerpt suggests mobilising the communities to address the environmental issues that persist, such as pollution and global warming, so that future generations are not severely impacted. This response expresses frustration with the limitations inherent to individual efforts and that clearly personal habit changes are insufficient. The respondent feels that systemic and policy changes and shifts in corporate behaviour require change to mitigate the destructive effects on the environment. This respondent is representative of this group of Gen Z students, who understand the complex environmental issues that are facing not just communities, but the world. Moreover, there is a need for large-scale strategic collaborative efforts to address complex global issues.

These findings from this study align with global research on Gen Z's approach to SL. As reviewed in the literature in Chapter 2.13, they are not motivated by doing once-off voluntary work but want to be involved in SL projects that drive long-term societal change. In other words, these Gen Z students do not want to volunteer for five hours a week at a food bank; instead, they would prefer to support communities where there is a food shortage and engage in social

change programmes that would eradicate it. While this is noble thinking and a genuine need to bring about transformation, it may be overly ambitious and not necessarily viable.

The findings in this study indicate a prevalent “save the world” mentality among participants, illustrating a misunderstanding of the multifaceted nature of SL and its foundational principles. As defined in Chapter 2.6, SL emphasises mutual enrichment, where students apply their academic knowledge to benefit communities and simultaneously learn from the community's lived experiences. However, most participants did not acknowledge how communities could empower or educate them within this theme, focusing instead on a one-sided view of helping.

This study did not aim to interrogate participants on understanding the SL model at the UoT (as reviewed in the literature in Chapter 2.4) due to the possibility that students may not have a detailed understanding of what a SL model or framework entails. They generally focus on their personal experiences rather than the theoretical frameworks that guide their experience (Boud et al., 1985). Nonetheless, this finding illustrates that focusing on their SL experiences and learning in their SL projects to inform a flexible model of SL was an effective approach. Their lack of knowledge of the core principles of SL suggests that they would also have had a limited understanding of the specific SL models currently in use. This is also in line with the pragmatic philosophical approach (reviewed in Chapter 4.2) for this study: “doing whatever it takes” to answer the research questions as adequately as possible.

In response to this specific cohort of Gen Z students' vision for SL projects to be linked to social issues, the flexible model includes transdisciplinary projects with the support of an AI chatbot. The model also integrates a review of SL principles to ensure that students at this UoT develop a comprehensive understanding of these before participating in projects. These inclusions aim to align students' aspirations with SL's core tenets: promoting community transformation and reciprocal learning. These inclusions and their guidelines are discussed in detail in Chapter Seven.

The focus group interview participants reported limitations in the current SL model. These are discussed next.

### **6.5.1 Limitations of service-learning projects**

Another essential finding was that the limitations of the current SL model became apparent to SL lecturers at this UoT during the COVID-19 pandemic, as they faced challenges with the community and institutions involved in the projects. Notably, the focus group participants using the current model discussed in Chapter 2.4 found it difficult to complete the SL projects due to a lack of resources in the communities and institutions. This issue was articulated by a SL lecturer:

... but the plan that we had to work remotely with the students require the schools that we are working with, for their students to have at least Smartphones or Tablets of some sort. ..., or secure Smartphones where it can be on a loan system to the specific schools, then we could start integrating, ... this type of remote tutoring as well as the face-to-face tutoring sessions with them. I have always said there is room for improvement, ...

The above excerpt and similar comments made by the focus group interview participants (see Chapter 5:7.1) highlight the need for greater creativity and resourcefulness in addressing the challenges faced by the current model at this UoT. While Gen Z participants in this study indicated that they all had a smart device for accessing online learning materials, this may not be the case for disadvantaged communities or educational institutions in underprivileged communities, as pointed out by the focus group participants. A possible solution that they mentioned would involve implementing a loan system to provide access to smart devices for school learners involved in SL projects. However, this solution still faces significant obstacles for the students and community, including issues of internet connectivity and smart device ownership.

Generational Theory posits that individuals born within the same generation tend to share similar characteristics, perceptions, and experiences shaped by historical and cultural events that occurred during their formative years (expounded in detail in Chapter 2.13). However, these generational traits are influenced by cultural, historical and societal contexts. While Gen Z students globally might have been born into a world dominated by smart technology and the Internet, this may not be universally true. In South Africa, Gen Z students are referred to as Born Frees because they were born after the country's democratisation, as discussed in Chapter 2.13. Consequently, while they are afforded more opportunities than earlier generations, they still contend with the limitations of a developing country. Therefore, South African Gen Z students often lack the same privileges as their global counterparts in developed nations. These disparities extend to the communities they serve, posing a challenge to integrating remote SL projects through technology and the Internet, as the findings from the focus group interviews illustrate. To mitigate such challenges, the flexible model incorporates digital communication tools like Microsoft Sway and OneNote to support continuity with SL projects, as they allow for flexible forms of engagement. They are also freely and easily accessible at this UoT. The integration, rationale and planning, and implementation guidelines for these tools are presented in Chapter Seven.

The four themes explored in this chapter: Learning Styles and Preferences of Gen Z Students; Characteristics, Motivation to learn and Personal Outlook of Gen Z Students; Transformative learning experiences of Gen Z students in SL; and Insights on Ideal Service-Learning Projects 2030 from Gen Z students in this study, have provided a comprehensive profile of this

generation. This profile offers an in-depth understanding of Gen Z's unique attributes, which informs the development of a flexible SL model tailored to their needs.

## 6.6 Profile of Generation Z students

The findings of this study depict the following profile of this specific cohort of Gen Z students who participated in this study:

- **Learning Style (General and During SL projects):** Generation Z students exhibit versatility, adapting their learning so that it is best suited to what they are learning. They appear to be multimodal learners.
- **Learning Environment (General and During SL projects):** Generation Z students expressed a preference for both individual and face-to-face learning. However, they did not identify a single preferred learning environment.

### **Key Characteristics:**

- This cohort displayed positive characteristics such as compassion, hard work, and determination.
- Their motivation is driven by a blend of intrinsic and extrinsic factors, such as personal development and the need to help others. Intrinsic motivators are more influential than extrinsic ones.
- Generation Z participants maintain a positive outlook on life, balancing awareness of challenges that exist, yet maintain an optimistic belief that situations will ultimately improve.

**Communication preferences:** WhatsApp emerged as the most used social media platform for both social and academic communication. Microsoft Outlook and Teams were digital communication tools used for academic purposes, as provided by the UoT. While participants mentioned using Facebook and Instagram for social interactions, these tools were not reported as tools for academic engagement. They also selected in-person communication as their preferred way of communicating with others. All Gen Z students who participated in this study owned smart devices.

**Transformative Learning in the context of Service-learning:** All Gen Z participants engaged in three of the four phases of TL theory: experience, rational discourse and reflection. However, the action phase did not feature prominently in their responses, indicating a need for more structured support to help translate their transformative learning into action.

**Vision for SL projects in 2030:** The majority of the participants in this study envisioned SL projects addressing social issues. However, their perspectives often lacked an understanding

of SL's reciprocal nature, reflecting a "save the world" mindset rather than the mutual enrichment that defines SL.

## **6.7 Chapter summary**

In summary, an analysis of the key themes in this chapter explored diverse aspects of this cohort of Gen Z students, highlighting areas for adaptation within the current SL model at this UoT to enhance its flexibility.

The themes and sub-questions collectively contributed to creating a comprehensive profile of these Gen Z students, answering the primary research question: *How can a flexible service-learning model be developed for Generation Z students at a university of technology?*

By exploring their learning styles and preferences (Theme 1), this study provides valuable insights into creating a flexible model that accommodates diverse approaches to learning. Similarly, understanding their defining characteristics, such as being hardworking, compassionate, determined, having a positive outlook on life, and having intrinsic motivations to learn (Theme 2), adds depth to this flexibility. Additionally, exploring their transformative learning experiences in the context of SL (Theme 3) highlights the importance of a holistic review of students' transformative SL experiences by transcending reflection alone to incorporate rational discourse, as well as emphasising the need for structured support to encourage action once transformation has occurred.

Finally, Gen Z participants' perspectives on SL projects in 2030 (Theme 4) offered forward-thinking ideas for addressing evolving educational and societal needs. These insights, combined with the gaps identified in their understanding of SL principles, informed the development of a theoretically sound, practically applicable, flexible SL model. This model seeks to address the complex nature of student cohorts, community needs and the limitations of the current SL approach. Chapter Seven introduces the flexible model derived from the synthesised data across these themes. This model embraces creativity and pragmatism, addressing challenges such as the COVID-19 pandemic while anticipating the changing educational landscape to better meet the needs of this specific Gen Z cohort and future student cohorts.

## CHAPTER SEVEN

### The Flexible Service-Learning Model for Generation Z

*“The measure of intelligence is the ability to change” (Albert Einstein).*

#### 7.1 Introduction

Drawing on the findings discussed and analysed in Chapter Six, this chapter proposes a flexible model of Service-learning (SL) for Generation Z (Gen Z) students at a UoT. This model was developed in response to the main research question of this study: *How can a flexible model of SL be developed for Gen Z students?* The model is shaped around four interlinked phases and six key implementation strategies, each of which enhances its adaptability, relevance, and suitability to Gen Z’s learning preferences and characteristics. The synthesis in this chapter builds upon the literature review presented in Chapter Two and the theoretical frameworks discussed in Chapter Three. The flexible SL model is based on both empirical data, as presented in the study findings, and informed by Transformative Learning Theory (TL), which describes how transformative experiences emerge through disorienting dilemmas, critical reflection, discourse, and action. Therefore, this flexible model provides a practical and adaptable approach for SL lecturers aiming to design meaningful, student-centred SL experiences for the current Gen Z student cohort. The subheadings below present an outline of this chapter:

7.2 An overview of the current model at the site of study

7.3 An overview of the flexible service-learning model

7.3.1.1 Phase 1: Pre-planning phase

7.3.1.2 Phase 2: Collaborative project planning phase

7.3.1.3 Phase 3: Strategic implementation phase

7.3.1.4 Phase 4: Collaborative evaluation and review phase

7.4 Future Flexible model adaptability

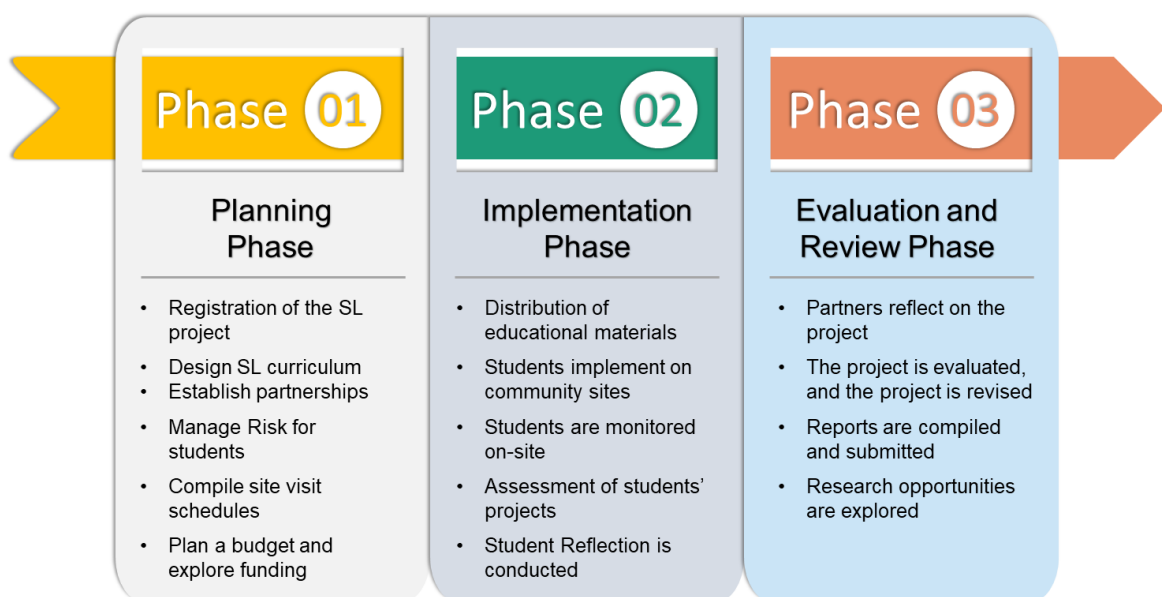
7.5 Chapter summary

## 7.2 Overview of the current model at the site of study

This study did not aim to develop a flexible SL model from the ground up; instead, it proposed integrating six key enhancements into the existing SL model at this UoT to provide the flexibility needed to accommodate diverse student learning styles, respond to evolving community needs and remain resilient during disruptions such as pandemics. The decision to build on the current model was based on its proven success in implementing SL projects before the COVID-19 pandemic. The evidence of this success can be seen on the UoT's official website which features images and descriptions of various student-led SL projects, demonstrating the model's effectiveness at this institution (CPUT, 2024).

As discussed in Chapter 2.4, the model faced challenges during the COVID-19 pandemic when many projects were cancelled or postponed. These limitations were explored to emphasise the need for a more flexible SL model. The existing SL model at this UoT retains core features of traditional SL models, which are characterised by structured pedagogical approaches and typically delivered in person (see Chapter 2.8). For this reason, references to both Chapter 2.4 and Chapter 2.8 are included to ensure continuity. As previously mentioned, this study does not aim to critique traditional SL models or the current model at this UoT; rather, it emphasises areas requiring increased effectiveness during times of disruption and advocates for the inclusion of the six strategies and mindful SL. A visual representation of the current three-phase model at this UoT is provided in Table 7.1 here:

**Table 7.1: Current Service-Learning model at this UoT (CPUT, 2025)**



As shown, the current SL model for SL projects at this UoT is organised into three phases: Planning (Phase 1), Implementation (Phase 2), and Evaluation and Review (Phase 3). While

the findings in Chapter Six indicate that Gen Z students reported positive experiences and meaningful learning outcomes through their SL projects, they also emphasised the need for improvements to match the model with their unique characteristics and learning preferences. As detailed in Chapter 2.4, the current model refers to partnerships and student engagement; and the planning and decision-making responsibilities appear to be led primarily by faculty lecturers who implement SL. The absence of explicit mechanisms for collaborative decision-making and project design, however,

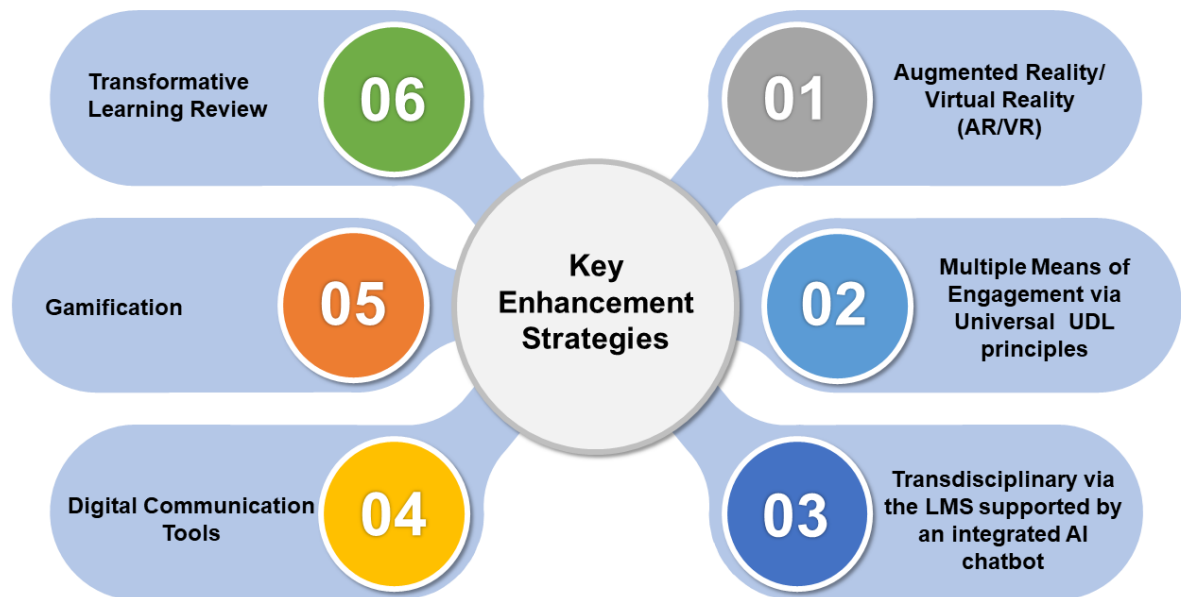
highlights a structural gap that the flexible SL model aims to address by integrating collaborative, participatory, and inclusive strategies at each phase.

### **7.3 An overview of the Flexible Model of Service-Learning**

Drawing on the findings of this study regarding Gen Z student learning preferences, this flexible SL model integrates innovative technologies that respond to the findings discussed in Chapter Six and as noted in Figure 7.2 below. These include the use of Augmented Reality (AR), Virtual Reality (VR), Digital Communication Tools, and Gamification, which can support flexible engagement and collaboration methods during SL projects for this Gen Z cohort. The model also includes Universal Design Learning (UDL) principles to accommodate various engagement options and to promote inclusive access to content and participation. It encourages transdisciplinary projects through the institutional Learning Management System (LMS) to support UoT-wide SL projects that are scalable and coordinated across various faculties. A Transformative Learning Review guideline is integrated to help SL lecturers access students' transformative experiences in SL in a holistic and structured manner. The proposed flexible SL model unfolds across four interlinked phases by adding a Pre-Planning Phase, as indicated in Figure 7.1 below. The four phases of the proposed model are presented as follows:

- Phase 1: Pre-Planning (Orientation/Service-learning lecturer/Orientation to Service-Learning Principles/Mindful Service-learning). Introducing Transformative Learning within Service-Learning.
- Phase 2: Collaborative Planning Phase (Adaptive needs assessment/Co-selection of appropriate implementation strategies).
- Phase 3: Strategic Implementation: Implementation of the five strategies (6<sup>th</sup> in Phase 4); (1) AR/VR; multiple engagement via (2) UDL principles; (3) LMS supported by an integrated AI chatbot. (4) Digital Communication Tools; (5) Gamification.
- Phase 4: Collaborative Evaluation and Reflection (6) TLR guidelines; community feedback.

The six key strategies are presented visually in Figure 7.1 here; and the four phases outlined above are discussed in further detail thereafter.

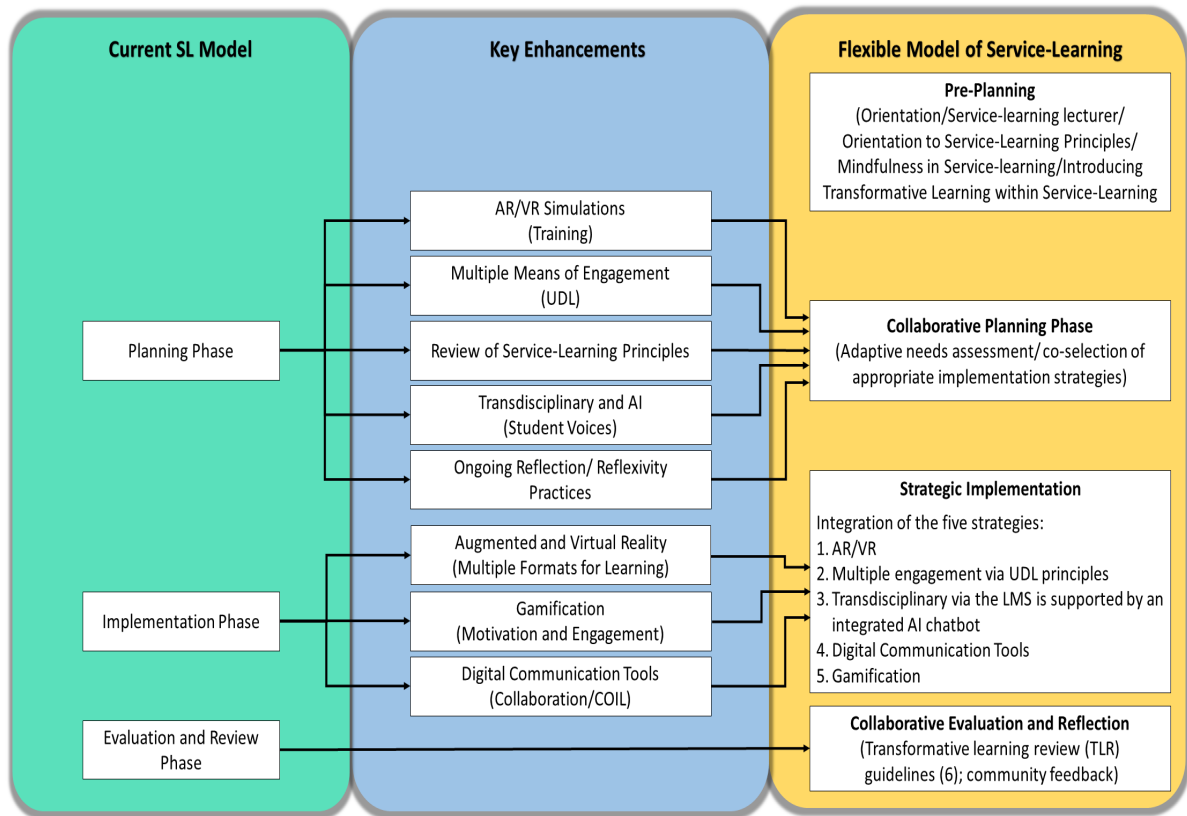


**Figure 7.1: Key enhancement strategies integrated into the Flexible SL Model**

Although the strategies listed are not new, this study includes them to present a concrete, visual, adaptable, and flexible SL learning model that aligns with the findings. It is developed in a way that it can be systematically used and adapted by SL lecturers to suit the needs of diverse students, contexts, disciplines, and higher education institutions. These strategies were chosen for their potential to foster transformative learning, as SL is inherently intended to be a transformative experience for participants. In addition, it addresses limitations in the current institutional SL model, such as reliance on structured face-to-face phases and a more generic approach that overlooks the specific needs of a particular generational cohort (see Chapter 2.4 and 2.8). It also responds to temporary shifts in the educational landscape, like those caused by the COVID-19 pandemic (see Chapter 2.9), by integrating tools that support both virtual engagement and diverse learning styles.

Importantly, while digital communication tools like Microsoft Sway, OneNote, and AR/VR technologies enhance the flexibility of the SL model, they may not be accessible to all higher education institutions and communities due to resource constraints. To address this possible shortcoming, thoughtful, affordable, and widely available alternatives should be considered (see Section 7.4.2), such as Microsoft OneNote and Sway, which are freely accessible to Gen Z students at this UoT. Similarly, other institutions can explore tools that are cost-effective or freely available to their students. Open-source platforms also present viable alternatives for AR and VR experiences, such as Open Simulator (2024) and Blender (Blender Foundation, 2024).

Finally, the flexible model of SL organises the strategies according to each phase, building on the themes discussed in Chapter Six. This ensures that the strategies are aligned with the findings and insights presented in Chapters Five and Six. A visual illustration of the flexible SL Model is presented below.



**Figure 7.2: A flexible service-learning model for Generation Z students**

Next, the different phases seen in the flexible model above and the implementation of the six strategies are discussed.

### 7.3.1 Phase 1: Pre-Planning Phase

The Pre-Planning Phase of the flexible SL model aims to prepare and centre students before they begin their SL projects. While SL offers many benefits for students, recent research, as discussed in Chapter 2.10, indicates that students are experiencing higher levels of stress and burnout, particularly in the aftermath of the COVID-19 pandemic and under increasing academic pressure. These mental pressures can reduce a student's ability to participate fully in the SL project. Consequently, students may not be sufficiently prepared for reciprocal learning within the communities. This phase addresses such concerns by strengthening the entry process to SL projects, emphasising improved orientation, critical reflection, and

contextual awareness. This aligns with the initial phase shown in Figure 7.2, highlighting student readiness and contextual understanding.

The Pre-Planning Phase consists of five interrelated components:

- 7.3.1.1 Service-Learning and the lecturer
- 7.3.1.2 Orientation to SL principles and rationale of SL
- 7.3.1.3 Mindfulness in Service-Learning
- 7.3.1.4 Transformative Learning within SL
- 7.3.1.5 Training on digital technologies and Artificial Intelligence

Collaboratively, these components work together to create a structured and intentional foundation for students and community members involved in the project. Importantly, Orientation is a crucial element of the Pre-Planning Phase, serving as the structured transition from broader preparation into active engagement with all stakeholders (students, community partners, SL faculty / SL lecturers). While this Pre-Planning Phase broadly includes the groundwork, such as identifying community partners, negotiating project parameters and preparing resources, orientation involves formally briefing all stakeholders. This briefing would include roles and responsibilities, the expected learning outcomes of the project, and the expectations of the project. It would reflect the principles underpinning SL, such as mutual learning, academic learning, and civic responsibility. Service-learning and the lecturer are also part of the Pre-Planning Phase, as discussed next.

#### ***7.3.1.1 Service-learning and the lecturer***

Service-learning lecturers play a pivotal role in the successful implementation of the flexible SL model, especially in a technology-intensive environment where digital integration is essential for effective collaboration, delivery and engagement (Shah, 2013). To fulfil this role effectively, SL lecturers would need to be digitally savvy or committed to rapidly mastering new tools as they emerge, so they can guide students through the use of these advanced tools. Accordingly, SL lecturers should develop and demonstrate critical, creative, and digital skills (Hursen, 2020) and remain responsive to new platforms and pedagogies that could enhance the SL experience. Where necessary, SL lecturers could attend workshops or short courses on using technology appropriate to specific projects, so SL projects leverage technology rather than being hindered by it. This may include platforms integrated into the institution's LMS, which could support coordination, communication, and reflective learning activities.

Chapter 2.13 discussed the Generational Theory, which explained how individuals in different generations are influenced by the environments in which they were born. According to Generational Theory, lecturers may have different views and skills in using technology, which could create a digital divide. In this study, the digital divide is understood as the varying extents to which different generations can effectively use technology. This divide may also exist between students and community members, depending on the specific context of each SL project. Service-Learning lecturers can bridge this gap by selecting user-friendly digital tools such as Google Drive and WhatsApp, which are potentially accessible to all participants. Instructional videos or training sessions could be used to supplement and clarify the use of digital tools and educational technology for SL projects.

Additionally, implementing cross-generational mentoring pairs within SL project teams could allow younger generations to support older participants with more advanced digital tools, while also learning from their wisdom and experience (Murthy & Thomas, 2020). This shift may not always be easy for the SL lecturer, who has traditionally acted as both the expert and guide leading the SL project process. However, it is important that they embrace participatory technologies that redistribute expertise, empower students as co-creators, and highlight their voices in shaping the SL projects. This section highlights that SL lecturer preparedness is essential for the effective use of the flexible SL model. It also requires structured systemic training for all stakeholders, as discussed in Section 7.4.5.

### ***7.3.1.2 Orientation to principles and rationale of service-learning***

Although not a formal strategy, addressing core SL principles, as defined by Peterson and Osman (2013) for this current study, is a vital part of the flexible SL model. It could be incorporated during the Pre-Planning Phase. Embedding these principles early on helps students gain a clear understanding of core concepts such as reciprocity, critical reflection, academic learning, service to the community, and care, as reflected by the working definition chosen for this study (see Chapter 2.6). The findings from this study indicated that many Gen Z students lacked a clear understanding of reciprocity in their SL projects. Therefore, it remains important to explicitly introduce students to the mutually beneficial nature of SL, discouraging a "save the world" mentality and promoting learning from and with communities.

One effective way to introduce SL principles could be through storytelling based on anonymised case studies drawn from previous SL projects. This approach protects confidentiality while preserving authentic insights into SL practice. This method is versatile; the SL lecturer can choose to present the principles themselves or invite a guest lecturer, such as a community member who previously participated in a SL project, provided informed consent is obtained and any identifying details are removed. Storytelling can be delivered via digital or face-to-face methods, accommodating the flexible learning pathways of Gen Z students. The

narratives shared should illustrate both the challenges and learning experiences that stem from reciprocal engagement with communities, highlighting both transformative outcomes and shared agency. When students misunderstand or fail to recognise mutual learning in SL, these concepts can be clarified earlier on through storytelling.

The Pre-Planning Phase can also be used to introduce the Sustainable Development Goals (SDGs) and demonstrate how they align with the National Development Plan (NDP) priorities, such as poverty eradication, educational transformation, and sustainability, as discussed in Chapter 2.3. These development frameworks must be made overt from the onset and not as a separate discussion, but integral to how students conceptualise and engage with their SL projects. Since SL projects inherently address SDG and NDP goals, introducing them early assists students in understanding their relevance in both global and local contexts, and reinforces understanding and addresses any emerging questions. As part of pre-planning, initial collaborative activities such as workshops, mentorship sessions, or an online forum can be organised for students and community partners to begin mutual planning. These activities would be grounded in the thematic focus of the SL project, providing opportunities for students to clarify key SL principles and their connection to sustainable development priorities.

#### ***7.3.1.3 Mindfulness in service-learning***

As discussed in Chapter 2.10, Gen Z students are facing challenges, specifically related to attention fragmentation, high levels of stress and burnout, all of which could diminish their capacity for presence and sustained engagement during SL projects. This could hinder their ability to fully engage in the communities and impede their ability to recognise their own transformative experiences. In this proposed flexible SL model, mindfulness is introduced as a preparatory practice during the Pre-Planning Phase to help students centre themselves emotionally and cognitively, establishing the inner readiness for transformative dimensions of SL engagement.

Rather than launching straight into the project logistics, a mindful SL activity, such as guided breathwork or short meditation sessions, could offer students a way to pause, regulate, and ground themselves before integrating into the communities. This is particularly relevant in Gen Z contexts, where digital overload and multitasking are common, as reported in Chapter 2.13. These conditions might impede both deep engagement and reflective practice. Orientation sessions may include short but progressive mindfulness exercises (ranging from 5-20 minutes), which depend on how much time SL lecturers set aside for this phase of the model. The goal of this exercise is not to teach meditation in depth but rather to introduce accessible techniques that build students' capacity for attentiveness, empathy and presence. These capacities are foundational for ethical and reciprocal service in the communities (Damon-Moore, 2024).

Damon-Moore (2024) notes that mindful practices are not simply a tool for stress relief but also a pedagogical framework that encourages deeper relational awareness, the ability to sit with discomfort and emotional intelligence. These are essential for students engaging in service in the communities. These inner capacities may support students to cultivate listening, humility, and situated awareness. Mindfulness then becomes not just a wellness practice but also a moral stance, one that aligns well with SL's civic and ethical commitments.

As pointed out in Chapter 2.13, SL lecturers should be given the opportunities to develop their mindful practices and be professionally supported to facilitate these practices in their SL projects. This should not only include technical guidance on mindfulness activities, such as selecting appropriate exercises and adapting them for digital delivery or in-person, but also reflective development components that encourage and support SL lecturers to hold space for deep dialogue, ethical awareness and presence in increasingly complex learning environments (e.g., during the pandemic) (Daman-Moore, 2024). This foundation will further support the transformative potential of mindfulness in SL.

Although mindfulness is introduced in the Pre-Planning Phase, its pedagogical value justifies ongoing integration throughout all phases of the flexible SL model. Rather than being a one-off activity, mindful practices such as breathing exercises can be deliberately woven into the entire SL cycle. This may help students become more aware of their values and perceptual shifts as the SL project progresses. To support this, students could be encouraged to maintain reflective journals (digital or handwritten), as mindfulness provides an opportunity to record emotional responses and moments of civic and personal growth. In this way, mindfulness becomes both a self-regulation and a meaning-making strategy, reinforcing SL not only as a site of knowledge exchange but of personal transformation.

#### ***7.3.1.4 Introducing transformative learning within service-learning in the proposed SL model***

A foundational prerequisite for meaningful engagement in SL is an understanding of transformative learning processes. As already established in Chapter 3.2, transformative learning, as theorised by Mezirow, aligns closely with the objectives of SL projects and provides a foundation for its pedagogical approach. This alignment showcases the importance of encouraging critical self-reflection and openness to transformation among students participating in SL initiatives.

Orientation towards transformative learning should be designed as both an active and iterative process. This can be introduced to students by the SL lecturer or an expert in the field. The core principles of transformative learning, based on Mezirow's theory and their relevance to SL, as previously explained. To facilitate practical engagement with these concepts, it is

recommended that SL lecturers use real-life scenarios or case studies relevant to the field. These examples may help students recognise disorienting dilemmas, which are pivotal experiences that prompt critical reflection and transformation, as discussed in Chapter 3.2. A review and analysis of these experiences in small groups could encourage the identification and discussion of transformative moments. (discussed further in section 7.7).

### **7.3.1.5 Training on digital technologies and Artificial Intelligence**

A structured approach to training on digital technologies and AI is integrated into the project design to ensure that all participants (students, SL lecturers, and community members) will be able to use these technologies effectively. This is especially important in contexts where disparities in access to digital technology and skills among stakeholders (Sanders & Scanlon, 2021; Coşkunserçe & Aydoğdu, 2022) exist. As discussed earlier in this chapter, unlike the current SL model (see Table 7.1) which does not explicitly include training in the planning stage likely because participants already possess the necessary skills or training, the need for training is assumed. The flexible SL model specifies the need to assess participants' digital skill levels with the digital tools to be used in each SL project and to provide necessary training in Phase 1, the Pre-Planning Phase.

Practical workshops could be designed to familiarise participants with digital technologies and their roles in SL projects. These workshops could utilise institutionally provided resources and sample materials to teach participants how to use tools effectively, such as AI, AR, VR, and digital collaborative platforms. Training should include training on data privacy, digital literacy, and the development of clear policies and ethical frameworks to manage digital challenges in educational settings (García-López & Trujillo-Liñán, 2025). Transparency is also crucial; users should understand the reasoning behind AI-generated decisions (Al-Zahrani, 2024; Tulsiani, 2024).

Hence, while AI can be utilised to offer project suggestions and reflective prompts, it should be regarded as a supportive tool rather than the final decision-maker. Both students and SL lecturers, in collaboration with the community, should retain the final authority over project choices and learning activities to ensure alignment with pedagogical and ethical principles. Additionally, other ethical considerations need to be addressed: there needs to be compliance with the Protection of Personal Information Act (POPIA), which is addressed through responsible data collection, secure storage and the use of anonymisation and informed consent procedures. Lastly, continued institutional support from educational institutions to implement the use of digital tools in SL is vital to enable all users to become proficient and maximise the benefits of SL for all participants.

### **7.3.2 Phase 2: Collaborative project planning phase**

This phase begins with a broad project framework developed in advance by SL lecturers to align with the SL project learning outcomes, ethical standards and the NDPs. This will ensure that, while students and community partners collaborate on the direction and design of the project, the key educational requirements are maintained. This framework could include non-negotiables, such as risk protocols, timelines and assessment criteria, which provide the necessary scaffolding for the effective design, delivery and evaluation of SL projects. However, the specific SL project brief, including the objectives, methods and deliverables, is collaboratively co-designed with students and the community partners during this phase. A draft version of the project brief could be introduced during the initial planning meetings to provide a basis for discussion, input and adaptation. This will ground the project in both academic rigour and community relevance, while still allowing for flexibility and contextual responsiveness.

This phase centres on collaborative project planning (involving students, SL lecturers, and community partners) and the orientation and co-selection of appropriate implementation strategies. The main purpose of this phase is to promote a SL environment where all stakeholders co-plan meaningful SL projects that reflect the shared objectives, student academic goals and community needs. In this context, community refers to local organisations, civic groups or stakeholders who partner with the university to address real-world challenges, bringing local knowledge and lived experiences into the planning process.

#### ***7.3.2.1 Flexible approaches to needs assessment in service-learning***

A thorough needs assessment, carried out at the start of each SL project, is vital for effective implementation as it guarantees that the needs of both students and communities are recognised and integrated into the project design. This assessment involves collaboratively identifying the specific challenges, priorities, and resource gaps faced by community partners, as well as aligning these with the project learning outcomes. Once identified, these needs directly shape the development of the aims, implementation approaches, and the choice of suitable technological tools for the SL project. This process would need to be more than cataloguing objectives; it requires a collaborative engagement where community voices and student learning are given equal weight.

A flexible approach to a needs assessment is therefore defined as one that adapts to the specific digital capacities and constraints of communities and students. This approach should account for the digital landscape in which SL projects are enacted. The technology tools chosen in this study to integrate into the flexible SL model, such as AR and VR, may not be universally applicable or appropriate across all higher education institutions or community

contexts. Factors such as disparities in technological infrastructure (e.g., reliable internet connectivity), institutional resource constraints, and diverse levels of digital literacy among faculty and students mean that these tools need to be contextually assessed. This is discussed further in the next section.

### ***7.3.2.2 Co-selection of appropriate implementation strategies***

In Phase 2, Collaborative Planning, the co-selection of suitable SL project implementation strategies progresses through a collaborative process that actively involves students and community partners. This process may be guided by the SL lecturers. Together, participants identify practical steps and agree on the digital tools for project delivery, and whether SL projects are online or in-person, or a combination, to achieve the desired outcomes. The selection emphasises contextually appropriate, feasible, and sustainable approaches, ensuring that decision-making reflects the perspectives and needs of all stakeholders.

### **7.3.3 Phase 3: Strategic Implementation Phase**

The Strategic Implementation Phase explains the rationale (why), components (what), process (how), and roles (who) involved in implementing the six strategies within the flexible SL model. As discussed, and outlined in Chapter Six, these strategies are directly informed by the study findings and are designed for Gen Z students' learning preferences, as well as for SL projects to be able to adapt to various educational contexts. This phase provides SL lecturers with practical guidelines, while also indicating flexibility in application. The model does not adhere to a strict and fixed formula; instead, it supports adaptive implementation where SL lecturers can tailor strategies based on student and community needs, as well as institutional capacities and contextual restrictions.

#### ***7.3.3.1 (1) Augmented and Virtual Reality in service-learning***

Augmented Reality (AR) and Virtual Reality (VR) technologies aligned with Theme 1 findings reported in Chapter 6.2, indicating the diverse learning styles of this group of Gen Z students. These tools were integrated into the flexible model as they accommodate multiple modes of learning through immersive and interactive formats. As discussed in Chapter 2.13, AR and VR applications allow participants to engage in simulated environments that mirror real-world issues, making the Collaborative Planning Phase participatory and visual. Importantly, as detailed in Section 7.4.2, the decision to use these tools would have already been made during the needs assessment process (where SL lecturers work alongside students and community participants to identify digital tools that are accessible, relevant and practical).

During this phase of the project, AR and VR technologies could be used to simulate potential community scenarios and facilitate visualisation and problem-solving before students and

community partners work on site together. These could be pre-built, plug-and-play simulations developed using free tools such as Delightex Edu (2025). This platform is highly versatile for SL projects as students can design virtual environments that simulate real-world community contexts. Alternatively, SL lecturers with the necessary skills can create simulations to meet project needs. These simulations can be downloaded onto compatible devices, such as smartphones, laptops, or desktops which are provided or supported by the university. During the planning phase, simulation links can be shared by the SL lecturers with students and communities via email or other platforms accessible to participants, who can engage with the AR/VR content via headsets, tablets or standard viewing interfaces. In this way, all participants interact with identical, standardised versions of the simulations, preventing mismatched versions or inconsistent experiences among users.

Augmented Reality and VR also serve to enhance community learning and development, making the SL process a mutual learning one. When community partners are included early in this Collaborative Planning Phase, they can use simulations to visualise and reflect on real-life challenges and possible solutions. This supports a community-led design, allowing for both input and ownership of the project outcomes. By way of example, in a horticulture SL project, community members can use VR to explore multiple garden layout options and identify sustainable models for growing food in their local communities. These interactions may not only enhance collaboration towards achieving the project outcomes but also help community members develop digital literacies, problem-solving capabilities and communication skills. Additionally, these tools also support the university's broader goal of becoming a Smart University of Technology (CPUT, 2025) and echo calls by Czerniewicz et al. (2020) for higher education to mitigate digital inequality through shared infrastructure and inclusive technology.

As discussed in Chapter 3.3, Experiential Learning Theory (ELT) provides a lens to interpret the learning styles of Gen Z student participants, drawing on the Learning Style Inventories' four learning styles: Divergers, Convergents, Assimilators and Accommodators. They correspond to the learning styles identified by the Gen Z student participants in this study. They are referenced here simply to maintain alignment with that earlier discussion. Building on these insights, the study explores how immersive digital tools such as AR and VR can align with these learning styles, providing multiple pathways for student learning and engagement. Augmented Reality and VR technologies directly address the diverse learning styles of Gen Z students identified in Chapter 6.2, as they provide tailored opportunities for engagement (Fan et al., 2025) and enhance the learning experience (Lubis & Ramadani, 2024). Kinaesthetic learners gain hands-on experience by manipulating virtual objects or interacting with 3D models. Interpersonal learners benefit from collaborative virtual projects, such as co-designing a virtual garden in a horticulture course, which could encourage teamwork, collaborative

problem-solving, and respectful engagement with community partners. This collaboration could promote mutual trust and shared ownership, core tenets of sustainable SL partnerships.

Intrapersonal learners can benefit from self-paced VR simulations (e.g., ethical dilemmas allocating scarce resources), which provide space for personal reflection and developing civic responsibility before the actual hands-on activities. Through role-playing activities within virtual environments, linguistic learners can build communication and literacy skills which enhance language, communication skills and media literacy. These activities could include producing digital narratives that reflect their SL project process, from documenting reciprocal learning moments to capturing stories from community members, as highlighted in digital storytelling initiatives (Jordaan & Mennega, 2023).

When carefully planned, both AR and VR can also support the transformative aims of SL pedagogy. These include promoting critical reflection, civic engagement, experiential learning, and shifts in perspectives through reciprocal learning (Mezirow, 1997; Mitchell, 2008). These digital tools offer students immersive learning experiences that go beyond cognitive engagement to include affective and experiential understanding of community contexts. Augmented Reality and VR can encourage students to develop empathy and critical reflection. As they step into virtual depictions of community challenges with community partners, they can collaboratively develop solutions to problems and challenges in their lived realities. If these solutions work, they can be used to showcase the value of AR and VR in SL projects with communities.

Nonetheless, AR and VR have limitations, such as participant confidence in using them, technology fatigue, and possible infrastructure failures. Any or all of these may reduce their effectiveness (Sprenger & Schwaninger, 2021; Sümer & Vaněček, 2025). Additionally, the community and students could evolve in the future, making the use of AR and VR formats less effective. What seems to be cutting-edge technology now could be inefficient in a few years requiring constant investment in updates and new systems. Furthermore, Generation Alpha, the next cohort of students entering schools and universities in the coming years, may have completely different technological preferences compared to Gen Z. What is engaging the current students today might not be of interest to future cohorts. This highlights the flexibility of the proposed SL model, as it is designed to be responsive and adaptable. Therefore, the use of AR/VR should remain optional and context-dependent, rather than fixed.

When AR and VR technologies are thoughtfully integrated and prioritised, they can support the reciprocal exchange of insights and solutions, strengthening the collaborative relationship between students and communities. They offer students the opportunity to engage in immersive, experiential learning while also allowing community members to visualise

possibilities, propose alternative approaches, and take shared ownership of the SL projects. This aligns with the principle of SL as a mutually beneficial pedagogy, encouraging meaningful and lasting impacts for all stakeholders involved, as reviewed in Chapter 2.6.

The next key strategy is the UDL approach.

### **7.3.3.2 Multiple engagement methods via Universal Design for Learning approach (2)**

The Universal Design for Learning (UDL) approach addresses the findings of Theme 1, which revealed that Gen Z participants have diverse preferences for engaging with, processing, and demonstrating knowledge (see Chapter 6.2). This essentially makes them multi-modal learners, as explained in Chapter 2.13. This aligns with the UDL approach, as it provides a framework that supports multiple means of engagement, representation, and expression, enabling students to access learning and contribute to projects in ways that suit their strengths and skills. In practice, multiple means of engagement include options such as group collaboration in person or online, interactive digital platforms, and service-based activities within communities. Multiple means of representation are about the different formats students can use to *present or share information*, through text, podcasts, digital stories, blogs, vlogs, visual infographics, or simulations. Multiple means of expression are about the different ways students can *demonstrate* knowledge, through digital storytelling, reflective blogs and vlogs and not solely through written reports. To promote participation and inclusivity in SL projects, the UDL approach is introduced during the Collaborative Planning Phase to students and communities in the proposed flexible SL model (see Figure 7.2).

During the Collaborative Planning Phase, SL lecturers are responsible for facilitating the process and applying UDL principles to offer meaningful options for students to participate. They would need to plan meetings explicitly focused on gathering the community's preferred ways of communicating and sharing knowledge (e.g., storytelling, visual presentations). Service-learning lecturers will also need to create a structured process to collect community input and feedback (digital forms/workshops) and communicate to community partners how their (the community's) input shapes the project. Additionally, SL lecturers should provide students with multiple modes of engagement with content (e.g., video, text, discussion), demonstrations of learning (e.g., digital slideshows, verbal pitches, posters, or podcasts), and opportunities for reflection on their SL experiences (e.g., artwork, journals, or audio/video diaries). These approaches are designed to empower students, enabling them to utilise their strengths to meet both academic and service expectations.

Importantly, the above decisions and choices are grounded in the needs assessment phase (see Section 7.4.2), where the student preferences, learning barriers and available resources are identified in advance. This will ensure that the UDL principles are proactively applied,

helping to shape the pedagogical scaffolding from the beginning of the project. Service-learning lecturers should be supported by the institution in developing competent skills in UDL tools and frameworks. In addition to using practical tools, such as flexible assessment methods and differentiated instruction, in a SL context, SL lecturers should adapt them to social (e.g., managing power relations, collaboration styles), cultural (e.g., communication norms, local knowledge) and cognitive (e.g., different learning abilities, ways of processing information) conditions.

In practice, student preferences could be captured using structured tools such as digital forms (Google Forms) or SL planning templates, which can be completed during the planning phase sessions. This data could be stored on the university's LMS or a collaborative project folder that is accessible to SL lecturers and, where appropriate, to community partners. This will help the SL planning process by ensuring that role allocation, content development and feedback are aligned with both community expectations and student strengths. One example of UDL principles in action is a recycling-focused SL project, where students may explore different entry points. One group may design an awareness campaign using social media (visual and/or linguistic), while another facilitates hands-on local workshops (kinaesthetic and/or interpersonal); and yet another group could develop information brochures about how to recycle and upcycle reusable waste (Linguistic/textual). Universal design principles do not necessarily prioritise a single format but, instead, students and communities get to work on the projects using diverse and inclusive approaches.

Universal Design for Learning enables SL lecturers to promote more responsive and inclusive learning activities, outcomes and environments. By understanding how students intend to participate in their projects, SL lecturers can adapt their guidance, accordingly, allocate roles more appropriately and provide feedback to create and enhance optimal learning experiences. This process may also prepare students to engage more authentically with communities, having already considered how they want to contribute to the projects. Concerning the community, the UDL principles provide the community with an equal voice in the co-creation of knowledge. Community partners are invited to the planning phase to suggest preferred ways of engagement, such as co-created visuals, oral storytelling and participatory demonstrations. These methods of engagement are not merely supplementary; they also shape how the project is framed, understood and then implemented. Importantly, when communities and students express their preferred ways of sharing knowledge, they do not replace or make less important traditional academic outputs; instead, both are used together. Students may still write reflective journals or deliver presentations, but these are now complemented by community narratives and community-led activities like recorded stories or local exhibitions.

Collaboration by means of co-planning and co-sharing creates a shared learning space where student and community voices are both heard and valued. It also allows the SL project to be implemented across different learning modalities, whether online or in-person, depending on what environment works best for all participants. The UDL approach moves beyond simply including different learning styles and environments, showing how it values different ways of knowing. By inviting community partners to shape how the project is designed and how the outcomes are shared, the UDL approach may promote both shared ownership and learning of the SL projects. Rather than a student-driven SL project with related power imbalance, by inviting community partners to shape how a project is designed and how the outcomes are shared, the UDL approach promotes co-ownership of learning through a mutually beneficial exchange of knowledge by community and students aligning with the SL principles discussed in Chapters 2.6 and 2.7.

The UDL's emphasis on choice, agency and multimodal participation also contributes to the transformative potential of SL. When students are given the platform to express themselves authentically and engage with content on their terms, they are more likely to experience perspective shifts, critical reflection and growth, which are hallmarks of transformative learning, as discussed in Chapter 3.2. In this way, UDL not only meets the students at the point where they are but also creates conditions where deeper learning and transformation could take place through reciprocal and inclusive practice.

Finally, this reciprocal exchange of knowledge is exemplified in Dewey's principle of interaction (reviewed in Chapter 2.7) which contends that learning occurs through a dynamic interplay between individuals and their environment. This reinforces the foundational principle of SL as a transformative and reciprocal pedagogy.

The third key strategy included in the flexible SL model is discussed next.

### ***7.3.3.3 Transdisciplinary projects leveraging the Learning Management System (3)***

This UoT's Learning Management System (LMS), in this context, Blackboard (BB) can be enhanced by integrating an AI-powered chatbot to support student engagement with SL projects. This digital tool would be embedded directly within the LMS to help personalise access to SL opportunities across faculties, allowing students to browse, compare, and select projects based on project outcomes, social issue alignment, location or skills needed.

This responds directly to the findings of Theme 4 presented in Chapter 6.5, which revealed that students want their SL projects to be meaningfully connected to pressing social issues. This reflects a broader generational demand for relevance, purpose and social impact in academic work. When embedded in the collaborative planning phase of the flexible model, SL

projects are positioned as both interdisciplinary and socially responsive, reinforcing their transdisciplinary potential by involving students and community partners as co-designers of the learning and project outcomes.

This chatbot can be developed using no-code tools like Microsoft Power Virtual Agents (Microsoft, 2024) or Google Dialogflow (Google Cloud, 2025), which would function as an interactive project matching interface. It would ask students short, structured questions such as:

- What kind of SL projects interest you?
- Do you prefer hands-on or digital work?
- Which social issue areas do you care about most?

Based on the student responses, the chatbot would suggest suitable SL projects, matching students to opportunities based on their academic goals, interests, skills and preferred modalities. Instead of selecting from a static list, students would engage with an AI assistant that would guide them towards relevant, meaningful engagements. All SL project data (e.g., descriptions, deadlines and roles) would be stored in a shared SL Hub project folder or internal page inside the LMS, allowing students from different faculties to browse projects, register interest, and access updates. The selections made by students would be visible to SL lecturers, who would monitor placements, align activities with module outcomes, and provide the necessary guidance.

To address course access restrictions, the chatbot would be hosted in a university-wide SL HUB within the LMS rather than within individual module folders. All students participating in SL projects would be enrolled in this Hub, enabling them to view and select projects across faculties. Once a student selects a project, the activity is linked back to their registered subject for assessment, ensuring that academic responsibility remains within their home module while still supporting interdisciplinary collaboration.

Integrating the AI-driven chatbot into the LMS is both the responsibility of the LMS administrator and SL lecturers, as they would have to work together to define criteria or chatbot selections clearly (e.g., available project types; required student details). In addition, introductory sessions would be facilitated to demonstrate the chatbot functionality, highlight its capabilities and limitations, and set up and manage the shared SL project space on Blackboard (BB/University's LMS). Ongoing checking of these chatbots is necessary to monitor the accuracy of the chatbot project recommendations to students and ethical alignment (monthly/critical project phases).

Transdisciplinary collaboration remains central to this approach. By embedding SL projects into the LMS interface and linking them to the chatbot-driven filtering, students are provided with interdisciplinary options (e.g., public health, environmental science, and engineering education). This contributes to a more tailored and relevant project selection. This may encourage teamwork across disciplinary boundaries. In addition, this model empowers students to co-design their learning in transdisciplinary contexts. In practice, the AI chatbot could pair students from environmental science and engineering disciplines with a SL project focused on sustainability, enabling them to collaborate across disciplinary boundaries. This ultimately encourages transdisciplinary teamwork, prompts students to think beyond their academic silos, and could enrich the SL experience through introducing diverse perspectives. In addition, as noted in Chapter 2.4, SL lecturers often shoulder the full responsibility for managing SL projects, from administration to mentorship. With AI-assisted project discovery and student registration for respective projects, the chatbot reduces the administrative burden on SL lecturers.

Importantly, community members can also be involved by contributing to how the chatbot recommends SL projects, identifying values that are a high priority to them, such as sustainable impact and long-term engagement. While community members may not have access to the university's LMS, their input can still be collected through low-barrier tools like online surveys, structured focus group interviews or during the planning phase when all participants are contributing to their input on the collaborative transdisciplinary SL projects. Their feedback can be compiled by the SL lecturer and entered (by the SL lecturer or LMS administrator) into the chatbot's project database. In this way, students are not choosing projects based on their interests alone but also aligning with what matters most to the communities involved, as well as SL project imperatives for respective subjects. This promotes mutual contribution to the shaping of projects, which aligns with principles of SL: mutual respect, collaborative learning and shared ownership of the SL experience.

Research by Labadze et al. (2023) shows that there are various advantages to incorporating AI-driven chatbots in the educational sector, as perceived by both students and educators. Their research indicates that students benefit in three main areas: assistance with academic work; a personalised learning experience; and skill development. Similarly, Service-learning lecturers could benefit from time-saving support and assistance for their teaching methods. Alkishri et al. (2025) suggest that developing chatbots is not technically demanding due to the user-friendly building platforms that allow educators to deploy chatbots as study aids or tutors in classroom settings. Guidelines on how to integrate AI-powered programs into LMS are provided in Chapter 2.13.

Ultimately, this proposed flexible SL model encourages transdisciplinary teamwork, prompts students to think beyond their academic silos, and could enrich the SL experience through diverse perspectives. The 4<sup>th</sup> key enhancement is gamification, as discussed next.

#### **7.3.3.4 Gamification (4)**

This key enhancement strategy addresses the findings of Theme 2, as detailed in Chapter 6.3. Gamification is incorporated into the Strategic Implementation Phase of the flexible SL model because it directly addresses student motivation and engagement. It also responds to the absence of noted strategies to sustain motivation over time in the current model, presented in Table 7.1. By introducing game-based elements such as rewards and interactive progress, gamification offers a student-centred approach to maintaining participation and sustaining student interest throughout the SL project lifecycle.

Service-learning lecturers will need to take an active role in the design and management of the gamified SL experience. The specifics of gamification would need to be established as a viable tool during the needs assessment. Service-learning lecturers would need to:

- Clearly define and communicate criteria for awarding points or badges before the start of activities to ensure the smooth facilitation and updates of SL games.
- Appoint project leaders to regularly update the LMS or designated social media platforms (weekly/monthly) to display progress, sustain motivation and highlight achievements of students and the community.
- Organise regular gamification checkpoints to review progress, reinforce motivation and encourage deeper reflection.

Importantly, social media platforms are not used here as separate communication tools but as part of the gamified infrastructure.

This study found that Gen Z students are intrinsically motivated and possess a positive mindset; however, sustaining this motivation over time can be challenging due to the ongoing demands, complexities and extended time frames of SL projects. This highlights the need for tools that support sustained engagement over an extended duration. Gamification elements, such as badges, rewards, and points (as discussed in Chapter 2.13) are designed to encourage students to achieve key milestones throughout the project, providing structure and incentives that help maintain momentum and focus.

In addition, the study findings indicate that Gen Z participants reported using social media platforms for communication. As reported in Chapter 2.9, social media platforms also played a crucial role for maintaining communication and reflective practices during the COVID-19

pandemic. Within the flexible model, social media platforms such as Facebook, WhatsApp, Instagram, and TikTok (see Chapter Five) are integrated as accessible, familiar tools for hosting gamified interactions. This not only enhances communication but also leverages digital literacy to deepen both civic and service engagement.

In practice, students and community members can create groups on platforms such as Facebook, WhatsApp, Instagram, and TikTok to share updates, progress and achievements. A dedicated Facebook Group can serve as a central hub for a gamified SL project, such as the "Green Rangers Challenge", where students are assigned tasks like recycling campaigns or hosting sustainability workshops. As students complete the activities, they earn points, unlock new levels and face more complex challenges, all of which keep them engaged while also reinforcing learning.

TikTok and Instagram reels could also be used to highlight project achievements, share short video reflections or showcase milestones. Recognition-based incentives, such as digital badges and printable certificates, can be shared via social media and added to students' portfolios. This public acknowledgement of achievement not only reinforces intrinsic motivation (findings revealed that students have more intrinsic motivators (see Chapter Five) but also allows students to showcase their project learning to a broader audience of peers, community partners, institutions and potential employers.

Gamification also allows for academic goals to be integrated into the game structure. In the same "Green Rangers Challenge" mentioned above, students might achieve objectives, like understanding how to manage waste or assessing the impact of human activities on ecosystems. Through hands-on activities like organising recycling workshops or conducting energy audits, students apply their theoretical knowledge in real-world settings. These applied learning experiences through gamification strategies promote reciprocal learning. As students engage with the community through game-based activities, they can learn from their lived experiences, traditions and sustainable practices, and they can begin to see that knowledge is mutually exchanged and not one-sided. Community members, in turn, gain exposure to new methods, tools and concepts that may help address their local challenges in the communities. Thus, gamification becomes a medium through which academic and social learning are integrated. In addition, it offers a shared and interactive space for all participants to collaborate and exchange ideas across roles. Community members can get involved by helping to co-design gamified tasks, suggesting locally relevant goals, or collaborating on reflective challenges. This approach turns SL projects into a collective problem-solving experience where students and community partners engage in exploration, dialogue, and iterative learning. Instead of merely delivering a workshop on composting, students co-create a "Composting Challenge" with the community, sharing progress through photographs, group

messaging, or feedback loops. Over time, community members may begin to view local challenges as manageable when tackled incrementally through structured game-based activities. This perspective redefines problems as opportunities for growth.

In practice, in an environmental SL project, engineering students might use gamification to share knowledge with the community about green technologies such as renewable energy systems or sustainable farming practices (UNEP, 2011). Students, in collaboration with the SL lecturer and community partners, could design a series of level-based challenges and award points or badges for completing tasks such as a home energy audit. The progress of these challenges could be tracked using a digital leaderboard created in Google Sheets or displayed on printed challenge boards placed in high-traffic campus locations such as SL noticeboards or student common areas. Regular updates and weekly service challenges can be shared via WhatsApp broadcast lists, email or social media platforms, depending on what is accessible to all participants in the SL projects.

Finally, gamification extends beyond the SL project's timeline. Students could develop gamified tools, such as recycling games, health awareness challenges, or interactive quizzes that community members can continue to engage with after the formal project concludes. This approach allows gamification not only to support learning during the SL experience but also to promote lasting community learning ecosystems that persist beyond the projects.

#### **7.3.3.4 Digital communication tools (5)**

This strategy demonstrates how institutionally supported tools such as Microsoft Teams, Microsoft Sway and OneNote can be used to support collaboration in SL. These tools serve as examples rather than prescriptive technologies to show how digital platforms can be embedded meaningfully into SL projects. In this study, the above examples were selected because the findings revealed that they were used by the Gen Z participants and provided by the UoT at no cost to the student. It is acknowledged that not all community partners may have access to the digital communication tools selected for the projects. To address this, students are encouraged to share accessible versions of the materials used, such as public Sway links or exported PDFs from their institutional accounts. This will help ensure that community members have access to the project content.

The SL lecturers play a key role in supporting digital communication tools. Depending on the digital tools selected during the needs assessment, they would need to provide initial training sessions (brief workshops/instructional videos/online tutorials) to guide the community members and students to use the tools effectively. It is also important that they set clear expectations regarding the type, frequency, and content of contributions on these platforms. In addition, SL lecturers should provide regular monitoring of these digital collaborative spaces

to promote and support effective and respectful communication, knowledge sharing and timely feedback. For this study, Microsoft Sway and OneNote were selected as examples of digital communication tools, as discussed next.

Microsoft Sway and OneNote were integrated into the Strategic Implementation Phase of the flexible SL model because they support flexible, real-time collaboration and communication, which are essential during active project delivery. They are key enhancement strategies that align with Theme 4 (see Chapter 6.3). This integration addresses a significant limitation of the current SL model, highlighted during the COVID-19 pandemic (as discussed in Chapter 2.4) when SL projects at this UoT were either cancelled or postponed, as reported by SL lecturers in the focus group interview (see Chapter Five). This challenge was observed globally (see Chapter 2.9) due to the lack of dedicated online platforms for SL activities to continue projects remotely. Temporary shifts included using platforms like Skype and Zoom to support ongoing communication (see Chapter 2.9), emphasising the need to integrate digital tools like Microsoft Sway and OneNote into a flexible SL model. These tools mitigate challenges by enabling continued online connection and learning by participants. As mentioned earlier, including these tools is practical, as students already have access to them. Choosing the most accessible digital tools in a developing country like South Africa is crucial to the success of the flexible SL model. As discussed in Chapter 2.13, the Born Free generation in South Africa may not be afforded the same digital tools as those in more developed countries, highlighting the need to use accessible, low-barrier technologies to promote inclusive participation for Gen Z students. This imbalance also, raises awareness of digital privilege and a call to institutions to take a more proactive role in promoting equal access for both students and communities during SL projects.

In Chapter 2.13, it was discussed that Microsoft OneNote functions as a digital notebook, offering features like real-time collaboration so that multiple users can view and edit notes simultaneously. It allows users to embed images, videos, and audio recordings, making it ideal for interactive collaboration. These features provide flexibility in how all participants collaborate in SL projects, as the tool accommodates diverse preferences and allows users to stay connected, even when in-person meetings are not possible. Specifically, in SL projects, OneNote can be used to co-create action plans, maintain a shared reflective journal and record ongoing feedback from all participants. This aligns with reciprocal SL engagement, where both students and communities can contribute equally to the learning process.

In their study of digital tools in education, Usman and Baihaqi (2020) noted that they enhance engagement and satisfaction. Microsoft Sway exemplifies this as it allows students to create multimedia presentations that integrate videos, images, and text (see Chapter 2.13). These can also be co-created with community members to share project progress, document

reflections and present shared outcomes in both an engaging and accessible way. Using digital tools in this way aligns with Gen Z's preference for visual and interactive content, as reviewed in Chapter 2.13; and it supports the SL value of knowledge sharing through transforming complex academic knowledge into visually rich formats that are easier for communities to engage with. The features in Microsoft OneNote also enable real-time feedback from peers and community members, promoting continuous improvement and collaboration, two vital components of effective SL experiences, as discussed in Chapter 2.7.

Finally, community members also benefit from using these digital tools. They can track project progress in real time, contribute by providing feedback and observe how students apply their theoretical knowledge in practice. This transparency promotes a deeper understanding of the project and supports mutual accountability. In under-resourced educational contexts, selecting familiar, accessible and no-cost tools like Microsoft 365 could reduce barriers to participation for both students and community members. This supports reciprocal engagement and helps prevent participants from being excluded due to digital access limitations. Furthermore, engagement with these tools may increase digital literacy within the community, enabling them to document and manage future projects on their own, possibly increasing their accountability and self-reliance.

Digital communication tools such as Microsoft Sway and OneNote provide students and communities with the opportunity to collaborate meaningfully even after a formal project ends. In addition, the communities not only benefit from the technical knowledge contributed by the students but also gain the ability to document and build on their learning over time. This supports sustainable development and long-term growth. It also showcases the transformative potential of these tools, in that they are not only enablers of communication but also act as a catalyst to empower communities to access, generate and sustain knowledge independently.

While Microsoft's collaborative tools were used for reasons explained, the flexible model allows for other platforms to be incorporated, depending on the different needs of each SL project. The key principle behind selecting digital tools is that they are: accessible to all participants; familiar; institutionally supported (if possible); and supportive of inclusive participation, regardless of the provider. These examples illustrate how digital tools can enhance both online and in-person SL experiences. They also mitigate challenges that arise during disruptions like the COVID-19 pandemic (see Chapter 2.9) by maintaining both collaboration and communication across all phases of the proposed flexible SL model.

#### ***7.3.5.1 Flexible international service-learning in the digital age: COIL in practice***

Digital tools, such as Microsoft Sway and OneNote, also make engagement in both local and International Service-Learning (ISL) projects more accessible by helping to overcome cultural

and geographical barriers. These types of digital tools enable participants to express SL experiences and perspectives in multiple ways that are both contextually grounded and culturally appropriate. Microsoft Sway allows the integration of images, narratives and videos (discussed in Chapter 2.13), which allows community members to share stories in their language and preferred visual style. This supports cultural authenticity and reduces reliance on text-heavy formats that may marginalise less dominant language practices. Similarly, the collaborative space of Microsoft OneNote supports asynchronous contributions, diverse communication preferences and timelines, especially in international partnerships (time zones need to be considered) where cultural norms that centre around participation and dialogue and participation may differ.

Additionally, digital communication tools enable real-time communication and collaboration across distances (Stasberger, 2023; Nelson, 2023). This supports the inclusion of Collaborative Online International Learning (COIL), which allows cross-cultural collaboration by connecting students and faculty from distant locations to work together on virtual platforms (Rubin, 2017). It is an inclusive and environmentally sustainable approach to internationalising higher education curricula through online collaboration (Shields, 2019). It connects educators worldwide to co-design and participate in online collaborative assignments integrated into the curriculum (Rubin, 2017). The aim is to promote students' intercultural competencies, collaborative skills, and understanding of the curriculum through meaningful digital engagement (Rubin & Guth, 2022). To support this type of engagement in a SL context, SL lecturers could take a proactive role in structuring and supporting the COIL process by doing the following:

- Organise the initial virtual introductory sessions clearly outlining the project goals, communication expectations, digital etiquette and cultural sensitivity.
- Set explicit timelines as well as structured tasks for international collaboration, which can be communicated through digital platforms such as Microsoft OneNote.
- Schedule regular meetings to build trust, evaluate and review progress, address cultural differences and provide continuous support to students.

Collaborative Online Learning gained popularity and relevance particularly during the COVID-19 pandemic, when higher education institutions had to transition rapidly to online teaching and learning (Hackett et al., 2023). Its relevance continues today as institutions seek flexible, scalable, and inclusive ways to support global engagement. In the flexible SL model, COIL acts as a digital extension of ISL projects, enabling students and faculty to build relationships, plan projects, and share knowledge remotely before transitioning to on-the-ground implementation (if applicable and possible). These early interactions often focus on shared

values and cultural awareness, which helps set the stage for more meaningful and effective future collaboration (Hackett et al., 2023).

A practical example of integrating COIL within ISL may be envisaged here: a cross-disciplinary SL project involving public health students from a United States university and education students from South Africa. Instead of starting with travel, the project begins online, with both students and their SL lecturers connecting virtually with local community partners. This engagement enables student groups and their SL lecturers to interact virtually with local community partners from both regions. This early-stage virtual collaboration encourages co-planning and co-learning from the inception of the project. Students from both institutions work together on a single, shared project using digital tools such as Microsoft OneNote. They collaboratively identify health issues to be explored based on the SL project brief and project outcomes; share cultural insights; and co-design a health awareness workshop relevant to both contexts. Microsoft Sway is then used to co-design accessible and visually engaging presentations which can be delivered across both campuses and within each community. In addition to co-designing and delivering project outputs, students would also collaborate on combined SL assessment reports to ensure that the evaluation captures the project contributions from both higher education institutions and reflects the shared learning outcomes. This model provides a scalable and replicable approach to COIL-based ISL, adaptable to other universities seeking to promote internationalised SL experiences without the need for initial travel.

The implementation of digital communication tools such as Microsoft Sway and OneNote also addresses key gaps in the current SL model (see Table 7.1), as discussed in Chapter 2.4. This model lacks advanced digital tools necessary for effective and sustained virtual collaboration. Although the findings indicated that student participants used WhatsApp for communication (see Chapter 6.3), it does not possess advanced features suitable for sustained, reflective, and outcome-driven service engagement. In contrast, OneNote enables reflective journalling and shared knowledge construction, while Sway supports the presentation of service outcomes in accessible formats. Together, these tools extend the SL model by embedding digital affordances that promote continuity and accountability beyond the immediacy of chat-based communication.

The integration of digital communication tools reflects the flexible SL model's commitment to adapting to the evolving needs of students and communities. Importantly, it also aligns with the characteristics of Gen Z students (reviewed in Chapter 2.13) who value digital tools, interactivity and global connectedness. By integrating digital tools that they are already familiar with, the COIL-enhanced ISL approach has the potential to be more relevant, meaningful, and engaging for all involved in an ISL project.

### **7.3.6 Phase 4: Collaborative evaluation and reflection phase**

This final phase of the flexible SL model focuses on reviewing the project collaboratively with all stakeholders: students, SL lecturers, and community members. Both evaluation and reflection are crucial to identify what worked, what needs to be adapted and how the SL experience impacted participants. This phase aims to move beyond assessment as a one-sided academic exercise and instead positions reflection and evaluation as a shared and meaningful process that could reinforce mutual learning and transformation.

As part of this phase, the sixth enhancement strategy, Transformative Learning Review (TLR), is included and discussed next.

#### **7.6.1 Transformative Learning Review (TLR) (6)**

Although this study did not specifically examine or evaluate SL assessments, it explored the nature of students' transformative experiences during their participation in a SL project. Therefore, the inclusion of the Transformative Learning Review Phase (TLR) in the flexible SL model is a direct response to the transformative learning experiences of the Gen Z student in this study. The findings in Chapter 6.4 indicate that students did not transform solely through reflection; rather, their experiences were aligned with Mezirow's (1990) theory of transformative learning. In particular, most students engaged in premise reflection where they questioned their preconceived notions and reframed core beliefs. As articulated in Chapter 3.2, this deeper form of reflection marks the beginning of perspective transformation (learners shift their frame of reference and begin to view the world and themselves through a new lens).

Based on these insights and understanding, this TLR is integrated in the Collaborative Evaluation and Reflection Phase, as seen in Figure 7.2. It provides SL lecturers with a structured yet flexible approach to recognise, document, and support student transformation. The framework draws on Mezirow's TL theory reported in Chapter 3.2 as reference points: disorienting dilemma, critical reflection, rational discourse, and action. Additionally, reflexivity, as reported in Chapter 3.2, is included to provide depth of reflection.

The findings from Theme 3 revealed that Gen Z students engaged in critical reflection and premise reflection; and that rational discourse with community members contributed to their shifts in perspective. Specifically, the semi-structured interviews revealed that meaningful dialogue prompted changes in thinking and challenged assumptions. These insights confirmed that transformation was taking place through engagement, critical reflection, and dialogue.

## 7.6.2 Transformative Learning Review guidelines for service-learning lecturers

These guidelines are not prescriptive but offer a starting point anchored in four core phases to help SL lecturers identify and support transformative learning as it unfolds during a student's SL experience. They can be adapted to different disciplines, SL project types or institutional contexts. The four phases, derived from Mezirow's TL theory and discussed in Chapter 3.2, are outlined next.

### ***1. Participation in experience (Disorienting Dilemma)***

Transformation often begins when students are exposed to unfamiliar, challenging or value-disrupting experiences and events that may prompt students to question their preconceived beliefs. These are referred to as “disorienting dilemmas” in Mezirow's theory.

*Service-learning lecturers can observe this through:*

- Captured descriptions of surprise, discomfort, or personal challenge – these indicators suggest that students could be encountering disorienting dilemmas. Written or digital reflections (journals, blogs, videos).
- Moments when students show signs of confronting new perspectives (Video/audio entries capturing emotional or cognitive responses).
- Students' engagement in unfamiliar community environments or roles (descriptions via video/audio/written).

Students can also benefit from peer-sharing of their initial discomforts through group reflections or peer-led discussions which may surface disorienting dilemmas collectively rather than individually.

Service-learning lecturers can support the above process by:

- Explicitly instructing students how to identify and document potential disorienting dilemmas in real-time or via reflective practices (can be explained in Section 7.3.3.4).
- Periodically review student reflections to identify early signs of transformation using indicators such as expressions of discomfort, surprise, and curiosity.

These experiences do not have to be dramatic; even subtle signs of tension or curiosity are all possible markers of early transformative learning. Importantly, SL lecturers do not need to observe these moments constantly in real-time. Instead, they could identify these shifts in perspective through student-written reflective narratives, video submissions or audio

reflections. Students' descriptions of emotional or cognitive responses can be captured asynchronously and offer valuable insights into how students engage with uncomfortable or unfamiliar situations. This flexibility using asynchronous capture methods allows SL lecturers to remain responsive to transformation without needing to monitor student experiences continuously.

## **2. Depth of meaning-making (critical and premise reflection)**

This phase relates to how deeply students make sense of their experiences. This occurs not only through reflection (which experiential learning has been criticised for, as reviewed in Chapter 2.12), but also through critical engagement with their beliefs, assumptions and positionality.

Service-learning lecturers should observe:

- Whether reflections show critical awareness of self, context and bias.
- Whether students connect their reflective/reflexivity practices with their academic learning goals, personal development and community insight.
- Evidence of reframing beliefs and not just a description of events.
- A shift from surface-level observation to self-questioning.

On a regular weekly or bi-weekly basis, SL lecturers can provide students with guided prompts throughout the SL experience to identify transformative learning and to encourage consistent critical reflection. These are examples of prompts:

- What assumptions were challenged?
- How has your thinking shifted? (if it has)
- What made you uncomfortable (if at all), and what was done about the discomfort?

This phase may be supported by other optional prompts or structured conversations, but it is vital to allow students the space to express their awareness of change through their chosen way of conveying that. In addition, peer feedback, small group discussions and dialogues may deepen meaning-making by allowing students to see how their preconceived notions are challenged in comparison with those of others.

### **3. Engagement in rational discourse**

Service-learning lecturers should support and evaluate students' participation in open dialogue with peers, community members and SL lecturers. These dialogues should be guided by Mezirow's conditions for fair and respectful dialogue (see Chapter 3.2). While SL lecturers cannot always monitor every conversation, they can create structures that enable fair, respectful and critical dialogue. Indicators of this could include:

- Evidence of respectful, critical engagement with other viewpoints (SL, peers, community members)
- Willingness to listen, question, and re-evaluate one's position
- Participation in the community discussions, recorded conversations or debriefings

Service-learning lecturers should create structured opportunities such as:

- Scheduling specific rational discourse sessions (e.g.-week, post-fieldwork) to communicate their purpose to students.
- Guide discourse through pre-set questions or discussion prompts that encourage respectful questioning, listening, and reconsideration of perspectives

These opportunities help make rational discourse more visible and accessible within SL projects. Rational discourse should not be limited to lecturer-student dialogue; structured peer conversations could offer equally valuable opportunities for respectful questioning and reconsideration of perspectives.

### **4. Evidence of Action (transformation)**

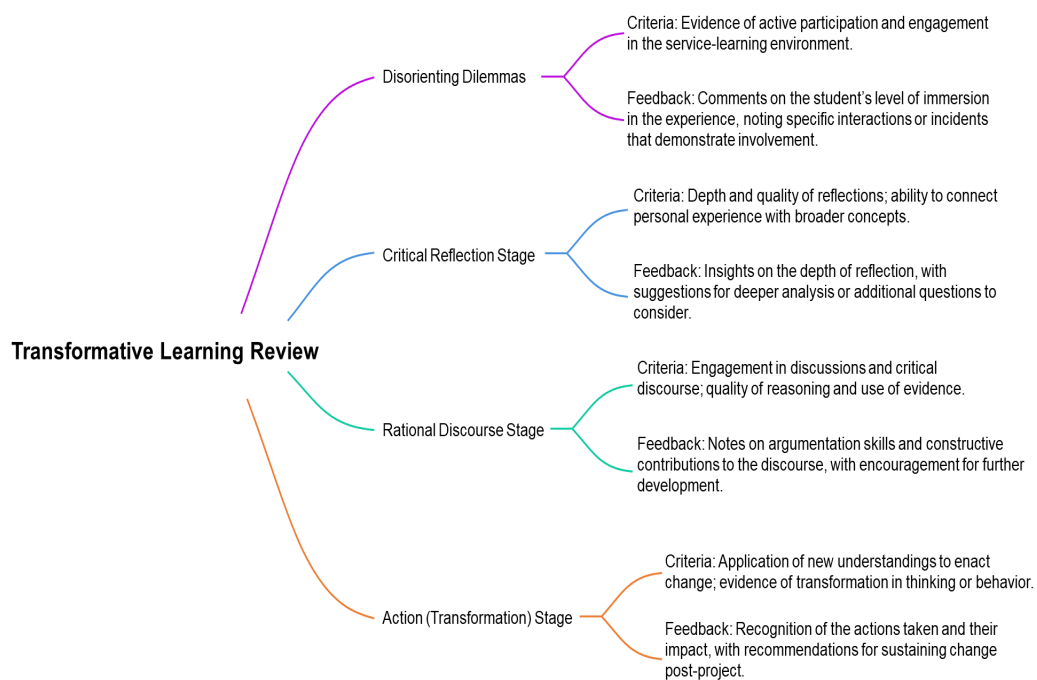
The final phase considers whether students' perspective changes are manifesting in action. based on their new insights. This action phase may look different for each student. It can be subtle or visible, immediate or delayed. *It could include:*

- Continued involvement in the communities beyond the project
- Starting new projects (club, awareness campaign, mentoring) inspired by the SL experience
- Demonstrating new ways of thinking or behaving in other academic and personal settings

Service-learning learning lecturers could:

- Explicitly prompt students toward identifying possible actions or applications of their transformed perspectives, either within or beyond the SL projects.
- Track ongoing or follow-up student engagement in communities post-project (via follow-up reflections or check-ins).
- Encourage peer collaboration like collective action projects (e.g., campaigns, student-led initiatives), extending transformation beyond the individual level.

Service-learning lecturers should not expect that all student participants will reach this phase within a SL cycle; however, they should remain attentive to any emerging signs of civic transformation or change in behaviour. Importantly, transformation can occur at any phase, or it may become apparent once the SL project concludes. Figure 7.3 illustrates the four phases described above that make up the TLR. It serves as a visual guide for how SL lecturers can track the progression of students' transformative learning experience through Mezirow's lens, while also responding to Gen Z learning preferences and SL principles.



**Figure 7.3: Transformative Learning Review landscape**

**(Adapted from Mezirow, 1990, 1991)**

The TLR guidelines support SL lecturers in designing flexible, reflection/reflexive-based assessments that recognise the diverse ways that students may achieve meaning and experience transformation. Instead of using rigid rubrics, the TLR guide offers structured flexibility where students may still use portfolios, journals, blogs, digital media or oral reflections

for learning and assessment. By framing these transformative learning experiences through Mezirow's theory, SL lecturers could better identify depth, shifts in perspective and signs of civic growth. The TLR also promotes student voice and agency as students can choose how they demonstrate learning, possibly encouraging deep engagement and ownership of the SL process. The TLR can also assist SL lecturers in identifying signs of sustainable change that could extend beyond the project timelines, such as ongoing community involvement, behavioural shifts or long-term civic interest. These outcomes may emerge in feedback, follow-up reflections or future coursework. These all offer insights into the lasting impact of the SL experience.

Ultimately, the TRL aligns with the core values of SL: reciprocity, academic learning and civic responsibility. It enables SL lecturers to support not only a student's academic progress but also their personal and social transformation through SL, with the potential of meaningful, sustained change beyond the classroom.

### **7.6.3 Community involvement in evaluation and reflection on project implementation**

To guarantee that the TLR considers both student development and project impact, community members should be actively involved in evaluating the SL project as a whole, not just student performance. This supports reciprocal learning by recognising communities as co-educators who help define what effective and meaningful service engagement looks like from their perspective. Reciprocal learning can be done through collaborative methods such as the end-of-year project debriefs, community-led focus groups, or short feedback surveys tailored to the local context. An example to illustrate this might be, in a food security SL project, community partners evaluate not only how the students communicated and engaged with them but also whether the food initiative aligned with the community needs, respected their cultural traditions and had resulted in sustainable outcomes. Their feedback could then be discussed in a joint reflection session set up by the SL lecturers or through students' SL portfolios (digital/written). By involving the communities in evaluating and reviewing the SL project process, SL lecturers promote shared accountability and more relevant and impactful future projects. In practice, SL lecturers will need to communicate clearly to community partners how their feedback will be collected (focus groups, surveys) and explicitly explain how it will be used to shape the project.

### **7.6.4 Evaluating project outcomes: Successes, limitations, and flexibility**

It is suggested that, as part of the Collaborative Evaluation and Reflection phase, students, SL lecturers, and community partners should critically assess what worked well in the projects and what could be improved. This includes examining the relevance of the project goals, the effectiveness of the strategies used and how well the flexible SL model responded and supported diverse Gen Z needs across contexts. Specifically, the evaluation should be aligned

with the core themes reported in Chapter Six: Theme 1: learning styles and learning preferences; Theme 2: Gen Z students' characteristics, motivation and personal outlook; Theme 3: Transformative experiences of Gen Z students in SL; and Theme 4: Insights on ideal SL projects for 2030 from Gen Z students. By anchoring the evaluation criteria in these themes, project outcomes can be meaningfully assessed against what students themselves have identified as critical. These themes could include flexible learning environments, social impact, motivation through relevance, and opportunities for both civic and personal transformation.

Stakeholders' feedback for improvement and insights can be collected through online surveys (Google Forms/SurveyMonkey), structured debriefs, or reflective reports. It is important to pay attention to constraints (such as time pressures, technology limitations and mismatched expectations), not only learning outcomes. Subsequently, documenting these insights may help strengthen future SL initiatives and contribute to the refinement of the flexible SL model itself. Service-learning lecturers could identify specific evaluation criteria in collaboration with the community and students at the start of the projects to promote transparency or facilitate evaluation sessions at the end of the projects, using structured tools such as Google Forms to document insights for future planning. This is a crucial step that ensures that this model remains relevant, responsive and grounded in lived practice.

#### **7.6.5 Planning the way forward**

Following the collaborative evaluation, this final step invites all stakeholders, students, SL lecturers, and community members to identify how the insights gained can inform future SL projects. This would require deep reflection on the feedback collected, recognising patterns in successes and limitations and making intentional efforts to adjust planning, delivery or service engagement strategies. By way of example, if feedback from the community suggests a need for earlier co-design or better communication strategies, these can be prioritised in the next SL cycle. Similarly, if students suggest adaptations to how digital tools were used or how reflective practices were scaffolded, these can be addressed. These planning discussions are necessary to embed adaptability into the flexible SL model, with each project building on the last and strengthening SL projects. Service-learning lecturers can assist post-project by organising structured reflective sessions for collaborative decisions about action points and adaptations for future SL projects. As mentioned earlier, these steps need to be documented to facilitate the sharing of digital reports (Microsoft OneNote/LMS) for accountability and ongoing reference.

The proposed flexible SL model is adaptable, as highlighted next.

## 7.7 Future flexible model adaptability

This study aimed to develop a flexible model of SL for Gen Z students that can also adapt to students' evolving needs. Therefore, while the current flexible model is tailored to Gen Z students, it is also adaptable for emerging generations such as Generation Alpha. This section briefly illustrates how the Mindful Service-Learning Phase could be adapted to support the learning preferences of Gen Alpha, reinforcing the model's adaptability to different educational contexts.

Generation Alpha differs from Gen Z in several keyways. Generation Alpha were born between 2010 and 2024 (McCrindle & Fell, 2020; Spasova, 2022) and have been raised in fully digital environments, making them highly visual learners (Ziatdinov & Cilliers, 2021). They are defined by advanced technology devices such as smartphones, driverless cars, tablets and smart speakers that were developed within their generation, and this technology is all they know (Spasova, 2022). Additionally, they are growing up in an era where AI is not just a supplementary tool but a fundamental part of their everyday lives and educational settings (Swargiary, 2024). Accordingly, adaptations to the Mindful SL phase should reflect these preferences.

To adapt to this phase is by integrating Emotion Artificial Intelligence (AI), which is a form of affective computing that interprets a learner's emotional states using facial expression and voice analysis. Originating from the work of Picard (1997), affective computing is designed to give machines emotional intelligence, which helps to enable more human-like, empathetic interactions. In practice, before engaging in SL fieldwork, Generation Alpha students could participate in virtual simulations of community issues. If there are any signs of anxiety or disengagement, the system will detect and offer reflection prompts or calming activities. This creates a space for emotional preparation, which could support deeper engagement with the realities of the communities. These tools, when used ethically, could align well with Generation Alpha's expectations of intuitive and emotionally intelligent technologies. More broadly, SL lecturers can adopt Generation Alpha-friendly platforms such as Canva Video (Canva, 2025) for multimedia-based reflection and storytelling, allowing students to demonstrate learning on platforms with which they are comfortable.

To support this process, SL lecturers should:

- Identify and pilot Generation Alpha-friendly technologies (e.g., Emotion AI; multi-media platforms like Canva Video) before full integration into the SL projects.
- Organise training in the orientation phase, where both SL lecturers and students could learn affective computing ethically and responsibly from an expert in the field.

This brief example reinforces the adaptable nature of the flexible SL model, which can be revised to support different student cohorts, technologies and contexts over time.

## **7.8 Chapter summary**

This chapter synthesised the key themes that informed the development of a flexible SL model for Gen Z students at a UoT in response to the main research question:

*How can a flexible model of service-learning be developed for Gen Z students at the UoT?*

Findings from this study revealed that this group of Gen Z students are hardworking, committed and determined, and are intrinsically motivated. They also have a positive outlook on life, although they are aware of challenges and prepare for them. However, there was insufficient data to conclude that they acted on their transformed mindsets. In addition, they had a 'save the world' mentality when it came to learning through their SL projects. The data showed that they were not aware that one of the principles of SL was mutual learning benefits for students and communities. These insights, alongside limitations in current SL and traditional models which faced challenges during the COVID-19 pandemic, necessitated temporary adaptations to technology to sustain SL projects at this UoT. Moreover, SL models were not designed with a specific student cohort in mind, and the heavy reliance on reflective practices for learning reveals a limitation of SL as an experiential learning pedagogy.

The flexible SL model was informed by a deeper understanding of Gen Z's learning preferences and characteristics. It offers adaptive strategies and holistic transformative learning through the TLR, supporting varied pathways to student engagement and development. Importantly, the model does not aim to replace traditional approaches to SL but to expand and evolve them. It provides SL faculty and educational institutions with a flexible, forward-thinking tool that not only responds to the changing higher education student and the changing educational landscape but also allows for community co-designing; and it has transformative potential.

Finally, it should be emphasised that the model's core strength lies in its flexibility. Not all strategies will be applicable for every SL project, and that is by design. This flexibility enables users to tailor projects to align with the specific community needs, disciplinary contexts and student preparedness. This adaptability will keep the model relevant in diverse higher educational contexts.

Chapter Eight will conclude this study, discussing the contribution to the field of study, recommendations for policy and practice, recommendations for future studies and, finally, the researcher's reflections on the doctoral path.

# CHAPTER EIGHT

## Conclusion

### 8.1 Introduction

Chapter Eight concludes this doctoral study which aimed to develop a flexible service-learning model aligned with the learning preferences and characteristics of Generation Z students at a University of Technology. This chapter synthesises the main findings and highlights their significance to the study and considers implications for theory, policy and practice. The chapter also reflects on the researcher's role and positionality in the study before closing with remarks that emphasise the coherence, scholarly input, and forward-looking relevance of the study. Here is the chapter outline:

8.1 Introduction

8.2 Synthesis of findings

8.3 Study contribution to the body of knowledge

8.4 Recommendations for policy and practice

8.5 Limitations of the study

8.6 Considerations for future research and development

8.7 Researcher's role and reflections on the doctoral study

8.8 Concluding remarks

### 8.2 Synthesis of findings

This section provides a summary of the four sub-research questions, demonstrating how they contributed to answering the overarching research question, namely:

*How can a flexible service-learning model be developed for Generation Z students at a university of technology?*

#### 8.2.1 Summary of Research Question 1

*What are the learning styles and preferences of Generation Z students at a university of technology?*

The findings revealed that this group of Gen Z students employs a range of learning styles, including visual, real-life, practical, interpersonal, intrapersonal, kinaesthetic, and linguistic, with no single style dominant. These diverse preferences could be shaped by factors such as background, experience, and interest. As discussed in Chapter 2.13, Gen Z's exposure to technology has also shaped how they respond to and engage with both traditional and digital learning methods.

In light of these findings a flexible SL model integrates Augmented Reality (AR) and Virtual Reality (VR) and the Universal Design for Learning (UDL) approach to support diverse learning preferences. Kolb's (1984) Experiential Learning Theory (ELT), discussed in Chapter 3.3, provided a theoretical lens for understanding the Gen Z students' learning style preferences.

### **8.2.2 Summary of Research Question 2**

*What are the characteristics, motivations to learn, and personal outlook of Generation Z students?*

The findings revealed that the Gen Z students in this study possessed qualities such as being hard working, determined, and compassionate, which are beneficial in SL environments. They demonstrated strong intrinsic motivation, which may promote deeper engagement in SL projects. In addition, despite socio-economic challenges, they maintained a positive outlook, even during the COVID-19 pandemic. In terms of communication, this group of Gen Z students preferred WhatsApp for social and academic interaction. They also shared that they used Microsoft Outlook for e-mails and Microsoft Teams for meetings. Although technology is often seen as integral to learning asynchronously, these Gen Z students continued to value face-to-face interaction, exhibiting the need for flexible approaches.

As such, digital communication tools such as Microsoft Sway and OneNote (discussed in Chapter 7.3) were introduced into the flexible SL model to maintain and support communication during disruptions when face-to-face interaction was limited or not possible. Additionally, gamification was incorporated into the model to sustain motivation and increase engagement. Based on the finding that students were familiar with, and responsive to, social media platforms such as TikTok, Instagram and Facebook, were recommended as suitable spaces for gamified learning.

### **8.2.3 Summary of Research Question 3**

*How do Generation Z students experience transformative learning in service-learning at a university of technology?*

In this study, student participants demonstrated internal transformation in the form of personal growth, empathy and awareness, yet did not report wanting to act on their new perspectives. According to Mezirow (as discussed in Chapter 3.2), action generally follows from a perspective shift, but this may not occur immediately. He emphasised that new perspectives often appear in growing awareness, shifts in attitude and new ways of seeing, with action unfolding with time as the shifts in perspective consolidate. However, this still highlights a gap between reflection and enactment, suggesting that, while the SL experience supported perspective transformation, the move towards concrete action may require more time and structured opportunities beyond the project itself.

Subsequently, to address this gap, the study developed a Transformative Learning Review (TLR) guide which is included in the flexible SL model to encourage both action and provide structured support for reviewing transformative learning.

#### **8.2.4 Summary of Research Question 4**

*How might Generation Z perceive SL projects in the year 2030?*

The findings indicate that Gen Z students perceive SL projects as opportunities, both to engage with pressing societal issues and potentially contribute towards meaningful transformation in the communities. These dual motivations issue both responsiveness and long-term change, which points to a generational orientation towards purposeful, socially engaged learning. To support and respond to these emerging priorities, transdisciplinary projects supported by an AI-chatbot were introduced into the flexible SL model to give students a stronger voice to select appropriate projects and perhaps support more reciprocal engagement with community partners.

This study has integrated six strategies to be included in an existing SL model and introduced a comprehensive, responsive model for this Gen Z cohort that redefines how SL can be implemented in a digitally mediated world. The Flexible SL Model is adaptable across contexts and learner profiles, as demonstrated in its relevance even for the emerging Generation Alpha student. This is an indication of the model's scalability that goes beyond a single generational cohort. It prioritises reciprocal learning by positioning students and communities as co-creators of knowledge, acknowledging the legitimacy of their voices alongside academic knowledge, reinforcing SL's principle of mutual benefit. By embedding both advanced digital tools and inclusive pedagogical approaches, the model is designed to support both participatory and transformative engagement among students and communities.

Fundamentally, this flexible SL model functions as a transformative space where inclusive pedagogy, reciprocal learning and digital innovation converge. It enables students to engage

with their assumptions critically, build new authentic relationships with communities and act on their transformed mindsets. In this way, the model not only promotes SL practice but reimagines it as a site of collaborative growth, democratic participation and socially responsive learning.

### **8.3 Contribution of the study to the body of knowledge**

#### **8.3.1 Contribution to the South African context**

To develop a flexible SL model for this cohort of Gen Z students, a profile of their learning preferences and characteristics was created. The literature reviewed in Chapter 2.13 identified limited and context-specific research on the Gen Z cohort in a South African context, specifically in the areas of learning approaches and characteristics. Much of the existing literature on Gen Z relates to the pandemic or the use of technology. It is not as extensive as seen in other countries, particularly in the United States. Consequently, this study provides a starting point for further research on the learning preferences and characteristics of Gen Z students within the South African higher education landscape, informing teaching and learning practices for SL projects.

#### **8.3.2 Contribution to practice**

The flexible model of SL incorporates AR and VR technologies to enhance the SL experience, accommodating diverse learning approaches and remaining relevant to the evolving educational landscape. This contribution does not aim to replace the traditional face-to-face approach to SL but rather to enhance the student and community experiences and provide versatile platforms for them to interact and engage in SL projects. The flexible model of SL includes digital communication tools such as Microsoft Sway and OneNote so that students have the option of working online and remotely, as well as in groups or independently. The inclusion of these digital tools provides students with various options and allows both students and community members to remain connected and continue with projects in the face of a crisis or other disruptions. As SL is an experiential pedagogy, research on how digital tools can be incorporated into SL models is limited. This study advances the discussion by integrating Microsoft Sway and OneNote as examples that can be embedded into a SL model.

#### **8.3.3 Contribution to transformative learning**

The findings have shown that certain students experienced a more holistic form of transformative learning, indicating that they learned not only through critical reflection but also through the SL community experience and rational discourse. Therefore, this study presents a TLR guide based on Mezirow's theory to strengthen students' transformative learning within

SL projects. This framework enables a structured review across the four phases of TL theory, supporting both students and SL lecturers in reviewing transformative learning and identifying areas for further development. By guiding SL lecturers in reviewing transformative learning, it addresses a gap in SL literature. Importantly, the TLR guide also benefits communities by encouraging students to engage with them actively and build more sustainable relationships.

#### **8.4 Recommendations for policy and practice**

The contributions of this study have been discussed in the previous section. This section emphasises practical and policy implications. It is essential to specify the steps needed to implement policies and practices effectively. These steps could be planned at the start of the SL projects to support preparedness and alignment. Planning in this way can also surface the needs of SL lecturers, students, and community members, as well as clarify the institutional requirements necessary for integrating these strategies into the SL model.

Furthermore, policies of higher education institutions should promote the adoption of digital technologies. Consequently, the responsibility for promoting this lies with university management, this would include deans, department heads and administrative managers. The following are the recommended policies and practices necessary for the smooth implementation of the aforementioned:

- Institutional policies should be developed to facilitate the integration of AI into the LMS. These AI policies should incorporate the ethical principles governing the application of AI systems. In a similar way, digital communication tools such as Microsoft Sway and Microsoft OneNote, UDL principles, a TLR guide, and transdisciplinary projects assisted by an AI-chatbot could be supported by providing tailored guidelines for their integration and use. This would help to ensure that assessments, learning activities, and materials align with the different strategies integrated into the SL model.
- Training for ethical use and development of digital technologies (e.g., creating or adapting them responsibly), teaching practices, and inclusive learning strategies are necessary. This is further required to demonstrate how the TLR guide can be utilised to evaluate students' use of various technologies and learning methods in their SL projects. Such training can be done through online tutorials, workshops, or training manuals. In addition, training should be provided to SL lecturers on how to organise and guide mindful meditation during Mindfulness in SL sessions, which take place before the SL projects begin.

- Public higher education institutions should allocate resources and invest more in the kinds of technology that strengthen the integration of digital tools into SL models.

The above policies and practices should be supported and carefully planned to enable the effective implementation of the flexible SL model. Institutional readiness and stakeholder collaboration are also vital for the sustainable and impactful use of the strategies.

The next section discusses the limitations of this study and offers recommendations.

## **8.5 Study limitations**

This study was conducted during the COVID-19 pandemic, which presented many restrictions that affected both data collection and participant engagement. These limitations have, however, informed the direction of future research and are discussed below.

### **8.5.1 Participant sample size**

The COVID-19 pandemic imposed constraints on this study, leading to various logistical and methodological challenges. Securing student involvement in the semi-structured interviews and online survey, as well as participation from SL lecturers in the focus group interview, proved challenging. The suspension of in-person classes due to health and safety regulations exacerbated these difficulties. Other issues, such as problems with internet connectivity, resulted in the need to reschedule semi-structured interviews multiple times. Ultimately, despite numerous reminders, only seven students took part in the semi-structured interviews, seven SL lecturers participated in the focus group interview, and 37 students completed the online survey. This limited response rate is directly linked to the pandemic, which displaced many students and hindered their ability to maintain consistent communication. These conditions not only influenced the level of participation but also illustrated the broader disruptions caused by COVID-19, highlighting the complexities of conducting SL research during a global health crisis.

### **8.5.2 Lack of comparative studies**

Recent studies have shown the effectiveness of comparative analyses in educational settings, which offer valuable insights into various teaching methods (Rittle-Johnson & Star, 2011; Buckingham Shum et al., 2023). Given that the flexible model presented in this study has not yet been implemented, a limitation of this study is that it is not possible to compare this flexible model with the traditional SL model to gain a better understanding of its effectiveness and impact on both students and community members. Additionally, this limits the researcher's ability to draw conclusions on its added value or potential advantages compared to other SL models.

## **8.6 Considerations for future research and development**

Building on the above limitations, future studies should focus on the following areas to enhance and validate the flexibility of the SL Model.

### **8.6.1 Addressing participation challenges for future research**

Given the constraints on participant enrolment caused by the COVID-19 pandemic, it is advised that future research focuses on creating teaching methods that are resilient and adaptable to potential disruptions. Developing hybrid data collection approaches that integrate in-person, asynchronous, and live online methods could help address issues related to participant access, connectivity, and availability. Additionally, increasing the sample size by including multiple institutions or geographic areas could enhance the generalizability of the results. Future studies are also encouraged to consider longitudinal engagement with participants to monitor changes in perceptions or learning outcomes over time, especially as technological and institutional infrastructures evolve in the post-pandemic era.

### **8.6.2 Comparative studies**

It is recommended that the model be tested against traditional SL models. This comparison would enable feedback from students and the community, helping SL lecturers identify which areas of the model need refinement, as well as areas for further adaptation for improved student learning, engagement, and benefits to the community. Additionally, this approach will assist SL lecturers in addressing concerns about the flexible model and implementing necessary changes to enhance and determine its effectiveness in various higher educational contexts.

## **8.7 Researcher's role and reflections on the doctoral study**

The researcher's interest in pursuing a research study began in 2018, but this interest in the future of SL projects began in 2019 when the researcher noticed changes in students' attitudes towards their projects. From observing that student cohort, the researcher had the impression that their enthusiasm had dropped compared to that of students of previous years who had participated in SL projects. Therefore, the researcher decided to embark on a study to understand what had brought about these changes and gain insight into how the current SL model, which seemed to have lost its impetus, could regain it.

The current study was affected by the onset of the COVID-19 pandemic; and, while the researcher thought of postponing the data collection process, he chose not to, as there was uncertainty in the country about when educational institutions would resume on-site studies. This decision to continue with data collection ultimately benefited the research, as the

pandemic made the limitations of the current SL model more apparent. Prompted by the limitations imposed by the research context, the researcher developed data collection instruments that asked relevant questions pertinent to the study.

The initial motivation for this study was to understand changes in student behaviour towards SL projects. However, deeper insights gained into generational cohorts and SL models helped deepen the researcher's understanding of the limitations inherent in teaching methodologies for Gen Z students. Specifically, in SL pedagogy, the limitations of the traditional approach, which involves face-to-face, hands-on activities in communities, affected both students and communities, as SL projects worldwide were either suspended or cancelled during the COVID-19 pandemic. This led the study in a new direction, namely, to explore and develop a flexible model of SL that aligned with Gen Z students at this UoT and that could remain resilient during times of disruption.

The study affected the researchers' understanding of the wider context and the interconnectedness of learning, which became greatly evident during the COVID-19 pandemic. Students found it difficult to sustain their studies because they were isolated from their peers and communities and, to a certain extent, from their educational support systems. These absences emphasised the barriers to learning caused by a lack of technological resources, such as data, the Internet, and smart devices.

The research also suggests that students hold a multifaceted identity; they are not just learners, but also brothers, sisters, caregivers, and community members. This means that experiences outside the classroom affect their engagement and overall academic performance. This showcased that educational faculty need to understand the nuanced behaviour of their students to encourage an atmosphere of empathy and compassion in the classroom and the communities.

The above realisation also made the researcher aware of how learning can unite individuals and communities rather than create distance between them. It was meaningful to recognise that entering a classroom or working alongside students in the field fosters a sense of community. In these moments, service is already being provided through shared experience and learning together. This shifted the researcher's approach to supporting higher education students by listening carefully, being fully present, and participating wholeheartedly in the learning process. In this way, the researcher has learnt to connect with students and truly see them as the individuals they are, leading to the insight that educators and SL lecturers should understand and respect the roles of these students because they demonstrate that students have understandings that can contribute knowledge and experience to the learning

environment. Consequently, adapting pedagogies to better suit different generational cohorts will lead to more effective teaching and learning, as this study has underlined.

This study was conducted during the COVID-19 pandemic, which also helped shape the researchers' perspective on human resilience. Witnessing the resilience of students during this period was deeply moving. They found creative and innovative ways to continue their projects, often linking them directly to assisting other members of their communities. Through the students' SL experiences, it also became clear how communities found ways to support one another and share strength. This not only reinforced the value of SL but also revealed the capacity of students and communities to adapt, grow, and care deeply in times of crisis.

## **8.8 Concluding remarks**

This study began by recognising the limitations of existing models, which are often structured, generic and lecturer-centred, meaning that they are misaligned with the learning preferences of Gen Z students, as well as vulnerable to disruptions, as seen during the COVID-19 pandemic.

The aim of this research study, to develop a flexible model of SL for Gen Z students at this UoT, was successfully achieved. It was grounded in a pragmatic paradigm to address the primary research question through the creation of a comprehensive profile of a specific Gen Z student cohort. This, in turn, informed the development of a flexible SL model that aligned with their needs. This model incorporates AR and VR technologies, digital communication tools such as Microsoft Sway and OneNote, gamification strategies, the UDL approach, and transdisciplinary projects supported by an AI-chatbot, all of which are designed to encourage engaging, adaptive, relevant, effective and flexible learning experiences.

The study has showcased the ever-changing landscape of education, pointing out that, although the tools and principles currently align with Gen Z students, adaptations may be necessary for Generation Alpha as they transition into higher education. Subsequently, SL pedagogy should remain flexible and continuously adapt to the evolving needs of emerging generational cohorts. Educational institutions, educators, and SL lecturers are encouraged to cultivate an open and adaptable mindset that encourages flexibility and creativity. By integrating this approach into teaching and learning, educational practices can align with the expectations, needs, and learning styles of new student groups. This approach will help maintain relevance, deepen impact, and promote meaningful engagement in the future.

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## **Appendix B: Semi-Structured Interview Guide (1)**

### **Confirmation: born after 1994/participated in SL Background about the participant**

1. Tell me a bit about yourself.

Prompts: goals/ambitions for studying/character

2. What motivated you to study .....depending on the course?

3. How would you describe yourself?

Are your parents actively involved in your studies/ support you and your studies?

4. When did you get involved in service-learning?

Prompts: personal interest; hands-on-learning

5. What is your preferred learning style?

5. What communication methods do you use when communicating/contacting others?

6. What is your relationship with social media?

Prompts: time spent/ platforms/ devices/uses

7. What are important factors in creating new relationships such as working in groups, forming partnerships, or collaborating with others on academic projects?

Prompts: shared hobbies, shared culture, working together on projects

8. How do you feel about social issues that are prevalent in the community?

Prompts: the desire to do something, which social issues matter most, SLP

9. Participation in service-learning projects, how did you get involved? How did you participate? How did you feel about participating?

10. Do you think that participating in service-learning projects transformed you?

11. How did you learn during your service-learning project?

Prompt: reflection/ discussions/ questions

## Appendix C: Semi-Structured Interview Guide (2)

1. From your participation in the service-learning project, what have you learnt about yourself in general, from participating in the project?
2. How would you describe your learning/working style while you were or are still participating in the project?
3. What have you learnt in general about the other students working with you?
4. What have you learned about the other students' learning/working styles while you worked together on the project?
5. What have you learned about the community where you worked?
6. How did you generally experience working together with the other students in the project?
7. What do you think has been the best way for you to learn?
8. What do you think was the best way in which the other students learnt?
9. What would be the best way for students, in general, to work and learn in such a service-learning project?
10. What impact did or still does, the service-learning project have on you, in general?
11. Is service-learning as a form of experiential learning an effective learning tool for you? And why?
12. What would you say is the best approach to service-learning that will work best for you?
13. Imagine the ideal service-learning project for your generation Explain how this would be done in 2030.

## **Appendix D: Focus Group Interview Questions (Service-Learning Lecturers)**

1. What informed your thinking for the current design of the service-learning projects?
2. Tell me about the projects: how did you structure/design the projects, in terms of the projects' content, how it is to be performed, how often, how are the students grouped, etc?
3. What was your aim when you designed the projects: what must the students learn from it, and what must be the learning outcomes of the projects, as formulated in the various curriculum documents?
4. How do you ensure that the students do achieve those learning outcomes during the projects?
5. In what way do you think the students learn from their service-learning experience? Do they for instance reflect on what they are doing or how they learn, or do they discuss it among themselves, or do they change anything if they think so?
6. How do you know what they learn from the service-learning, apart from their assignments/test, do they tell you?
7. What are the students' attitudes towards the projects- do they like it, are they excited about it or not? How do you know?
8. How is the service-learning project formally assessed- do they hand in assignments, and what must be in the assignments? Is there is a marking rubric for the marking of the assignments, so they know what they are assessed on? And what do they learn from the marks that they receive- is there some follow-up or next action after the projects?
9. What are their perceptions on service-learning, do you know? And how do you know, do they tell you?
10. What would perceive as common characteristics of Generation Z?
11. In what way, do you think, do Generation Z students learn best?
12. Do you think they can learn in what way during the current service-learning projects as they are structured? Why do you say so?
13. In your opinion, would you structure these projects differently, in terms of its content and the learning outcomes?
14. How would you then structure the projects so that they can learn in a different way that they perhaps might like better or find more appealing?
15. Is anything in the current projects flexible- can you for instance adapt or change the student grouping, the content, or the context/environment, to structure the projects in the way you think would be best? In what way would you change it? Or would you perhaps want to redesign/restructure the projects?

## **Appendix E: Online Survey**

Dear Students

My name is Shah Singh, and I am a postgraduate researcher at the Cape Peninsula University of Technology (CPUT). The purpose of this survey is to learn more about the learning styles, perspectives, and trends of people who were born in 1995 or later (Generation Z), particularly as they relate to their experiences in higher education. It is necessary to have taken part in a service-learning project in order to complete this survey because it also seeks to learn more about students' service-learning experiences. It will take about 20 minutes to finish the survey. Your involvement is entirely voluntary. You have the option to withdraw from the study at any time. Please take the time to respond to all the questions: doing so could help you gain a new perspective on who you are.

The survey consists of three sections. Section 1 questions your views on social issues and motivations. Section 2 questions are based on learning styles, preferences, and characteristics and the 3rd section is about your experiences of service-learning. Please complete the survey only once.

You may contact Shah Singh if you have any inquiries, complaints, or issues concerning the survey. My mobile number is 0790801084 and my email address is shahsingh77@icloud.com

## GENERATION Z



1. 1. For which program of study are you currently registered? \*

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2. 2. Were you born after 1994 ? \*

*Mark only one oval.*

Yes

No

3. 3. Have you been involved in a service-learning project? If yes, which year (s) \*

4. How concerned are you about each of the following social issues? Please check the box that is most like you. \*

Mark only one oval per row.

	Not concerned	Slightly concerned	Somewhat concerned	Concerned	Very concerned
Student protests (fees must fall)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crime rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Political corruption	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not having a job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poverty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to getting healthcare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of higher education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not having enough money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerned about privacy on the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limitations on personal freedom. Not being able to freely express yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to affordable housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Racial equality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gender Equality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bullying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Healthy food production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental health issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water shortages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. What other social issues are you concerned about and why? \*

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6. What motivates you to study? Please check the box that is most like you. \*

*Check all that apply.*

	Does not motivate	Somewhat motivates	Greatly motivates
Tangible rewards (bursaries, awards, prizes, gifts, money)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Credit towards something (academic credit or completing requirements for something bigger)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experience to build your resume (CV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Opportunity for advancement (promotion, new opportunities)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding penalties (fines, loss of privileges)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public recognition (being known in public)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competition with others (to win)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making a difference for someone else	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal recognition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Achieving or maintaining status/credibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acceptance by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The need to be loyal to the values of one's community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learning something/ or being better at something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seeing the fruits of your labour/accomplishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wanting to do well because you took it on	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competition with self	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caring about the task or project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advocating for something in which you believe in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaving a legacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not wanting to let others down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Section 2

These questions are all about your characteristics, individual learning style and learning preferences.

7. 7. At each of the following personal views on life, please check the box that is most like you. \*

*Mark only one oval per row.*

	Disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Agree
<b>I am optimistic about my future</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I assume others will let me down</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe good things will happen for me</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe that people intend to be good</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I plan for the worst-case scenario</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. 8. How many hours do you spend on social media in the course of a day? \*

\_\_\_\_\_

9. 9. What device (s) do you use when accessing online platforms and social media sites? \*

\_\_\_\_\_

10. 10. Are your parents actively involved in your studies? \*

*Mark only one oval.*

- Yes  
 No  
 Maybe

## Section 2

These questions are all about your characteristics, individual learning style and learning preferences.

7. 7. At each of the following personal views on life, please check the box that is most like you. \*

*Mark only one oval per row.*

	Disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Agree
<b>I am optimistic about my future</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I assume others will let me down</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe good things will happen for me</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe that people intend to be good</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I plan for the worst-case scenario</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. 8. How many hours do you spend on social media in the course of a day? \*

\_\_\_\_\_

9. 9. What device (s) do you use when accessing online platforms and social media sites? \*

\_\_\_\_\_

10. 10. Are your parents actively involved in your studies? \*

*Mark only one oval.*

- Yes  
 No  
 Maybe

## Section 2

These questions are all about your characteristics, individual learning style and learning preferences.

7. 7. At each of the following personal views on life, please check the box that is most like you. \*

*Mark only one oval per row.*

	Disagree	Slightly disagree	Neither disagree nor agree	Slightly agree	Agree
<b>I am optimistic about my future</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I assume others will let me down</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe good things will happen for me</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I believe that people intend to be good</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>I plan for the worst-case scenario</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. 8. How many hours do you spend on social media in the course of a day? \*

\_\_\_\_\_

9. 9. What device (s) do you use when accessing online platforms and social media sites? \*

\_\_\_\_\_

10. 10. Are your parents actively involved in your studies? \*

*Mark only one oval.*

- Yes  
 No  
 Maybe

11. How do you learn best? Please check the box that is most like you. \*

Mark only one oval per row.

	Not effective	Somewhat effective	Greatly effective
<b>Linguistic: Enjoys reading and writing, word games, storytelling, learns from saying and hearing</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Logical/mathematical: Likes to explore patterns and relationships, likes experiments, asks questions, enjoys working with numbers, solving problems, finds common basic principles</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Spatial/visual: Works well with maps/charts/diagrams/visual aids, learns best by looking at pictures or watching videos</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Kinesthetic: Good at balance/coordination, enjoys learning through physical activities and hands on learning</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Intrapersonal: Aware of strengths, weaknesses and feelings, possesses independence and self-confidence, prefers working alone</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Interpersonal: "People persons" likes talking to people, engages in social activities, learns best by relating, sharing and participating in cooperative group environments</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Naturalist: In touch with nature, sense patterns, good at categorisation, learns best by studying natural phenomenon in natural setting and learning how things work</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Where do you learn best? For instance, do you enjoy learning sitting at a desk or listening to music. \*

\_\_\_\_\_

13. In what context do you learn best? For an example, learning with a group of enthusiastic students. \*

\_\_\_\_\_

14. How do you prefer to communicate with others? Please check the box that is most like you. \*

Mark only one oval per row.

	Do not like to use this method	Somewhat like to use this method	Like to use this method	Not using at all
<b>In-person communication</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Telephone call</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Email</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Text messaging</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Instant messaging (WhatsApp, Facebook, IM)</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. To what extent, do each of these personality characteristics describe you? At each characteristic, check the box that is most like you. Please do not check any of the boxes if the personality traits do not describe you \*

Check all that apply.

- Cautious
- Optimistic
- Responsible
- Compassionate
- Communicative
- Practical
- Collaborative
- Inspiring
- Visionary
- Loyal
- Confident
- Inclusive
- Organised
- Realistic
- Open-Minded
- Creative
- Cooperative
- Other: \_\_\_\_\_

### Section 3

The following questions are all related to service-learning. Service-learning is a form of "hands on" learning when students apply what they have learnt in the classroom to help with community needs.

16. 16. Do you use these learning styles while working with other students on service-learning projects? Please check the box that is most like you. \*

Mark only one oval per row.

	Never	Rarely	Sometimes	Often	Always
<b>Leading: (taking charge/initiative, setting the tone for the group, influencing others)</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Doing: (executing tasks, getting things done, following direction)</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Relating: (connecting with, including, and developing others)</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Thinking: (collecting, analysing, and synthesising information, planning, researching, asking "why"),</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. How frequently (often) do you use each of these learning styles when participating in service-learning projects? Please check the \* box that is most like you.

Mark only one oval per row.

	Never	Rarely	Sometimes	Often	Always
<b>Imagination:</b> Tends to watch to gather information, uses imagination to solve problems, prefers to look at things from different perspectives (views)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Logic:</b> Prefers a concise (short) and logical approach, requires clear explanation, likes to understand wide-ranging information and organise it in a clear logical format	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Practicality:</b> Uses learning to find solutions to practical issues, prefers technical tasks, makes decisions by finding solutions to questions and problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Experience:</b> "Hands-on" learning, relies on intuition, attracted to new challenges and experiences, prefers to take experimental approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. How frequently (often) do you use each of these learning styles when participating in service-learning projects? Please check the \* box that is most like you.

Mark only one oval per row.

	Never	Rarely	Sometimes	Often
<b>Imagination:</b> Tends to watch to gather information, uses imagination to solve problems, prefers to look at things from different perspectives (views)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Logic:</b> Prefers a concise (short) and logical approach, requires clear explanation, likes to understand wide-ranging information and organise it in a clear logical format	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Practicality:</b> Uses learning to find solutions to practical issues, prefers technical tasks, makes decisions by finding solutions to questions and problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Experience:</b> "Hands-on" learning, relies on intuition, attracted to new challenges and experiences, prefers to take experimental approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. What community issues do you care about? Please tick the box that best describes you. \*

*Check all that apply.*

	Do not care	Slightly care	Somewhat care	Care	Care a great deal
<b>Climate change</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Women's rights</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Healthy food</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Access to healthcare</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Good education</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Voting/ Politics</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Youth development</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Not getting a job</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Immigration</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Human trafficking</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Legalisation of Cannabis</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Racial equality</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Did communication with group members and community members help you learn during your service-learning project? if yes how? \*

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21. 21. Did reflection during and after your service-learning project help you learn? If yes how? \*

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22. 22. Did questioning with community members and group members help you learn? If yes how? \*

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23. 23. How do you think service-learning changed you? \*

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24. 24. What do you think would be the best form of service-learning? \*

*Mark only one oval.*

- Hybrid (face-to-face/online)
- Face-to-face
- Online

25. 25. Imagine the ideal service-learning project for your generation? Explain in your own words how this would be done in 2030. \*

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## Appendix F: Data Analysis Summary

### Student Interviews

Themed Category Code Subcode	Files	References
<b>Gen Z student characteristics</b>	7	89*
motivation	7	8
motivation for SL involvement	5	6
parental involvement in studies	7	7
parental supportiveness	2	2
personal life outlook	7	7
personality characteristics	7	13*
<i>compassionate</i>	4	5
<i>goal driven - hard working</i>	4	4
<i>naive</i>	1	1
<i>respectful - open minded</i>	1	1
<i>responsible</i>	2	2
social issues	7	33*
<i>community- social issues of interest</i>	7	22*
<i>child abuse</i>	1	2
<i>food security</i>	1	1
<i>freedom of religion</i>	1	1
<i>gangsterism</i>	1	1
<i>gender based violence</i>	3	3
<i>mental health</i>	2	3
<i>poverty</i>	2	2
<i>substance abuse</i>	3	4
<i>unemployment</i>	2	2
<i>youth and education</i>	3	3
motivation for interest in social issue	4	5
perceptions - feelings about social issues	6	6
student background and ambitions	7	13

\* Indicates an aggregated total

Themed Category Code and Subcode	Files	References
<b>Learning styles and preferences</b>	7	127*
communication methods and practices	7	33*
<i>daily time spent on social media</i>	6	6
<i>importance of technology</i>	3	3
<i>laptop and phone devices used most</i>	7	7
<i>most used platforms</i>	6	7
<i>online communications</i>	5	5
<i>relationship with social media</i>	5	5
format for best learning	7	23*
<i>best way to learn for SL project</i>	6	7
<i>face to face</i>	5	6
<i>hybrid</i>	2	3
<i>perception for other students</i>	7	7
ideal learning environment	7	13*
<i>at desk with music</i>	4	4
<i>face to face interaction</i>	5	7
<i>learning in a quiet environment</i>	1	2
important factors in creating relationships	7	12*
<i>common interests - similar mindset</i>	2	3
<i>communication and trust</i>	4	5
<i>open mindedness and respect</i>	3	4
learning style	6	13*
<i>a mix</i>	6	9
<i>real world learning</i>	1	2
<i>visual learning</i>	1	2
location for best learning	4	7*
<i>a mix</i>	2	2
<i>face to face</i>	4	5
observation vs hands on	6	11*
<i>both</i>	2	3
<i>hands on</i>	4	5
<i>observation first</i>	3	3
working alone or with others	7	15*
<i>a mix</i>	4	5
<i>depends on task</i>	3	4
<i>group work</i>	1	1
<i>in a pair</i>	1	1
<i>independent learning</i>	4	4

\* Indicates an aggregated total

Themed Category Code and <i>Subcode</i>	Files	References
<b>SL models</b>	7	12*
Ideal SL project 2030	7	12*
<i>bringing change through community awareness</i>	2	4
<i>bringing change through larger involvement</i>	1	3
<i>bringing change through more sustained involvement</i>	2	3
<i>using a hybrid approach</i>	1	1
<i>using a more flexible approach</i>	1	1

\* Indicates an aggregated total

Themed Category Code and <i>Subcode</i>	Files	References
<b>SL project experiences</b>	7	160*
assessing learning through SL	7	29*
<i>a mix</i>	3	3
<i>learning through communication- interactions</i>	7	9
<i>learning through questioning</i>	7	7
<i>learning through reflection</i>	7	10
best approach for SL	6	11
challenges	5	6
future direction of SL	2	2
impact of SL project	7	11
impact personal growth - transformation	6	9
improving effectiveness of SL	6	9
involvement with SL	7	27*
<i>becoming involved with SL</i>	7	13
<i>first SL project</i>	2	2
<i>prior SL projects</i>	3	4
<i>SL pre and post COVID</i>	5	8
learning about group members	6	13
learning about self through project	7	10
learning about SL community	7	8
learning inside classroom	1	1
learning outside the classroom	4	4
learning style during SL	7	11
SL as effective learning tool	7	9

\* Indicates an aggregated total

## Survey Responses

Question <i>Responses</i>	Files	References
3. Have you been involved in a service-learning project If yes, which year(s)?	1	38
<i>No</i>	1	8
<i>yes</i>	1	3
<i>yes 2014</i>	1	1
<i>yes 2021 2022</i>	1	2
<i>yes 2022</i>	1	19
<i>yes 2023</i>	1	1
<i>yes year 3</i>	1	4

Question <i>Responses</i>	Files	References
5. What other social issues are you concerned about and why?	1	37
<i>child welfare</i>	1	1
<i>education issues</i>	1	7
<i>employment issues</i>	1	2
<i>environmental issues</i>	1	5
<i>homelessness</i>	1	2
<i>immigration issues</i>	1	2
<i>LGBTQIA plus rights</i>	1	1
<i>media issues</i>	1	2
<i>mental health issues</i>	1	1
<i>none N-A</i>	1	7
<i>physical health and wellness issues</i>	1	2
<i>racism and discrimination</i>	1	4
<i>religion and faith issues</i>	1	1

Question <i>Responses</i>	Files	References
8. How many hours do you spend on social media in the course of a day?	1	37
<i>1 to 2 hours</i>	1	12
<i>3 to 4 hours</i>	1	10
<i>5 to 6 hours</i>	1	6
<i>7 to 9 hours</i>	1	2
<i>10 to 15 hours</i>	1	7

Question	Files	References
9. What device (s) do you use when accessing online platforms and social media sites?	1	36
<i>computer and phone</i>	1	15
<i>phone</i>	1	21

Question	Files	References
12. Where do you learn best?	1	38
<i>at a desk or bed without music</i>	1	2
<i>at a desk with music</i>	1	12
<i>at desk-workspace</i>	1	7
<i>at home</i>	1	1
<i>at home and library</i>	1	1
<i>in bedroom - on bed</i>	1	4
<i>listening to music</i>	1	7
<i>with privacy-isolation</i>	1	4

Question	Files	References
13. In what context do you learn best?	1	36
<i>group work with other engaged cooperative students</i>	1	4
<i>learning with friends</i>	1	2
<i>on my own</i>	1	21
<i>sometimes with others</i>	1	9

Question	Files	References
20. Did communication with group and community members help you learn?	1	37
<i>benefits from open communication and guidance</i>	1	2
<i>greater awareness of areas for self improvement</i>	1	3
<i>greater awareness of community and needs</i>	1	5
<i>new perspectives-opinions were gained</i>	1	11
<i>no</i>	1	9
<i>yes</i>	1	7

Question <i>Responses</i>	Files	References
21. Did reflection help you learn?	1	37
<i>awareness of areas for improvement</i>	1	14
<i>awareness of knowledge-skills gained</i>	1	6
<i>awareness of potential for application and impact</i>	1	4
<i>gained greater perspective of community or issues</i>	1	4
<i>no</i>	1	6
<i>yes</i>	1	3

Question <i>Responses</i>	Files	References
22. Did questioning with community and group members help you learn?	1	35
<i>gained fresh viewpoint-perspective</i>	1	7
<i>learned more about people served</i>	1	9
<i>no</i>	1	16
<i>yes</i>	1	3

Question <i>Responses</i>	Files	References
23. How do you think service-learning changed you?	1	37
<i>experienced personal growth</i>	1	7
<i>learned more about self and others</i>	1	11
<i>made me more aware of social issues-community needs</i>	1	6
<i>possess new skills and knowledge to help others</i>	1	13

Question <i>Responses</i>	Files	References
25. Imagine the ideal service-learning project for your generation Explain how this would be done in 2030.	1	30
<i>a focus on specific social issues</i>	1	12
<i>boosting of confidence and skill acquisition</i>	1	4
<i>centred in use of technology</i>	1	6
<i>hybrid learning for students</i>	1	5
<i>importance of face to face projects-interactions</i>	1	3

## Focus Group

Code and <i>Subcode</i>	Files	References
degree of learning within current SL structures	1	2
ensuring achievement of learning outcomes	1	3
Gen Z students	1	7*
<i>characteristics of Gen Z students</i>	1	4
<i>ways Gen Z learns best</i>	1	3
improving on structure or design	1	9*
<i>degree of flexibility in SL projects</i>	1	4
<i>modifying for Gen Z</i>	1	2
<i>structure or design improvement</i>	1	3
informing design of SL projects	1	4
informing structure and design of content	1	2
knowing how students are learning	1	2
knowing student attitudes towards projects	1	4
learning outcomes	1	3
SL formal assessment	1	3
student perceptions of SL	1	4
ways students learn from SL experience	1	3

\* Indicates an aggregated total

## Appendix G: Data Collection Permission



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Private Bag X8, Wellington, 7654  
Jan van Riebeeck Street, Wellington, 7654  
Tel: +27 21 864 5200

P.O. Box 652, Cape Town, 8000  
Highbury Road, Mowbray  
Tel: +27 21 680 1500

FACULTY OF EDUCATION  
Data collection permission

This letter serves to give S Singh permission to collect data for the study entitled *A flexible service-learning approach for Generation Z students at a university of technology* with the ethical clearance number: **EFEC 6-4/2021**. Permission is granted to conduct research within the Service Learning and Civic Engagement Unit only. This permission is valid until the 31<sup>st</sup> of December 2024.

Date: 14<sup>th</sup> of October 2021

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Dr Candice Livingston

Research coordinator (Wellington) and Chair of the Education Faculty Ethics committee  
Faculty of Education

## Appendix H: Permission to use the online survey

The screenshot shows an email interface with two messages. The top message is from Corey Seemiller, dated 31 July 2020 at 18:44. The subject is 'Re: Questionnaire' and the recipients are Shah Singh and Meghan Grace. The message content includes a greeting to Shah, a statement that the timing is not a problem and a PDF of questions is attached, and a sign-off. The PDF attachment is titled 'Gen Z Survey-revised 8-14.pdf'. Below the message is a link to 'See More from Shah Singh'. The bottom message is from Shah Singh, dated 01 August 2020 at 12:35. The subject is 'Re: Questionnaire' and the recipients are Corey Seemiller and Meghan Grace. The message content includes a greeting to Corey, a thank you note, a well-wish, and a sign-off.

**Corey Seemiller**  
Re: Questionnaire  
To: Shah Singh, Cc: Meghan Grace  
31 July 2020 at 18:44  
[Details](#)

Hi Shah,

Great! The timing is no problem. I have attached a PDF of the questions here. Best of luck with your research and looking to hear what you find!

Best,

Corey Seemiller, PhD  
[www.coreyseemiller.com](http://www.coreyseemiller.com)

**Gen Z Survey-revised 8-14.pdf**

[See More from Shah Singh](#)

Found in Sent - shahsalvation@gmail.com Mailbox

**Shah Singh**  
Re: Questionnaire  
To: Corey Seemiller, Cc: Meghan Grace  
01 August 2020 at 12:35  
[Details](#)

Hi Corey

Thank you. I really appreciate it. I will be in touch.

Stay safe and healthy!

Warm wishes,  
Shah

## Appendix I: Declaration of language editing

19 Bayside Village

Pintail Way

Somerset Ridge

Somerset West, 7130

Western Cape

30 September 2025

**To whom it may concern**

This is to certify that I, Dr Jennifer L. Wright, have proofread and edited the PhD thesis of Shah Singh. The thesis is titled,

**A FLEXIBLE SERVICE-LEARNING MODEL FOR GENERATION Z  
STUDENTS AT A UNIVERSITY OF TECHNOLOGY**



Jennifer L. Wright (Dr)

Academic Proofreader and Editor