Educational Research for Social Change (ERSC) Volume 15 No. 1 April 2026
pp.161-176 ersc@mandela.ac.za
ISSN: 2221-4070
DOI: https://doi.org/10.17159/2221-4070/2026/v15n1a10

Reimagining Service-Learning for Generation Z: A Flexible Model for Higher Education[1]

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Abstract

Service-learning (SL) is a recognised form of experiential learning, of which the benefits for students' academic and personal growth are well researched. However, traditional SL models were developed without intentional regard to generational cohorts, and the advent of COVID-19 highlighted the lack of flexibility within these models. In this article, we explore how an existing SL model at a South African university of technology (UoT) can be adapted to align with Generation Z (Gen Z) students' learning preferences and where SL could be pursued during times of disruption. Purposive sampling was conducted to generate data from 43 Gen Z students who had participated in SL projects, and from seven SL lecturers who coordinated SL projects at this UoT. Semi-structured interviews, a focus group interview, and an online survey were administered to collect data. The findings reveal a Gen Z cohort profile of students who use multiple modes for learning and who are intrinsically motivated, hardworking, determined, compassionate, and technologically connected yet still value face-to-face contact. Regarding students' SL experiences in relation to Mezirow's transformative learning (TL) theory, they reported interacting with all phases of critical reflection and elements of rational discourse; however, action was limited. The findings aided in integrating Gen Z's learning needs directly into a flexible SL model that coalesced TL theory with the identified emergent themes. Enhanced by six strategic implementations, the new flexible model was integrated into the existing SL model employed at the UoT via four interlinked phases: pre-planning, collaborative planning, strategic implementation, and collaborative evaluation and reflection. The flexible model allows for adaptation to students' diverse learning preferences, evolving community needs, and sustainability in times of uncertainty.

Keywords: generational theory, adaptable pedagogy, experiential learning, COVID-19, higher education

[1] Ethical clearance number: EFEC 6-4/2021

Introduction

Service-learning (SL) has long been positioned as a means of connecting higher education with communities, and integrating academic study with reciprocal service. Reciprocal SL refers to educational practices that link academic study with service in the community through relationships grounded in mutual benefit and reciprocity, from which the student and the community partner gain and, also contribute to the learning process (Bringle & Hatcher, 1996; Jacoby, 2015; Petersen & Osman, 2013).

However, the effectiveness of traditional SL models is being challenged by the emergence of Generation Z (Gen Z) students and events such as the COVID-19 pandemic. With an entire generation of students having grown up with digital technology, social media, and the constraints of the COVID-19 pandemic, their approach to learning is more diverse. Considering these contextual complexities, we raise an important pedagogical question: “How can a flexible SL model be developed that addresses Gen Z's learning preferences, characteristics, and SL experiences while remaining responsive to periods of disruption?”

In this article, we report on SL experiential pedagogy with Gen Z students attending a South African university of technology (UoT). SL has long been embedded in policy as part of South Africa’s approach to higher education. Following the introduction of South Africa’s first democratic policy on higher education in 1994, universities were encouraged to develop closer contact between universities and the community in ways that could contribute to nation-building and development (DoE, 1995; Petersen & Osman, 2013). Traditional models of SL have typically been implemented in ways that are both highly structured and dependent on in-person engagement (Laine, 2010). When COVID-19 struck, that rigidity became evident; SL programmes had to be cancelled or deferred (Pfeiffer et al., 2021; Tian & Noel, 2020), while reactive, virtual learning was adopted in the absence of planned adaptations (Grenier et al., 2020; Urias et al., 2024).

Compounding the above considerations was a shift in generations from Gen Y to Gen Z. Generational theory proposes that formative experiences within a given culture and time have a greater impact on a person’s core beliefs than geographic location or socio-economic standing in society (Codrington & Marshall, 2012; Strauss & Howe, 1991). This has important considerations for SL design because the present generation of university students, Gen Z, born between 1995 and 2010 (Seemiller & Grace, 2016), came of age during the rapid proliferation of technology (Alruthaya et al., 2021) and thus have embedded assumptions about technology and access. A gap exists in research on how SL models align with Gen Z learning preferences, particularly in the South African context, where this cohort remains underexplored in SL literature (Swanzen, 2018). In this article, we address that gap by constructing a Gen Z student profile and using it to inform the adaptation of an existing SL model at this UoT.

Background to the Study

In South Africa, SL was integrated into policy on higher education after 1994 to link curriculum and community to achieve national development objectives (Department of Education, 1997; Petersen & Osman, 2013). Petersen and Osman (2013, p. 7) stated that SL is "an educational experience that allows students to learn from active involvement in organised service activity that aims to meet communities' needs through reciprocity, collaboration and structured reflection" integrated with the academic curriculum. To this end, South African higher education institutions have developed a structured format to operationalise SL within the curriculum and community.

The Community Higher Education-Service Partnerships initiative established a tripartite partnership among universities, communities, and service providers (Mouton & Wildschut, 2005). Studies report that SL supports students' learning outcomes, strengthens civic engagement (Eyler, 2000; Osman & Castle, 2006; Rutti et al., 2016), and advances students' critical thinking, personal growth, and sense of social responsibility (Afzal & Hussain, 2020; Eyler & Giles, 1999).

In South Africa, Gen Z students are referred to as the "born frees" who were born into a post-apartheid world marked by economic instability, uncertainty, and protest (Langa, 2017). Studies show that not all

students within this cohort have been afforded the same access to digital tools as students in more developed countries, highlighting the importance of selecting accessible, low-barrier technologies that promote inclusive participation in SL projects (Kele & Mzileni, 2021; Swanzen, 2018). This points to intra-generational diversity within the Gen Z cohort at this UoT (Swanzen, 2018). Although generational theory provides a useful lens for identifying shared formative experiences, it has been criticised for flattening differences within cohorts and for treating generations as uniform groups (Rudolph et al., 2021).

In the South African context, these differences are shaped by socio-economic standing, geography, and schooling background, which produce uneven access to technology, stable internet connectivity, and digital exposure. In turn, the flexible SL model acknowledges this by allowing tools and strategies to be substituted or adapted according to context, so that SL projects continue where access is limited, and by drawing on universal design for learning (UDL) principles to accommodate varied resource allocations and learning preferences within the same cohort. Additionally, the challenges of the COVID-19 pandemic intensified the need for the UoT to adapt pedagogical practices, prompting it to assess the suitability of the current SL models.

SL models such as the 8-block model (Laine, 2010) and the preparation, action, reflection, and evaluation model (University of Maryland, 1998) emphasised this structured, hands-on approach to experiential learning. However, while these models are effective under stable conditions, their structural elements tend to limit the flexibility of SL models, specifically in contexts that require diverse means of engagement. However, the decisions were reactionary responses to the pandemic rather than SL implementations with flexibility embedded into their design. We position the article at this junction by integrating digital platforms into SL, supported by an institution, to enhance collaboration and sustain meaningful connections across in-person and remote learning contexts. Additionally, these platforms support continuity in community partnerships when direct contact is limited.

Because digital technology and smartphones became widely available before these students were born, Gen Z has never known life without the internet (Twenge, 2017). Studies have shown that Gen Z learners thrive with multimodal instruction and application of learning. This means that they draw on multiple ways of learning, such as visual, kinaesthetic, and hands-on forms of learning that allow students to see how their course content relates to real-world issues (Rothman, 2016; Seemiller & Grace, 2016). To this end, for example, UDL is a set of flexible principles that could guide educators in designing inclusive learning experiences. Instruction based on UDL incorporates multiple means of engaging with content, learning activities, and demonstrating knowledge, inclusive of varying learning preferences, learning abilities and disabilities, and resource limitations. This framework allows learners to access information and learning materials in a way that supports their strengths while allowing them to show what they know in a way that aligns with their preferred learning preferences (CAST, 2018). Within SL, UDL can be integrated into the design of learning activities so that students and community partners engage in projects using their strengths by accessing content and demonstrating their learning in ways that reflect their diverse learning preferences.

Research on Gen Z students shows that they prefer having a choice in when and how they learn, with technology as the main tool enabling that flexibility, providing instant feedback and real-world problem-solving (Barnes & Noble College, 2018; Means et al., 2009). Besides integrating technology into SL design, gamification has been used to boost ongoing engagement with learning activities. Gamification, or adding game elements into non-game contexts, has helped educators create a sense of continuity and visibility for students working on long-term projects. Elements included in coursework ranges from checkpoints, digital badges, and progress bars that enable students to monitor their progress (Deterding et al., 2011; Hamari et al., 2014). When preparing materials for Gen Z learners, gamification can help foster their need for achievement while satisfying their desire for social connection in learning environments (Seemiller & Grace, 2016). Gamification used in SL projects can help students feel a sense of progress and purpose, while also building community within their project teams.

Theoretical Framework

Philosophical Underpinnings of SL: Dewey's Experiential Learning

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. While Freire focused on political transformation through literacy and collective action, this study is more aligned with Dewey's framework. Considered by researchers to be a seminal figure in SL (Giles & Eyler, 1994; Hatcher & Erasmus, 2008), Dewey (1938) argued that education should be focused on preparing students to contribute meaningfully to a democratic society where individuals are treated equally, regardless of race, class, or gender. Dewey's work has impacted SL in five key areas: experience, democratic community, social service, reflective inquiry, and educational transformation (Saltmarsh, 1996).

Continuity and interaction are the central elements of Dewey's (Dewey, 1916, 1938) theory. Continuity means that previous experiences influence future experiences. In SL, students apply academic knowledge as well as knowledge from past experiences to their projects. This accumulated experience can deepen their participation while developing reflection and learning from new experiences. The principle of interaction connects students to the subject content and the service environment. Dewey emphasised that learning is not passive reception but the active creation of meaning through engagement with real-world experiences. Continuity and interaction create opportunities for transformation to occur through providing students with real-world contexts. Authentic contexts allow students to apply what they have learnt to real-world problems, and to reflect on their experiences while engaging in a reciprocal relationship in communities (Deans, 1999; Dewey, 1938; Hatcher & Bringle, 1997). Dewey's focus on democracy, critical reflection, and learning through doing provides a structured lens for understanding SL as a pedagogy. The development of the flexible SL model outlined in this article is supported by Dewey's principles through the endorsement of collaborative learning, critical thinking, and reflection. This alignment is suited for Gen Z students whose learning preferences tend to lean towards meaningful engagement, teamwork, and hands-on application (Seemiller & Grace, 2016; Thejovathi & Krishnan, 2020).

Grounded in Dewey's (1916, 1933, 1938) experiential framework, this study draws on Mezirow's (1990, 1991) transformative learning (TL) theory as the theoretical lens to explore how learning within SL produces perspective transformation. TL theory posits that individuals undergo perspective transformations in their beliefs, worldviews, and assumptions when they encounter disorienting dilemmas. TL does not overtly include experiential learning; however, transformation can be triggered by authentic, real-world experiences, which is a hallmark of SL. SL allows students to learn through real-world, hands-on experience in communities, allowing for transformation to occur. Thus, SL experiences have the potential to create conditions for deep intellectual and personal growth (Choi et al., 2023; Eyler & Giles, 1999), which foregrounds the alignment between SL and TL theory. For example, research participants experience growth in critical thinking skills, awareness of social issues, and problem-solving, which are outcomes that closely mirror the attributes of TL.

TL Theory

TL focuses on personal transformation, defined as changes in how individuals think about their beliefs, values, and worldview (Mezirow, 1991). Reflection allows individuals to trigger new points of view and prompts them to question their beliefs and assumptions (Mezirow, 1990). SL focuses on students reflecting on their experiences to find meaning in their learning. TL theory centres on the idea of personal growth; therefore, it serves as an appropriate lens for this article.

Mezirow (1991) described 10 phases of perspective transformation, which is a deep, critical reflection on established assumptions that can lead to a more inclusive and discriminating understanding of one's experiences. However, Kitchenham (2008) narrowed down Mezirow's 10 phases to four, namely (1) disorienting dilemmas, (2) reflecting, (3) rational discourse, and (4) acting on the new perspective. These four phases of SL serve as a lens to understand how students who participated in SL purportedly

transitioned through the stages of TL (Kitchenham, 2008). Beyond its analytical function, TL theory also informs the design of the flexible SL model presented in this article, particularly the transformative learning review (TLR) guide, which is structured around the four phases to recognise and scaffold TL during evaluation.

Research on TL is prolific (Cranton, 2016; Dirkx, 2012; Taylor, 2007). However, recent work by Hoggan (2020) and Hoggan and Higgins (2023) challenged TL as being considered one large theory. Instead, Hoggan and Higgins argued that TL should be reconceptualised as a metatheory, or umbrella term, that incorporates a variety of theories related to human transformation as it occurs through learning. This study draws specifically on Mezirow's (1991) theory of perspective of transformation as a lens to examine transformative shifts in Gen Z students participating in SL projects.

Methodology

The pragmatic paradigm served as the underpinning of the study. Pragmatism values practical inquiry and is flexible, focusing on what works while responding to real-world issues (Creswell & Creswell, 2018; Kaushik & Walsh, 2019). It was selected because we required both qualitative and quantitative methods to address a complex, real-world educational problem, and pragmatism supports the use of multiple methods without being bound to a single epistemological position (Kivunja & Kuyini, 2017; Morgan, 2007).

Qualitative and quantitative methods were combined to enable triangulation and corroboration of interpretation (Creswell & Garrett, 2008; Johnson & Onwuegbuzie, 2004). The study was conceptualised as an instrumental case study (Creswell & Poth, 2018; Stake, 1995), in which the case was used to explore the broader educational question: "How can a flexible SL model be developed that responds to the learning preferences and characteristics of Gen Z students?" The bounded system of this case (Creswell, 2007; Yin, 2003) comprised a specific group of Gen Z students drawn from various faculties at a single South African UoT defined by their generational cohort, their participation in SL projects, and the contextual disruptions of the COVID-19 pandemic. The case-study design was appropriate because we focused on understanding a real-life phenomenon within the institutional context (Yin, 2003).

The study site was selected for its established SL structures as reflected in its Vision 2030 plan (Cape Peninsula University of Technology, 2021). Research participants were drawn from SL projects recommended by the institutional Community Engagement Manager. Non-probability purposive sampling was used, with inclusion criteria comprising Gen Z students who had participated in SL within the previous two years and SL lecturers who had implemented SL projects with Gen Z students (Acharya et al., 2013; Ali, 2020). Snowball sampling supported student participant recruitment in the early stages of data collection, where low response rates were linked to COVID-19 restrictions (Noy, 2008). Data saturation was reached with 43 Gen Z students and seven SL lecturers.

Three instruments were used for data collection. Seven Gen Z students participated in the semi-structured interviews, of which five were conducted online via Microsoft Teams, and two were conducted face-to-face at the study site, as allowed by COVID-19 restrictions. With the interview questions, we explored learning preferences, characteristics, motivations to learn, and students' SL experiences. The semi-structured interview questions with their responses were audio-recorded and transcribed. The participants checked the transcriptions for accuracy (Bailie, 2020; Rabionet, 2011). Thirty-seven students, excluding the students who were interviewed, completed the online questionnaire, which was adapted from Seemiller and Grace's (2016) questionnaire using Google Forms. The survey questions included both open-ended and closed questions. Questions were piloted with nine students to determine the clarity of the questions before the questionnaire was forwarded to the survey participants (Kelley et al., 2003). Seven SL lecturers participated in an online focus group interview to share their observations on how Gen Z students approached learning and interacted with SL. The purpose of the study was shared with all the research participants. Participation was voluntary, responses were anonymous, and participants were informed of their right to withdraw at any time. Given the COVID-19 restrictions, consent was obtained

via email or verbally through MS Teams (Jardine & James, 2012). Ethics approval to conduct the study was obtained from the institution, and all ethics protocols were followed.

Thematic analysis was used to analyse the qualitative data generated from the semi-structured interviews and the focus group interview. Survey data were analysed separately using a descriptive coding approach. The thematic analysis followed Braun and Clarke's (2006) 6-phase framework, including familiarisation with the data, coding, searching for categories, reviewing themes, defining and naming themes, and writing up. In the analysis, we focused on semantic themes, staying close to how participants expressed themselves, while also attending to underlying meanings in their accounts of SL experiences and learning preferences.

For the analysis, we drew on inductive and deductive coding methods as presented by Fereday and Cochrane (2006) and Medelyan (2023). Deductive coding began with predefined codes aligned to the research questions, with key concepts of Gen Z learning preferences, characteristics, and SL experiences forming the initial coding framework. Inductive coding was also used, allowing new codes and themes to emerge from the data without being confined to the initial framework.

Transcripts from the semi-structured interviews and focus group were imported into NVivo 14 to support systematic coding (Dhakal, 2022; Zamawe, 2015). Following first-level coding, codes were exported to Microsoft Word for manual review. During this stage, codes were re-examined, interrelated patterns were identified, and codes with similar meanings were grouped. Colour coding was used to support visual clustering, for example, blue for learning approaches and green for SL experiences. These grouped codes were then again imported into NVivo 14, where codes with shared characteristics were clustered into categories, and themes were developed across categories. This process resulted in 24 codes from the semi-structured interview data, which were arranged into 13 categories and four themes.

The open-ended survey responses were analysed using descriptive coding. Responses were grouped by content similarity and assigned codes based on specific survey questions. These codes were then analysed for frequency to identify recurring patterns across the dataset. Closed-ended survey responses were exported and represented graphically as percentages to show the distribution of responses across items.

Findings and Discussion

From the findings, we created a profile of the Gen Z student cohort whose characteristics, learning preferences, and SL experiences informed the flexible SL model. The profile focuses on four interconnected dimensions: learning styles and preferences, personal characteristics and motivation, TL patterns, and students' visions for future SL engagement.

The Gen Z students in this cohort did not adhere to one learning style across SL and other learning contexts. Students used visual, kinaesthetic, linguistic, interpersonal, and intrapersonal strategies interchangeably depending on the activity and learning context. Interview data and survey responses reveal that learning styles were fluid and context-dependent. Interview Participant 2 captured this adaptability clearly by noting:

> I learn best by. . . a bit of everything, because I like to write the stuff down, make my own notes . . . so I can understand and visualise my notes, my understanding of the topic. I also like to practice . . . I am also hands-on.

Students noted that they preferred different learning environments as well. For example, certain students appreciated the physical classroom spaces to have direct access to peers and SL lecturers, while other students preferred to learn remotely to learn alone or in a hybrid format that allowed them more flexibility. These preferences appeared to depend on factors such as direct engagement and flexibility. These findings suggest that SL models relying on fixed modes of delivery may not fully support the learning preferences of Gen Z students. The data points suggest a preference for flexibility in how students engage

in SL projects. These findings informed the flexible SL model by including multiple ways of engagement, hybrid learning formats, and flexible reflective practices.

In the semi-structured interviews and the survey data, this cohort consistently described themselves as hardworking, determined, and compassionate. In the interviews, Participant 4 stated that "Once I put my mind to something, I want to complete it," while Participant 3 reflected that "I think I am a caring person, very giving, and understanding." Survey findings supported these self-descriptions, with most students identifying as responsible, loyal, open-minded, optimistic, communicative, compassionate, organised, creative, and practical. Focus group observations from SL lecturers aligned with this, noting that students were "self-sufficient," showed "patience and determination," and were invested in their work.

Students linked their academic engagement to personal growth, family upliftment, and helping others. Participant 2 explained: "What motivates me is just wanting more out of my life for myself, and for my family and also to do better." Most of the survey respondents preferred intrinsic motivators such as personal improvement, dedication, and self-satisfaction over recognition by others. The participants identified with intrinsic motivations and a sense of purpose, which may aid long-term involvement in SL.

WhatsApp was found to be the most used platform among participants in all three data sets. Students spent between four and eight hours daily on social media, most of which was spent on WhatsApp for academic and social interaction. Participant 5 noted: "WhatsApp for messages or phone calls and then Outlook email supplied to us by the university." Focus group observations confirmed that WhatsApp was actively used within SL projects, with one SL lecturer observing: "They would create groups on their own, WhatsApp groups . . . and they would share resources, and they would be assisting each other."

Despite high engagement with digital forms of communication, students reported face-to-face communication as one of their preferred methods of communication. Students seemed to appreciate digital connection but prioritised human connection when forming relationships and for learning. Therefore, purposeful digital in-person engagement informed the flexible SL model and its honouring of virtual and physical presence.

TL Patterns Within SL

TL theory was used as a lens to explore how students experienced learning within SL. The purpose was not to re-theorise TL but to identify which phases were evident in the data and how these patterns could be included in the flexible SL model. Students consistently described how they experienced deep personal reflection across interview and survey data. Participant 2 stated:

> 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, et cetera. 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.

Survey responses reinforced this pattern:

> 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.

These findings indicate that students engaged meaningfully in reflective processes, often re-evaluating prior assumptions about teaching, inequality, and their own roles. Reflection emerged as a clear strength of existing SL practice. The flexible model retains structured reflection as a central component, while formalising it through the TLR guide.

Rational Discourse as Dialogical Learning

Students also described learning through dialogue with peers and community members. Participant 4 reflected:

> Having to see the different perspectives and opinions and thinking about a certain topic where I just come with my assumptions, and then I would be able to see no, but it is not so, it's the other way around.

Survey data similarly show that dialogue shifted perspectives: "Yes, because I learned a lot from them [the community] . . . They helped me see things from a new perspective than I previously did."

Rational discourse functioned as a critical element of meaning-making within SL. The flexible model, therefore, intentionally incorporates structured opportunities for dialogue, including peer discussion, community collaboration, and guided debriefing, rather than treating communication as incidental to project completion.

Limited Evidence of Sustained Action

Reflection and dialogue were strongly evident, but fewer students were able to translate this to action arising from their transformed perspectives. More commonly, students described increased awareness, as one respondent noted: "I became more aware of my surroundings and the issues that other people in my community are facing." This gap between internal transformation and concrete action directly informed the development of the flexible model. The TLR guide was created to support progression from reflection and dialogue towards intentional action planning, making the action phase more explicit within SL design.

Students' Visions for Future SL Engagement

In this theme, we captured Gen Z students' vision of desirable SL in the future. Trends in students' aspirations and an understanding of how they shaped the flexible SL model were evident. Students frequently mentioned wanting to solve social issues on a larger scale to make an impact. Participant 5 defined SL as mobilising change:

> 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 move forward into making a difference, making a change.

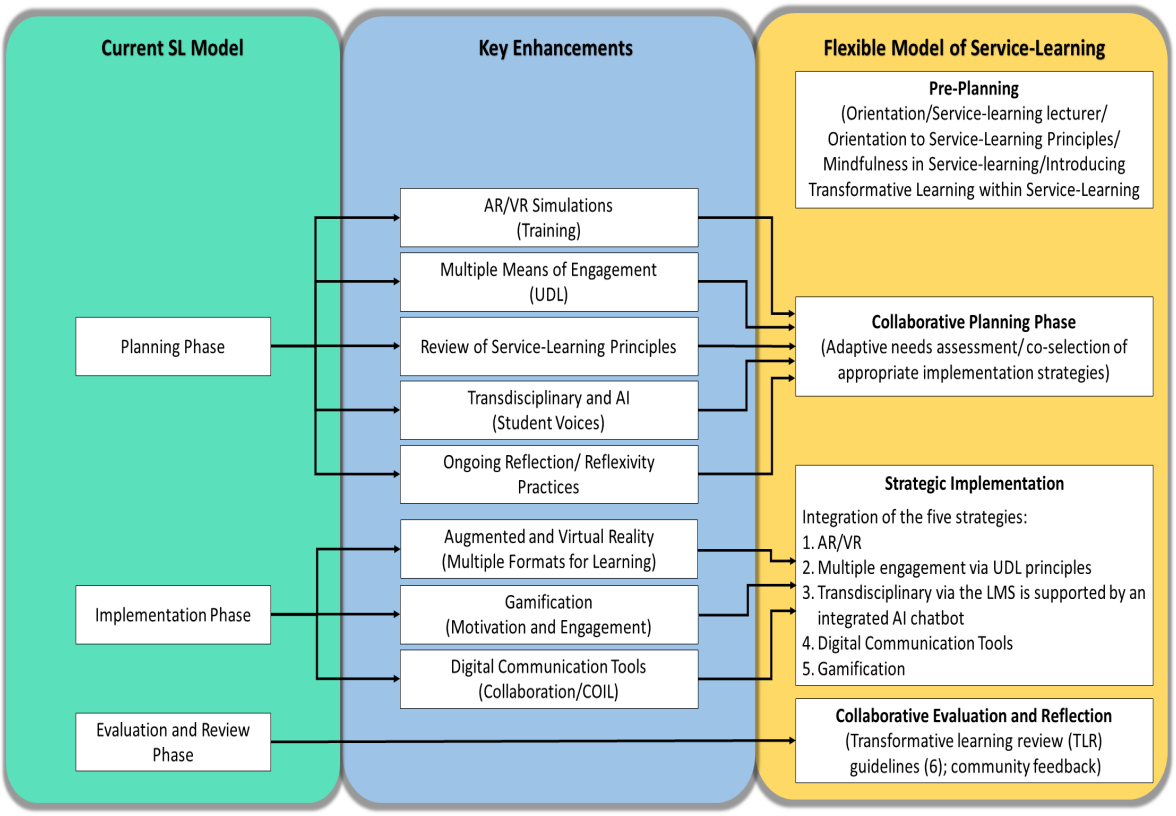
Survey responses reflected similar orientations, with students highlighting concerns ranging from illiteracy and poverty to environmental sustainability. These responses indicate that students recognised complex social and environmental challenges and wanted to contribute to long-term change rather than short-term volunteering. While individual references to reciprocal learning were present, students' framing positioned SL primarily as a vehicle for social intervention. This tendency toward unilateral interpretations of service, centred on what students could give rather than what communities and students could mutually exchange, revealed a gap in how reciprocity was understood. This tension between activist aspiration and reciprocal learning informed the conceptual direction of the flexible SL model.

A Flexible Model of SL

Drawing on the findings presented above, we present a flexible SL model designed for Gen Z students at a UoT (see Figure 1). The model emerged from patterns identified across the four dimensions of the student profile and is structured around four interlinked phases and six key implementation strategies that strengthen flexibility and alignment with Gen Z's learning preferences, characteristics, and SL experiences. Grounded in empirical data and informed by TL theory, the model provides a practical and adaptable approach for SL lecturers aiming to design meaningful and student-centred SL experiences for the current Gen Z cohort.

A Flexible SL Model for Gen Z Students (Adapted From the Institutional Model)

Figure 1



As seen in Figure 1, the flexible model is structured around four interlinked phases, with six enhancement strategies embedded across them: (1) multimodal engagement (AR/VR), (2) UDL, (3) transdisciplinary coordination through an AI-assisted SL hub, (4) LMS-based digital infrastructure, (5) gamification and sustained digital engagement, and (6), the TLR guide. Each strategy is positioned within the phase where it is most active, while remaining connected to the full cycle.

Phase 1: Pre-Planning Phase

The pre-planning phase was introduced because the findings show that Gen Z students entered SL projects with varied assumptions and limited familiarity with reciprocal SL principles. This phase is to orient students to three areas: the reciprocal foundations of SL, the digital tools that support project delivery, and the reflective and transformative expectations of SL engagement. This prepares students before co-designing begins and sets conditions for reflexivity identified as essential for transformative learning.

Phase 2: Collaborative Planning Phase

Phase 2 centres on co-designing the project. While SL lecturers provide an open-ended brief outlining educational purpose and ethical guidelines, the project itself is planned collaboratively with students and community partners. This reflects the finding that Gen Z students were most intrinsically motivated when they experienced ownership of the work. A flexible needs assessment drives project aims, strategy selection, and choice of digital tool. Community partners clarify project priorities and long-term goals to ensure that the project is community-ready before implementation begins.

Phase 3: Strategic Implementation Phase

Phase 3 is where the six enhancement strategies are most actively employed. They are not applied in a fixed order but are adapted to the demands of the project and the needs of students and community partners.

Multimodal Engagement and Flexible Participation

Gen Z students used visual, hands-on, interpersonal, intrapersonal, and linguistic approaches interchangeably depending on the task. For this reason, it is preferable that the SL design is not approached through one experiential pathway. At the experiential level, simulation tools such as augmented reality (AR), virtual reality (VR) or structured scenario activities can be introduced during planning to help students and community partners to envisage project contexts, identify assumptions, and anticipate challenges before going into the communities. At the participatory level, UDL principles allow multiple means of engagement or action and expression so that students and community partners may participate by applying their strengths. Combined, these two responses deepen access, reciprocity, and meaning-making reflective practice within SL.

Transdisciplinary Coordination

The findings show that Gen Z students wanted SL to be more purposeful and aligned with real-world social issues. The COVID-19 pandemic exposed weaknesses in coordination when working face-to-face in the communities. A flexible SL model, therefore, requires a digital coordination backbone that builds relevance, supports transdisciplinary work, and creates resilience during disruption. The digital coordination could be via a university-wide SL hub within the learner management system (LMS), where all institutional SL projects are made available to students across faculties. This may be facilitated by using platforms like Blackboard or Moodle. The use of an AI-assisted navigation tool would allow students to find projects based on their disciplinary background, social interests, and availability. However, placements would only be confirmed once SL lecturers have verified alignment with module criteria and ethical considerations. This addition to the flexible SL model encourages transdisciplinary collaboration by connecting students across faculties, and supports project continuity during disruption because coordination, documentation, and communication all take place in one digital space. Community partners set their own priorities and long-term goals during planning, keeping reciprocity and shared ownership at the core of the model.

Sustained Engagement

Gen Z students described motivation in terms of purpose, growth, and commitment rather than extrinsic rewards. Maintaining this intrinsic motivation throughout longer SL projects requires intentional structure and scaffolding. The flexible model includes milestone progression with a digital workspace. Gamification, in this context, does not refer to competition; instead, it means making the stages of SL more visible. Once a stage in the SL cycle is complete, students view their progress in a common workspace, and community partners can assess their position in the SL cycle. Institutionally supported digital tools, such as shared notebooks, message boards, and collaborative document repositories, allow students to learn synchronously or asynchronously, which allows SL projects to continue when face-to-face engagement is challenging. The continued rhythm of action, documentation, and reflection reinforces the transformative dimension of SL by allowing space for reflection to deepen rather than to remain episodic.

The implementation of all three strategies depends on institutional capacity, community access, and available technology. Where immersive or AI-assisted tools are not available, simpler alternatives such as scenario analysis, role-play, manual project matching, or physical milestone trackers can serve the same purpose: flexibility and accessibility taking precedence over specific platforms. The strategies are adaptable rather than static, selecting and scaling tools according to context while maintaining the core values of multimodal engagement, interdisciplinary collaboration, and sustained student motivation.

Phase 4: Collaborative Evaluation and Reflection

Phase 4 closes the model cycle but feeds back into pre-planning for the next cycle, reinforcing the iterative design of the model. Two components guide this phase: the TLR guide, and structured community involvement in evaluation.

TLR

The integration of the TLR guide into the flexible SL model relates to the finding that students not only engage in descriptive reflection but also engage in deeper premise reflection and rational dialogue. Both are indicative of Mezirow's (1990, 1991) conception of transformative learning. The TLR provides a structured, yet flexible guide created around four dimensions: disorienting experience, critical reflection, rational discourse, and evidence of action. Student reflections are analysed for indicators of transformative learning, including expressions of discomfort or challenged assumptions, evidence of shifts in beliefs and positionality, engagement in structured dialogue with peers and community partners, and action taken in response to these perspective changes. However, students might not reach the action stage within a single SL cycle—but the TLR provides emerging signs of civic growth. The TLR does not prescribe specific assessment formats such as portfolios, journals, multimedia reflections, or oral presentations because the focus is on depth of perspective change, not format. Community partners are encouraged to be actively involved in Phase 4, providing feedback on the appropriateness, respect, and sustainability of the project through debriefing or focus groups. This sustained engagement of all SL participants engenders shared responsibility for the success of the project and acknowledges the community as partners in the transformative process.

Conclusion

SL models developed without purposeful consideration of generational cohorts risk misalignment with the students they aim to serve. This issue was addressed by creating an empirically grounded profile of Gen Z students at a South African UoT, and using the profile to modify an existing SL model into one that is adaptable, digitally responsive, and pedagogically inclusive. The profile describes a cohort of students who use multiple modes for learning and who are intrinsically motivated, compassionate, and technologically connected, yet continue to value face-to-face interaction.

Existing SL literature in the South African context often discusses Gen Z in relation to the pandemic or technology adoption, broadly. This study offers a context-specific profile that could serve as a foundation for further research on Gen Z students in South African higher education given that this cohort remains underexplored in SL literature. The adaptable model does not replace in-person SL but enhances it by embedding six strategies across four phases that respond directly to the empirical profile. Augmented reality or VR, and UDL address multimodal learning preferences. Gamification and digital communication tools maintain motivation and ensure continuity during disruptions. Transdisciplinary coordination via the LMS increases real-world relevance and gives students a stronger voice in selecting projects with genuine community significance. A notable theoretical finding was that students demonstrated internal transformation, including growth in empathy, critical awareness, and perspective shifts, yet showed no evidence of acting on these changes during the SL projects. Although Mezirow (1991) acknowledged that action may not immediately follow perspective transformation, the lack of structured support for this transition is a shortcoming in current SL design. The TLR guide responds by operationalising Mezirow's four phases as observable, scaffolded measures rather than assuming that transformation will occur spontaneously.

We acknowledge certain limitations of the study alongside its contributions. The study was conducted at a single UoT during the COVID-19 pandemic, which influenced both the data collected and the model's design priorities. The sample was drawn from a single institutional context, restricting the extent to which

the Gen Z profile can be generalised to other settings. Future research should pilot and evaluate the model against traditional SL approaches to assess its relative effectiveness for students and community partners. Longitudinal studies tracking whether the TLR guide results in measurable changes in perspective transformation over time would strengthen its theoretical contribution. Extending the research on flexible SL models across higher education institutions would test the model's scalability as Generation Alpha transitions into higher education and SL pedagogy practices continue to evolve.

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