



An Analysis of Service-Learning Projects by Preservice Teachers at a Higher Education Institution in South Africa

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ABSTRACT

Service-learning (SL) as an extension of an academic course, in addition to providing tangible and meaningful service to the community, also connects to a course's curriculum and allows students to reflect. Therefore, the researchers considered it essential to analyse the nature of service-learning projects conducted by pre-service teachers. Using the experiential learning theory of David Kolb, this study examined pre-service teachers' experiences with SL projects in various KwaZulu-Natal communities in South Africa. Using a case study qualitative research design and collecting data through written reflective journals, project reports, and course outlines, the research sought to prove that by presenting students with real-world situations and structuring a curriculum around social and civic issues, SL contexts provide students with a challenging situation comparable to what Dewey termed forked-road dilemmas. The study's findings imply that the relationship factors between higher education institutions and communities should be analysed in depth and will likely influence the planning of service-learning programs. The study recommends that future research be expanded to include SL as it is practised in other South African institutions, as well as other factors, such as students' expectations and frustrations, that could play a significant role in the implementation of the SL program.

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INTRODUCTION

Service learning (SL) is one form of experiential learning.¹ Service learning, which is a reasonable state that was founded on John Dewey's philosophy of experiential education, is particularly based on the idea of learning from experience and linking the school to the community.² Service learning combines the concepts of action (service) and efforts to learn by tying new information to previously acquired knowledge (learning). The practice of SL affords students and young adults an effective way to explore and serve the world around them, learning about the

¹ Meral Demirören and Bürge Atılgan, "Impacts of Service Learning-Based Social Responsibility Training on Medical Students," *Advances in Physiology Education* 47, no. 2 (June 1, 2023): 166–74, <https://doi.org/10.1152/advan.00049.2022>.

² J. Dewey, *Democracy and Education*, Simon & Brown Ed (Milton Keynes: : Lightning Source UK Ltd, 2011); Julie A Hatcher and Mabel A Erasmus, "Service-Learning in the United States and South Africa: A Comparative Analysis Informed by John Dewey and Julius Nyerere," 2008.

world and making more informed decisions about their future.³ Similarly, SL college programmes are made up of interactive and effective projects like helping in community agencies, taking part in environmental projects, tutoring children and adolescents within a particular community, mentoring young adults, and providing services to at-risk families.⁴ It is important to note that service-learning projects require students to integrate community service projects into their traditional learning.⁵

The study seeks to find out the need to explore service-learning projects undertaken by pre-service teachers at a tertiary institution in South Africa. SL is a teaching and learning approach that integrates academic study and reflection into community service, therefore raising critical questions regarding service-learning methodology and research rigour.⁶ For a decade, service-learning research studies have adopted quantitative design and used course evaluations that were designed for research purposes.⁷ Although quantitative research studies on service learning have improved understanding of positive SL results by adopting surveys, scales, GPA measures, and questionnaires, qualitative investigations of SL projects have been neglected for so long.⁸ Certainly, SL quantitative research project results are well documented in the literature and many contexts, but gaps still exist that suggest a need for qualitative research studies on students' service-learning project experiences. This present study is a qualitative analysis of purposefully selected students' written reflective and project reports of a service-learning project in a Biology for Educators module. The study employs an interpretive paradigm to analyse pre-service teachers' SL project experiences. using reflection diaries, project reports, and module outlines. Further, the projects provided students with knowledge and skills to gain opportunities.⁹

The existing studies on service learning have revealed that most of the research studies are intended to explore service learning as a pedagogy. SL as pedagogy, refers merely to the curriculum. Examining SL from pedagogical perspectives as part of the curriculum is actually against the theory of SL itself because it does not provide learners with real-life experience during SL activities.

Therefore, research studies of this nature invite SL researchers to conduct development and validation studies that aim to integrate students' learning with a commitment to solving problems in collaboration with communities. For example, after the pivotal works of some scholars.¹⁰ As an approach to teaching and learning that integrates academic study and reflection into community service intending to strengthen communities, SL enriches learning experiences and imparts in students a sense of civic responsibility.¹¹ Whilst earlier studies have probed insightful findings on the distinction between service learning and experiential education, this research did not explore the use of SL pedagogy in the teaching of biology modules.

This study's findings will contribute to the growing popularity of SL in higher education and strengthen the community-university relationship. The study begins with defining service learning, the nature of service learning, and a discussion of pre-service teachers' experiences. In addition, the study's conceptual framework and methodology are discussed. The paper presents and discusses the study's findings before offering concluding remarks and suggestions for future research. The questions that underlie the study are:

- a. What is the nature of the service-learning projects undertaken by pre-service teachers?
- b. What experiences do pre-service teachers gain through participation in service-learning projects?

LITERATURE REVIEW

This section examines relevant literature on service-learning programs, service-learning policies, and the implementation of service-learning programs in higher institutions.

³ Paula Gardner, "Contemplative Pedagogy: Fostering Transformative Learning in a Critical Service Learning Course," *Journal of Experiential Education* 44, no. 2 (2021): 152–66.

⁴ Oscar Chiva-Bartoll and Javier Fernández-Rio, "Advocating for Service-Learning as a Pedagogical Model in Physical Education: Towards an Activist and Transformative Approach," *Physical Education and Sport Pedagogy* 27, no. 5 (2022): 545–58.

⁵ Michelle A Veyvoda and Thomas J Van Cleave, "Re-Imagining Community-Engaged Learning: Service-Learning in Communication Sciences and Disorders Courses during and after COVID-19," *Perspectives of the ASHA Special Interest Groups* 5, no. 6 (2020): 1542–51.

⁶ Veyvoda and Van Cleave, "Re-Imagining Community-Engaged Learning: Service-Learning in Communication Sciences and Disorders Courses during and after COVID-19."

⁷ Kathryn S. Steinberg, Robert G. Bringle, and Matthew J. Williams, *Service Learning Research Primer* (Scotts Valley, CA: National Service-Learning Clearinghouse, 2009), <https://scholarworks.iupui.edu/server/api/core/bitstreams/8ea29456-9265-4590-80d6-612be3afa3e8/content>.

⁸ Paula Gerstenblatt, *Academic Service Learning Pedagogy in Social Work: Exploration of Student and Community Lived Experiences Using an Interdisciplinary Course Model of Community-University Engagement* (The University of Texas at Austin, 2013).

⁹ Jaime Winans-Solis, "Reclaiming Power and Identity: Marginalized Students' Experiences of Service-Learning," *Equity & Excellence in Education* 47, no. 4 (2014): 604–21.

¹⁰ Clayton Whittle et al., "Emergency Remote Teaching Environment: A Conceptual Framework for Responsive Online Teaching in Crises," *Information and Learning Sciences* 121, no. 5/6 (2020): 311–19; Ana L Oliveira, Catherine H Smith, and Neena A Xavier, "Service-Learning in Physician Assistant Education: A Scoping Review," *The Journal of Physician Assistant Education* 34, no. 1 (2023): 41–45.

¹¹ Tania D Mitchell, David M Donahue, and Courtney Young-Law, "Service Learning as a Pedagogy of Whiteness," *Equity & Excellence in Education* 45, no. 4 (2012): 612–29.

Previous research studies on service learning (SL)

Previously available studies on SL commonly consider SL a non-dynamic phenomenon. Many educational researchers attempted to investigate SL's effectiveness through experiments, correlation, instrument development, and surveys within pedagogical contexts. Those studies cannot explain the dynamic aspect of SL learning in real communities. For example, from 2008 to 2022, research about service learning in education is still investigating SL as a pedagogical approach, using surveys, scales, grade point average (GPA) measures, and questionnaires.¹²

Also, service-learning programmes are being implemented mostly by medical schools, and medical students, to mostly serve poor individuals and vulnerable people.¹³ For instance, a study conducted in the United States of America by the medical science department reveals that working with destitute families through service learning provides students with an eye-opening experience.¹⁴ A similar study examines the comparative effects of service learning and community service on the cognitive and affective development of college undergraduates and concludes that service-learning participation appears to have the greatest influence on the student's decision to pursue a career in a service-related field.¹⁵ There is the fear that if not properly handled, service learning will be regarded as a medical school or medical student's programme or a luxury available only to the privileged few, and research approaches within SL might also come to be viewed as only quantitative.¹⁶ This possibility becomes more likely given the number of published papers in internationally recognized journals; these peer-reviewed papers are mostly quantitative and mostly from the field of medical sciences.¹⁷ That said, there is a need to examine service learning from the qualitative perspective of real-life situations. Hence, analysing service-learning projects undertaken by pre-service teachers is very important.

The Nature of Service-Learning Projects

In 2001, the Carnegie Foundation defined community engagement as the collaboration between higher education institutions (HEIs) and their larger surrounding communities for the sole purpose of promoting reciprocity through the exchange of mutually beneficial knowledge and resources. The Carnegie Foundation defined community engagement as a partnership between higher education institutions (HEIs) and their larger surrounding communities with the sole purpose of fostering reciprocity through the flow of knowledge and resources that benefit both parties. Reflective activities that link the service experience to learning objectives, are led, occur regularly, and allow assessment and feedback are used to develop the educational results of SL. SL praxis is regularly observed to include the following features, which provide the foundation for the themes used in this study's data analysis. This is true despite the variety of definitions, perspectives, and applications. It is associated with study or academic credit and is meant to motivate people to take on difficult and ethical tasks for the good of all.¹⁸ Reflection gives students enough time to think critically and organise their thoughts about their entire stay in Second Life.

Reciprocity: It clearly states the goals of service and learning for each participant and calls for reciprocity between those who serve and those who learn.

Relationship: Through a process that takes into account shifting situations, it matches service providers and service requirements and enables individuals in need to specify their needs.¹⁹ However, during SL deployment, these qualities can arise simultaneously; they are not required to do so in a certain order.

¹² Chiva-Bartoll and Fernández-Rio, "Advocating for Service-Learning as a Pedagogical Model in Physical Education: Towards an Activist and Transformative Approach"; Anne Seifert and Sandra Zentner, "Service-Learning-Lernen Durch Engagement: Methode, Qualität, Beispiele Und Ausgewählte Schwerpunkte. Eine Publikation Des Netzwerks Lernen Durch Engagement," *Weinheim: Freudenberg Stiftung*. [Http://Buendnis.Augsburg.de/Fileadmin/Buendnis-Aug/Dat/2_projekte/Tu_was/3Pub_Wissen_LdE.Pdf](http://Buendnis.Augsburg.de/Fileadmin/Buendnis-Aug/Dat/2_projekte/Tu_was/3Pub_Wissen_LdE.Pdf). Zugegriffen Am 27 (2010): 2019; Ira Harkavy and Matthew Hartley, "Pursuing Franklin's Dream: Philosophical and Historical Roots of Service-Learning," *American Journal of Community Psychology* 46 (2010): 418–27; Sandra Zentner, "Lernendurch Engagement: Service-Learning in German Schools. A Promising Way to Get Youth Involved in Active Learning and in Civic Engagement," *Publication of the Network „Lernen Durch Engagement“*. Weinheim, 2011; R. G. Bringle, J. A. Hatcher, and S. G. Jones, *International Service Learning: Conceptual Frameworks and Research*, vol. 1 (Stylus Publishing, LLC, 2012); Winans-Solis, "Reclaiming Power and Identity: Marginalized Students' Experiences of Service-Learning."

¹³ Chiva-Bartoll and Fernández-Rio, "Advocating for Service-Learning as a Pedagogical Model in Physical Education: Towards an Activist and Transformative Approach"; Mitchell, Donahue, and Young-Law, "Service Learning as a Pedagogy of Whiteness."

¹⁴ Oliveira, Smith, and Xavier, "Service-Learning in Physician Assistant Education: A Scoping Review."

¹⁵ Mohamed Ali Nagy Elmaadaway and Yousri Attia Mohamed Abouelenein, "In-Service Teachers' TPACK Development through an Adaptive e-Learning Environment (ALE)," *Education and Information Technologies* 28, no. 7 (July 20, 2023): 8273–98, <https://doi.org/10.1007/s10639-022-11477-8>.

¹⁶ Chiva-Bartoll and Fernández-Rio, "Advocating for Service-Learning as a Pedagogical Model in Physical Education: Towards an Activist and Transformative Approach."

¹⁷ Alexandre Sotelino-Losada et al., "Service-Learning in Europe. Dimensions and Understanding from Academic Publication," in *Frontiers in Education*, vol. 6 (Frontiers Media SA, 2021), 604825.

¹⁸ Demirören and Atılğan, "Impacts of Service Learning-Based Social Responsibility Training on Medical Students."

¹⁹ Demirören and Atılğan, "Impacts of Service Learning-Based Social Responsibility Training on Medical Students"; Bringle, Hatcher, and Jones, *International Service Learning: Conceptual Frameworks and Research*.

According to the following perspectives, the South African National and Community Service Act of 1990 gave meaning to community service, which in contemporary times could be connected to SL. Students learn and develop through participation in organised experiences that meet actual community needs and are coordinated in collaboration with the school and community; in other words, not only the server or in this case, the student teachers, should benefit from the service. This suggests that the preservice teachers leading the research-based SL project should have empathy for and respect for the worldview, way of life, and circumstances of the community they are working with. 'Community' in the context of Second Life refers to the particular, regional, collective interest groups that take part in the organisation's SL operations. The most crucial factor is that the traits balance one another to give students the chance to advance their academic, social, personal, and civic abilities whilst giving the neighbourhood the chance to gain from young people who assist in problem-solving.²⁰ Therefore, it is crucial to examine the service-learning projects carried out by pre-service teachers in South Africa.

Pre-Service Teacher's Experiences with SL Projects

The research institution's SL projects are designed to improve SL's standing as a field of study. According to some, service learning offers a way to connect the theoretical and practical, making it an effective pedagogical strategy. Fostering a lifelong habit of civic involvement and community service, as well as having a favourable effect on students' interpersonal skill development, are two goals of integrating service into academic study. By reflecting on their experiential learning with community partners, students participate in SL programmes and acquire critical thinking and social awareness.²¹ Reflection acts as a bridge between experience and learning in SL projects, which are a singular combination of learning and hands-on experience.²² Through service that benefits both the students and the recipients of the service, students are obliged to work in a community that influences the skills, didactics, and attitude components of their education.²³

SL projects must be envisioned as a full experience closely connected to a particular course since they enable students to get active in addressing community problems through partnerships between the academic institution and the community. Because of the experiences they obtain whilst working on a project, students' learning is expanded outside of the classroom and into the community.²⁴ The pedagogical paradigm for the SL course in this research also involves a university-community partnership, and the SL projects are conceptualised over a semester in order to retain linkages with the communities as pre-service teachers work in the areas. The module's content also contained reflection, and discussions and activities in the classroom helped students understand the significance of many of the executed SL initiatives.²⁵ Having said that, in terms of pre-teacher experiences, service learning enables students to be good global citizens when done well. By implementing reflection's best practices, teachers can encourage their students to think critically about the world and how their contributions can advance social goals. Service learning is congruent with theories of experiential learning's impact on student learning, according to studies from a different field.²⁶

As a result, an effort to understand the impact on students has dominated SL research. According to studies, students who have participated in SL initiatives have had various experiences.²⁷ SL participants' perspectives have been enlightened by the students' service-learning experiences.²⁸ After participating in service learning, students become more culturally aware and more responsible, according to studies.²⁹ Importantly, studies reveal that service-learning initiatives increase students' cultural sensitivity.³⁰ This form of education allows students to comprehend the complexities of poverty and homelessness. Furthermore, it is believed that service learning has the capability of

²⁰ Zentner, "Lernendurch Engagement: Service-Learning in German Schools. A Promising Way to Get Youth Involved in Active Learning and in Civic Engagement."

²¹ Gerstenblatt, *Academic Service Learning Pedagogy in Social Work: Exploration of Student and Community Lived Experiences Using an Interdisciplinary Course Model of Community-University Engagement*; Robert G Bringle and Julie A Hatcher, "Civic Engagement and Service Learning: Implications for Higher Education in America and South Africa," *Education as Change* 11, no. 3 (2007): 79–89.

²² Winans-Solis, "Reclaiming Power and Identity: Marginalized Students' Experiences of Service-Learning."

²³ Winans-Solis, "Reclaiming Power and Identity: Marginalized Students' Experiences of Service-Learning."

²⁴ Bringle and Hatcher, "Civic Engagement and Service Learning: Implications for Higher Education in America and South Africa."

²⁵ Ryan Meili, Daniel Fuller, and Jessica Lydiate, "Teaching Social Accountability by Making the Links: Qualitative Evaluation of Student Experiences in a Service-Learning Project," *Medical Teacher* 33, no. 8 (2011): 659–66; Janet M Brown and Nola A Schmidt, "Service–Learning in Undergraduate Nursing Education: Where Is the Reflection?," *Journal of Professional Nursing* 32, no. 1 (2016): 48–53.

²⁶ Dewey, *Democracy and Education*.

²⁷ Cynthia Anderson Elverson and Ruth Klawiter, "Using Guided Reflection to Link Cultural and Service Learning in a Study Abroad Course," *Journal of Professional Nursing* 35, no. 3 (May 2019): 181–86, <https://doi.org/10.1016/j.profnurs.2018.11.004>; Brown and Schmidt, "Service–Learning in Undergraduate Nursing Education: Where Is the Reflection?"

²⁸ Brown and Schmidt, "Service–Learning in Undergraduate Nursing Education: Where Is the Reflection?"

²⁹ Oliveira, Smith, and Xavier, "Service-Learning in Physician Assistant Education: A Scoping Review."

³⁰ Elverson and Klawiter, "Using Guided Reflection to Link Cultural and Service Learning in a Study Abroad Course."

empowering students.³¹ Therefore, analysing service-learning initiatives undertaken by preservice teachers is essential.

THEORETICAL FRAMEWORK

The experiential learning theory was used in this study to understand the nature of pre-service teachers' service-learning tasks. Elverson and Klawiter maintained that experience is what guides decisive action and is the fundamental factor in all learning.³² This means that learning builds on and flows from experience. The theoretical and pedagogical foundations of SL can be traced back to Dewey's theory of experience and education, which includes his concepts of learning from experience and school-community integration. According to Kolb's cycle, adults learn differently than children because the majority of adult learning occurs in natural settings rather than formal settings or institutions. The experiential learning theory is based on the fundamental assumption that students are engaged in more than just listening³³ for students to make meaning of information, reflection is required.³⁴ Therefore, the experiential learning theory is deemed the most applicable for analysing preservice teachers' service-learning initiatives.

METHODOLOGY

This study aims to analyse service-learning projects undertaken by pre-service teachers at a tertiary institution. The study applied a case study design to generate the dynamic nature of the service-learning project. A case study aimed to illustrate the uniqueness of a bounded system over time.³⁵ This case study refers to an intrinsic category since the core analysis is situated on the exploration of its participants' experiences and context in a particular teaching programme. In this case, the uniqueness of the case was characterised by the complex features of service-learning projects. The case in this study is the SL project that was performed as part of an SL module at an educational institution.

Participants and Setting

The participants were fourteen university student teachers in their fourth year who implemented the SL initiative as a requirement for the Biology 420 module. The different projects were conducted within and around KwaZulu-Natal province. The projects were carried out at different sites; for instance, some projects were conducted at youth and community centres, old-age homes, and education centres in the province of KwaZulu-Natal, South Africa.

Data Collection Procedure

Data generation involves the gathering of documents, and in the case of qualitative research, it entails the use of different techniques and methods, which include documents and diaries.³⁶ The study generated data from three sources, which are reflection diaries, project reports, and module outlines, to understand the pre-service teachers' experiences whilst implementing the SL project. According to Creswell, documents provide valuable data sources that help researchers comprehend phenomena centred on qualitative research.³⁷ All data documents, which include the pre-service teachers' SL project reports, their reflection diaries, and the Biology 420 module outline, were analysed to obtain insight into the implementation of the SL projects and the participants' experiences. The sample for the study consisted of fourteen project reports, fourteen reflection diaries, and a course outline.

Data Analysis

Document analysis was used to examine the qualitative data. Document analysis is the study of documents with the intent of comprehending their content or elucidating their deeper significance.³⁸ According to Creswell, documents provide valuable data sources that help researchers comprehend phenomena centred on qualitative research.³⁹ In this study, all data documents, including the pre-service teachers' SL project reports, their reflection diaries, and the SL module outline, were analysed using the framework's themes to obtain insight into the implementation of the

³¹ S. B. Gelmon, B. A. Holland, and A. Spring, *Assessing Service-Learning and Civic Engagement: Principles and Techniques* (Campus Compact, 2018).

³² Elverson and Klawiter, "Using Guided Reflection to Link Cultural and Service Learning in a Study Abroad Course."

³³ Mitchell, Donahue, and Young-Law, "Service Learning as a Pedagogy of Whiteness."

³⁴ Brown and Schmidt, "Service-Learning in Undergraduate Nursing Education: Where Is the Reflection?"

³⁵ J.W. Creswell, *Research Design*, 3rd ed. (United States of America: SAGE Publications, Inc., 2009); Robert K Yin, "Case Study Research and Applications Design and Methods," 2018.

³⁶ L. Cohen, L. Manion, and K. Morrison, *Research Methods in Education*, 7th ed. (New York: Routledge, 2011).

³⁷ John W Creswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (Pearson Education, Inc, 2012).

³⁸ J Ritchie and J Lewis, *The Applications of Qualitative Methods to Social Research* (London, 2003).

³⁹ Creswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*.

SL projects. The data from each document source (project report, reflection journals, module outline) validates the data from other documents.

The coding process for the categories was hugely rooted in the pre-service teachers' views of what was considered important; hence, it was repeated in several sections of either the project reports or reflection diaries. The process of coding was also guided by the literature that was reviewed on the concept of SL. The data generated from this research was deductively analysed using the following themes pre-decided by the framework: structure, reciprocity, relationship, reflection, and sustainability.

PRESENTATION OF FINDINGS

As previously mentioned, the experiential learning theory helped pre-service teachers understand the nature of their service-learning project. The theory is built around education and experience, which involve connecting the classroom to the outside world and learning from one's own mistakes. Experience is the primary factor in all learning; learning develops upon and originates from experience, and learning can only take place if the student's experience is engaged, at least in part. The findings of the research are presented in this section.

What kind of SL projects have the aspiring instructors been working on?

What SL projects did the pre-service teachers complete? This was broken into two mini-probing questions in order to elicit a more thorough response. The SL projects: how were they carried out?

What SL projects did the pre-service teachers undertake?

The pre-service teachers' service-learning projects that were chosen for this study consist of a variety of tasks. The table below provides a breakdown of the activities that have been broken down by their topics and situations.

Table 1: Topic and actual services rendered.

Topics	Actual service rendered
Assisting the Elderly	Gardening at an old age home.
Working in Youth and community canters	-Teaching children about diet and physical activities. -Creating awareness of teenage pregnancy. -Creating awareness for HIV.
Assisting with education-related activities	-Providing an understanding of science centers. -Providing an understanding of agriculture. -Teaching about sanitation.
Assisting with community projects	Creating awareness for gardening.
Helping individuals in their homes	Taking care of siblings in child-headed homes.

Along with implementing and finishing their SL projects, the pre-service teachers also delivered an oral report/presentation of their project experience that lasted between 7 and 10 minutes and addressed the research component of the module. The communities' poverty, hunger, shortages, and illnesses were visible to the pre-service teachers.

"The infant appears extremely weak as if she hasn't fed in days"
"Being here has helped me learn more about this (HIV) disease."

During the project's implementation, the participants were astounded and perplexed by what they heard, felt, smelt, and touched.

One of the participants stated:

"When I saw the circumstances and state of these people, I was perplexed."

Another participant affirmed:

"I was unable to talk as we were driving back to campus because the image of cradling that sick infant and looking into her eyes stuck in my head."

Due to the nature of the SL project, pre-service teachers were forced to connect with individuals who were dealing with a range of social, emotional, and financial issues. Because of their contacts, the pre-service teachers no longer view all problems as being purely abstract but rather as having a connection to actual people who have emotions. In other words, students now understand that poverty exists and is linked to actual individuals. Following is how a future instructor recounted going through this experience:

"These problems are real; they are not like problems I have and am aware of, like when a friend aggravates me, I might go talk to someone else about it. These people are dealing with serious problems but are powerless to address them."

The pre-service teachers reported that this sentiment intensified when they encountered the poverty that the women and children at the centre suffered, as recounted below.

".... You may choose whether to leave tips, unlike when you encounter a homeless person begging on the street. But dealing with these folks on a daily basis in this initiative makes you feel accountable. As if you had no choice but to assist. Helping someone can sometimes help you understand them better"

"I must begin by expressing how deeply moved I was. I can't ignore their blatant appeal for assistance. I genuinely think I can contribute to this website and conduct insightful research. I have made the decision to engage with this company even if I am unable to conduct my thesis research here."

The extracts make it clear that the projects enabled the pre-service teachers to establish connections with their peers and others in the community by working in teams to carry out the tasks. The pre-service teachers had a deeper connection and greater understanding of the community members' challenges through the tales and facts supplied about them by people such as project managers.

The SL Projects: How Were They Carried Out?

The pre-service teachers' accounts of their community involvement were used as indicators to respond to this question. The pre-service teachers' project-related "How" was written using the indications as a guide. The descriptions of how the pre-service teachers carried out community-based activities were open and honest. People who worked in old people's homes or drop-in centres for kids, for instance, listened, helped, and observed that volunteering in these settings involved more than just having chats with the staff or kids. Participants said the following:

"I typically arrive in the morning when the kids are feeding time, I assist the nurses in feeding the younger kids who can't feed themselves, and then I assist in doing the dishes."

"I assist in cleaning the dishes, silverware, and glasses in the kitchen. We went to serve both the elderly and the children once the food was ready in the kitchen"

The participants further stated:

"I sometimes feel like their child because the mothers don't waste time giving me advice or even just complaining to me when they are having issues"

"Being a shoulder to cry on was not what I expected to be to these women"

The pre-service teachers were forced to complete the aforementioned tasks, which were obviously not what they had anticipated or bargained for, but which helped them understand what true SL entailed. As mentioned in this story, some people followed through on their plans and did so with pleasure.

"My partner and I participated in aerobics with community folks as part of our service-learning project. I thoroughly enjoyed this section, and the community members' excitement inspired me considerably"

Others worked on a one-on-one project, such as watching children in child-headed homes whilst the child-home header attended to other activities like going to school or getting groceries. Many students focused their SL projects on young people and community centres and helping with educational-related activities like teaching about hygiene and diet in primary school. Although the pre-service teachers' stories about their experiences had an impact on both their professional and personal lives, it was via their reflection diaries that they were able to express exactly what they had acquired from the implementation of the SL projects.

What have the experiences of the pre-service teachers involved in service-learning projects been like?

To guarantee that students obtain the appropriate exposure to a certain person or location that would aid in the achievement of those experiences, service-learning experiences are typically structured and planned prior to the

implementation of the projects. Most of the aspiring teachers had never taken a service-learning course before. Most of the preservice teachers' essays focused on how distinctive and instructive the SL programme is. Participants said the following:

"It's strange to be a part of this course. Honestly, it's hard to put into words."

"I had a terrifying experience with this! I was perplexed and confused when we were informed about the project because I had never done it before. I believe that each and every student in Bio 420 had a very special time here".

"I learnt new things and went through a lot of different emotions during this entire process, which was incredibly instructive for me".

The pre-service teachers acknowledged certain challenges they faced whilst carrying out the project, but they also stated that they now viewed themselves as agents of positive change and that they were pleased with themselves for initiating and finishing the SL project. The SL project sites provided the pre-service teachers with opportunities to develop their sense of civic duty. The SL projects exposed the pre-service teachers to problems they will probably encounter in the future, preparing them to advocate for SL pedagogy in their future teaching careers. The pre-service teachers' papers demonstrated a clear appreciation of the experiences generated by the SL project:

"The in-class exercises, the real Second Life project, and the presentation were original and fascinating ways to engage with the neighbourhood. It was great fun for me"

"I really love this project; I feel like I'm connected to those kids now, and I really hope I can keep seeing them," said the participant"

Most of the pre-service teachers who participated in the aforementioned experiences said that the SL projects were time-consuming and needed additional time for their implementation.

Structure, reciprocity, relationship, reflection, and sustainability were the five themes employed in the analysis; four of them came from the framework and one from the data. These topics were utilised to analyse the data produced by this study, drawing on the theory and content analysis. The results confirm the impact of Second Life on communities as well as the advantages of collaborative relationships and introspection throughout SL initiatives. Due to SL's intricacy, students are compelled to step beyond their comfort zones, face their "other side," and then incorporate that information into their existing knowledge and experiences. Whilst some students found this experience challenging, others had no trouble picking up the concept and running with it. Three categories: the nature of service learning, the justifications for engaging in SL, and how findings relate to experiential learning theory will be explained further in the subsequent sections.

Nature of Service Learning

The study looked at the complexity of SL projects completed by pre-service teachers. In this study, service learning (SL) projects were assigned to pre-service teachers in placement sites where diverse societal challenges were widespread. HIV/AIDS, gender violence, outdated housing, and poverty were among these problems. This study sought to determine how SL projects affected pre-service teachers' comprehension of and interest in these issues. The findings suggest that SL projects can be an effective way to expose pre-service teachers to real-world issues and promote their understanding and engagement with these issues. The projects undertaken exhibited a multifaceted and equivocal character. The present study examined the implementation of the Service-Learning (SL) programme in higher education institutions (HEIs) and its impact on students, universities, and communities. The programme is based on the principles of reciprocity and reflection, which aim to create a mutually beneficial relationship between the stakeholders involved. The study highlights the role of SL in assisting HEIs to achieve their civic mission on a larger scale. The findings suggest that the SL programme has a positive impact on all stakeholders involved and can be an effective tool for promoting community engagement and social responsibility among students. Also, the SL projects provided the pre-service teachers with knowledge and skills, gaining opportunities. Initially, the decision-making process and foundation stages of the project proved challenging for the pre-service teachers. This made some of the pre-service teachers re-strategize to achieve success. Dewey opines that education should offer students real-life experiences that will build their capacity to contribute to society.⁴⁰ Engaging and relating with the community, youth, children, and the elderly provided a real-life platform for the preservice teachers to develop a sense of civic engagement. The complexity of SL projects provided the pre-service teachers with guided real-life experiences that forced them out of their comfort zones, compelled them to confront their 'other side', and influenced their civic responsibilities.

⁴⁰ J. Dewey, *How We Think* (Buffalo, NY: Prometheus Books, 1933).

Reasons for Undertaking Service Learning

The pre-service teachers talked about why they decided to do the SL project. Planning SL may be done more successfully if there is information and comprehension of the reasons pre-service students participate in the course. The thought of discovering different cultures and making new friends outside of the institutional setting was a significant motivating factor for pre-service teachers. The statement "I am feeling excited about the research and service-learning as something new and refreshing from indoor learning" made by one of the participants led to the conclusion that. The results of this study also made it clear that certain pre-service teachers' participation in this kind of SL activity was impacted by their religious or spiritual beliefs. Literature suggests that faith affects how compassion, empathy, and concern for the underprivileged are expressed.⁴¹ As they were more aware of their increasing proficiency in handling the difficulties of engaging with community members, the pre-service teachers' understanding of SL was improved. They were shocked to discover that they had skills and capabilities that could improve both their lives and those of others. Interpersonal dialogue, patience, and empathy were commonly recognised as benefits of their SL experiences. This data supports Pacho's assertion that "aspects of Service-Learning would bridge the gap between theory and practises; soft skills and hard skills; and the academy and the community whilst producing well-rounded and productive graduates".⁴²

Connecting Findings to Experiential Learning Theory

The experiential learning theory of Kolb served as the foundation for this study. Four stages of the experiential learning cycle were completed by each pre-service teacher who carried out the SL project: tangible experience, reflection, conceptualisation, and active experimentation. The communities chosen as the SL placement locations had hosted all of the preservice teachers who carried out the study's SL project. Learning was made possible by reflection and awareness of the instructor's experiences volunteering in the community. They thought about their daily activities, feelings, experiences, and motivations throughout the SL project. Additionally, they were able to describe and explain in detail what they had discovered whilst reflecting. Whilst working on SL projects, the pre-service teachers internalised the experiences, became aware of changes in their worldviews, and came up with ways to apply what they had learned to their future careers as teachers.

DISCUSSION

The pre-service teachers' service-learning projects had a complicated nature. The pre-service teachers worked on SL projects in settings where poverty, gender violence, HIV/AIDS, and other problems were prevalent. In general, all of the projects were ambiguous and complex. To help higher education institutions fulfil their civic mission on a larger scale, the SL program implemented key reciprocity and reflection principles that were mutually beneficial for students, universities, and communities.⁴³

The study's findings concur with those of Demiroren and Atilgan, who thought that SL projects gave students the chance to gain knowledge and skills.⁴⁴ The project's foundational stages and decision-making process initially presented difficulties for the pre-service instructors. Some of the preservice teachers' strategies for success were influenced by this. This result is consistent with Dewey's assertion that education should expose students to real-world situations that will enhance their ability to contribute to society.⁴⁵ The pre-service teachers' interactions and relationships with the elderly, young people, and other members of the community gave them a practical setting in which to foster their sense of civic engagement. The difficulty of SL projects gave pre-service teachers guided real-life experiences that made them uncomfortable, made them face their "other side," and ultimately affected their sense of civic responsibility. Whilst some pre-service teachers found the SL experiences challenging, others appeared to have understood the concept and actions.⁴⁶

The results support the study's theory that experience is the primary factor in all learning; that learning builds upon and flows from experience; and that learning can only take place if the learner's experience is engaged, at least to some extent.⁴⁷ The preservice teachers openly acknowledged the difficulties encountered whilst working on the projects, but they were proud of themselves for finishing them because they see themselves as change agents who have improved the lives of others. When completing their projects in record time, the pre-service teachers

⁴¹ Jean Jacoby, "The Disruptive Potential of the Massive Open Online Course: A Literature Review," *Journal of Open, Flexible, and Distance Learning* 18, no. 1 (2014): 73–85.

⁴² Titus Pacho, "Service-Learning in Higher Education in Zimbabwe" (Staats-und Universitätsbibliothek Hamburg Carl von Ossietzky, 2017), 166.

⁴³ Gerstenblatt, *Academic Service Learning Pedagogy in Social Work: Exploration of Student and Community Lived Experiences Using an Interdisciplinary Course Model of Community-University Engagement*.

⁴⁴ Demirören and Atilgan, "Impacts of Service Learning-Based Social Responsibility Training on Medical Students."

⁴⁵ Dewey, *Democracy and Education*.

⁴⁶ Gerstenblatt, *Academic Service Learning Pedagogy in Social Work: Exploration of Student and Community Lived Experiences Using an Interdisciplinary Course Model of Community-University Engagement*.

⁴⁷ Dewey, *Democracy and Education*.

listed time constraints as one of their difficulties. They felt that the time allotted for the projects was insufficient, which is consistent with Brown and Schmidt's assertion that high-quality SL projects require planning and execution time.⁴⁸ One of the SL tenets is reciprocity, which results in a partnership that benefits all parties.⁴⁹ This SL project turned out to be profitable for all parties concerned. The preservice teachers were able to put theory into practice and directly experience reciprocal community participation, both of which facilitated their personal growth and were not achievable in a regular classroom setting. The project helped the community members since they had pre-service teachers who were ready to put their knowledge and abilities to work in order to offer services that suited different needs. The tertiary institute benefited from the SL ties with the local community and an improved community-university relationship as a result of good awareness. This concurs with Gerstenblatt's assertion that SL offers the chance to provide both "macro and micro" interactions between different types of entities.⁵⁰ Additionally, by fusing what students learn in the classroom with the real world, experiential learning allows for the integration of SL across a variety of higher education courses, giving students a wonderful opportunity for real-world experiences and a way to put theory into practice. The chance for students to create a project based on their passion aids in their professional and personal growth, particularly when they experience a lot of trial and error whilst implementing the project and feel defeated by the realities of community-based service.⁵¹ Although it was clear that the pre-service teachers' experiences in this SL project were overwhelmingly positive, it's crucial to recognise the complexities of SL.

Given that it requires additional time commitment to their schedules, service-learning has proven to be time-consuming for pre-service teachers and those enrolled in other courses. Furthermore, as stated in the quotation, "I feel nervous that I am a little behind and time is not on my side," the time restrictions are heightened by factors beyond their control like severe weather. We were unable to work on our assignment today due to the poor weather. They were obliged to come up with novel solutions as a result of their experiences in order to resume their work. The pre-service teachers highlighted how much they had grown both emotionally and professionally as they looked back on their diaries from when the SL project was being implemented. This result supports who found that contemplation is essential for pupils to understand circumstances and information.⁵²

Discussion Summary

The SL project that the future teachers carried out proved to be difficult. This caused the pre-service instructors to reassess their personal identities, feelings, and characteristics. This is coherent with Ash, Clayton and Atkinson's stance that tasks and activities carried out by students are very important for their personal, social, and professional development.⁵³ The SL project carried out by the pre-service teachers helped them research and analyse their development. The pre-service teachers were aware of who they were, their strengths and potentials including the possibilities of what may be done in communities for the enhancement of all, whilst doing this SL project. They also got an awareness of the technicalities of doing SL and the research itself. From these experiences, they also learnt how to implement SL in their future classes.

RECOMMENDATION FOR FURTHER RESEARCH

The study recommends that comparative studies across different academic disciplines and educational settings could provide insights into the transferability and adaptability of SL experiences. Moreover, exploring the ideal strategies for integrating SL into teacher education programs to maximize its impact on pre-service teachers' development deserves attention.

CONCLUSION

The purpose of this study was to analyse the nature of service-learning projects conducted by pre-service teachers. The findings of the study reveal that the SL project that pre-teachers carried out proved to be difficult, which caused them to reassess their personal identities, feelings, and characteristics. Furthermore, the findings show that the SL project carried out by pre-service teachers helped them research and analyse their development. Also, the findings indicate the pre-service teachers through their projects got an awareness of the technicalities of doing SL and the research itself. Based on the findings of the study which underscore the transformative nature of service-learning

⁴⁸ Brown and Schmidt, "Service-Learning in Undergraduate Nursing Education: Where Is the Reflection?"

⁴⁹ Bringle and Hatcher, "Civic Engagement and Service Learning: Implications for Higher Education in America and South Africa."

⁵⁰ Gerstenblatt, *Academic Service Learning Pedagogy in Social Work: Exploration of Student and Community Lived Experiences Using an Interdisciplinary Course Model of Community-University Engagement*.

⁵¹ Randy Stoecker et al., "Can Community-Based Research Guide Service Learning?," *Journal of Community Practice* 18, no. 2-3 (2010): 280-96.

⁵² Elverson and Klawiter, "Using Guided Reflection to Link Cultural and Service Learning in a Study Abroad Course."

⁵³ Sarah L Ash, Patti H Clayton, and Maxine P Atkinson, "Integrating Reflection and Assessment to Capture and Improve Student Learning," *Michigan Journal of Community Service Learning* 11, no. 2 (2005): 49-60.

projects for pre-service teachers, the study concludes that through engagement in service-learning projects, future educators not only enhance their understanding of community needs and societal issues but also undergo significant personal and professional growth.

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