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Competencies Acquired through Geography Education Microteaching: A Case Study of a South African University

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ABSTRACT

Microteaching is a crucial component of teacher training, particularly in geography education, as it helps student teachers develop essential teaching competencies. This study explored competencies acquired by geography student teachers at a South African university through microteaching. Using a qualitative research approach, data was collected via structured reflections and questionnaires. The thematic analysis revealed six key competencies: teaching and pedagogical skills, communication skills, classroom management and confidence, technology integration, collaboration and interpersonal skills, critical thinking, and adaptability. These findings align with Kolb's Experiential Learning Theory, highlighting the importance of hands-on teaching and practicals in professional development. It is recommended that more microteaching sessions be incorporated into teacher education programs, emphasizing ICT training and fostering peer feedback mechanisms to improve reflective practice. The study contributes to geography education literature by demonstrating the role of microteaching in enhancing practical teaching skills. It also underscores the need for ICT integration in geography education to equip future teachers with digital competencies in the current 4IR era. Further research is needed to explore the long-term impact of microteaching on teachers' classroom effectiveness and student learning outcomes.

Keywords: Microteaching, Geography Education, student teachers, Pedagogical Skills, ICT Integration.

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INTRODUCTION

Geography education is pivotal in equipping learners with spatial literacy, critical thinking, and geospatial competencies essential for addressing 21st-century challenges.[1] Microteaching in geography is a teacher training method designed to enhance teaching skills by allowing student teachers to practice and refine specific teaching methods in a controlled setting.[2] In South Africa, curriculum reform has emphasised learner-centred pedagogy and geospatial skill development, and teacher-training programs face the dual

[1] Nursofiani binti Mohamad Amin and Khairul Azhar bin Jamaludin, "21st-Century Geography Teaching and Learning: Issues and Challenges," *International Journal of Academic Research in Progressive Education and Development* 13, no. 1 (January 12, 2024), https://doi.org/10.6007/IJARPED/v13-i1/20641.

[2] Aubrey Golightly, "Microteaching to Assist Geography Teacher-Trainees in Facilitating Learner-Centered Instruction," *Journal of Geography* 109, no. 6 (November 23, 2010): 233–42, https://doi.org/10.1080/00221341.2010.509512.

imperative of aligning with national educational goals and addressing systemic disparities in resource provision and teacher preparedness.[3]

Geography education microteaching develops critical competencies such as geospatial skills, research and analytical abilities, and environmental awareness. Microteaching also fosters research skills by engaging learners in real-world problem-solving activities like studying environmental degradation, which aligns theoretical knowledge with practical applications.[4] Geography education incorporates sustainability principles, enabling students to address ecological challenges effectively while aligning with international standards. Geography microteaching bridges academic learning with real-world applications, fostering competencies essential for geospatial expertise and sustainability-focused problem-solving. This approach facilitates the development of competencies such as lesson planning, classroom management, and the implementation of learner-centred teaching strategies.[5]

Many geography student teachers struggle to acquire essential teaching competencies before entering the classroom, which affects student learning outcomes.[6] While microteaching is widely used to enhance teaching competencies, its subject-specific impact on geography education remains underexplored, particularly in South Africa. Geography teaching requires unique competencies such as spatial reasoning and map interpretation, yet challenges like performance anxiety, limited feedback, and inadequate technology integration hinder the effective learning of student teachers.[7]

This study, therefore, investigates the specific competencies cultivated through geography-focused microteaching in a South African university setting. Analysing student teachers' reflective accounts and skill progression addresses gaps in understanding how localised teacher-training programs can leverage microteaching to advance geospatial literacy, curriculum alignment, and equitable educational outcomes. It seeks to explore how microteaching enhances pedagogical content knowledge, lesson planning, classroom management, and the use of learner-centred teaching strategies.

LITERATURE REVIEW

Beginning in the United States in the 1960s, microteaching is a popular method in teacher preparation that can give geography teacher candidates practical, learner-centred teaching experiences.[8] Microteaching is a widely recognised pedagogical approach used in education to enhance the instructional skills of student teachers.[9] Golightly and Van Der Westhuizen highlighted that integrating microteaching into teacher education can help student teachers utilise various teaching and learning methods and effectively provide microlessons.[10] In the context of Geography education, microteaching plays a crucial role in equipping students with the essential competencies required for effective classroom practice.[11] Microteaching can help student teachers create and apply various teaching, learning, and evaluation methods, assisting them

[3] Norah Risana Ngobeni, Mackenzie Ishmael Chibambo, and Joseph Jinja Divala, "Curriculum Transformations in South Africa: Some Discomforting Truths on Interminable Poverty and Inequalities in Schools and Society," *Frontiers in Education* 8 (June 12, 2023), https://doi.org/10.3389/feduc.2023.1132167.

[4] Di Wilmot, "Advancing Geography Education in Southern Africa," *The Journal of Geography Education in Africa* 1 (October 30, 2018): 1–13, https://doi.org/10.46622/jogea.v1i.2534.

[5] Hussein Zuberi Mavumba and Evaristo Andreas Mtitu, "The Use of Learner-Centered Approaches in Mathematics Subject: A Case of Pugu Secondary School in Ilala District, Tanzania," *East African Journal of Education and Social Sciences* 3, no. 3 (June 30, 2022): 39–45, https://doi.org/10.4314/eajess.v3i3.177.

[6] Rieke Ammoneit, Andreas Turek, and Carina Peter, "Pre-Service Geography Teachers' Professional Competencies in Education for Sustainable Development," *Education Sciences* 12, no. 1 (January 11, 2022): 42, https://doi.org/10.3390/educsci12010042; Aubrey Golightly, "The Importance of Meaningful Quality Geography Education in South African Learning Contexts," *South African Geographical Journal* 107, no. 4 (October 2, 2025): 443–46, https://doi.org/10.1080/03736245.2025.2472660.

[7] Eija Yli-Panula, Eila Jeronen, and Piia Lemmetty, "Teaching and Learning Methods in Geography Promoting Sustainability," *Education Sciences* 10, no. 1 (2019): 5.

[8] Golightly, "Microteaching to Assist Geography Teacher-Trainees in Facilitating Learner-Centered Instruction."

[9] Tom Woods, "Microteaching through the Practice Curriculum: Developing New Practice Educators.," *Journal of Practice Teaching & Learning* 20, no. 1 (2023).

[10] Aubrey Golightly and Christo P. Van Der Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study," *International Journal of Educational Sciences* 12, no. 2 (February 25, 2016): 139–54, https://doi.org/10.1080/09751122.2016.11890421.

[11] Golightly, "The Importance of Meaningful Quality Geography Education in South African Learning Contexts."

in preparing lessons and setting learning objectives. Students believe that microteaching is an effective and beneficial teaching method.[12]

Microteaching is one of the best ways to help student teachers improve their geography education competencies. After the experiment, students' abilities to apply geography teaching methods and techniques clearly improved, as evidenced by student assessments demonstrating the beneficial effects of each micro-teaching component on their competencies.[13] The study's contribution is its evidence-based demonstration of the connection between the development of student competencies and the effects of microteaching.[14]

In South Africa, teacher education programs emphasise practical teaching experiences, including microteaching, to ensure that future educators develop the necessary skills to facilitate student-centred learning in geography.[15] This literature review examines the competencies acquired through geography education microteaching, focusing on pedagogical skills, technological integration, content mastery, and professional identity development. It contextualises these competencies within South African teacher training programs and explores their implications for geography education.

According to research by Koross, the idea that student teachers will be able to apply the pedagogical theories and practices they studied in universities to their future lessons in schools has long existed inside the classic theory/practice dichotomy.[16] Additionally, a microteaching program gives student teachers a simulated scenario where they can use the theories they have studied, gain confidence, and hone their teaching abilities while delivering a mini-lesson to their peers. Before beginning their practice in actual classrooms, student teachers should gain more hands-on experience through microteaching.[17]

The Role of Microteaching in Teacher Education

Microteaching is an increasingly common approach in teacher education programs across the globe because it works well for enhancing student teachers' teaching competencies.[18] Microteaching is named "micro" teaching because it aims to improve particular teaching behaviors or skills by giving a brief lesson to a small group of people in a classroom situation. Figure 1 is the cyclical microteaching training process: Plan, prepare, teach, observe, and critique.[19] It allows student teachers to engage in simulated classroom experiences, enabling them to practice and reflect on their instructional strategies in a controlled environment.[20] Therefore, students must undergo microteaching to get first-hand teaching experience before going out to school.

[12] Golightly and Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study."
[13] T. Ha Van, "Applying Micro-Teaching to Develop Content Competence for Geography Pre-Service Teachers," *Ho Chi Minh City University of Education Journal of Science* 18, no. 8 (2021): 1415–29.
[14] Ha Van, "Applying Micro-Teaching to Develop Content Competence for Geography Pre-Service Teachers."
[15] Elias Sithole, "Overview of Disaster Management System in South Africa," Cooperative Governance, RSA, 2023.
[16] Rachel Koross, "Micro Teaching an Efficient Technique for Learning Effective Teaching Skills: Pre-Service Teachers' Perspective," *IRA International Journal of Education and Multidisciplinary Studies (ISSN 2455–2526)* 4, no. 2 (September 2, 2016): 289, https://doi.org/10.21013/irajems.v4.n2.p7.
[17] Koross, "Micro Teaching an Efficient Technique for Learning Effective Teaching Skills: Pre-Service Teachers' Perspective."
[18] Koross, "Micro Teaching an Efficient Technique for Learning Effective Teaching Skills: Pre-Service Teachers' Perspective."
[19] Zhanni Luo and Huazhen Li, "Competence, Preparation, and Relaxation: Contributing Factors to EFL Student Teachers' Self-Efficacy and Teaching Performance in Microteaching Training," *Heliyon* 10, no. 4 (February 2024): e26216, https://doi.org/10.1016/j.heliyon.2024.e26216.
[20] Carisma Nel and Elma Marais, "Pre-Service Teachers' Perceptions on Eliciting Learners' Knowledge in a Mixed-Reality Simulation Environment," *Reading & Writing* 14, no. 1 (August 31, 2023), https://doi.org/10.4102/rw.v14i1.422.

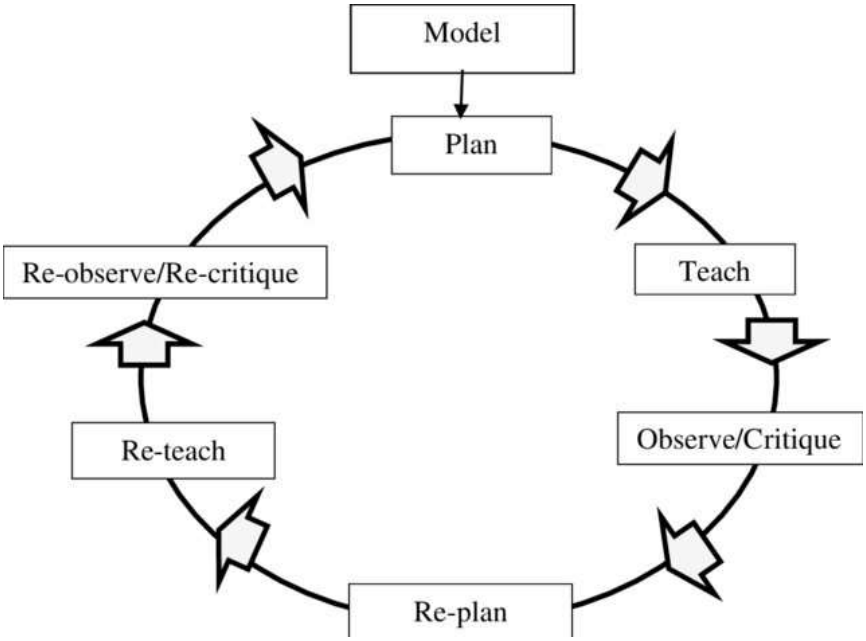

Figure 1: Microteaching Cycle.[21]

Micro-teaching's collaborative learning environment has produced experiences and opportunities that help pedagogical students grow. According to Golightly and Westhuizen, student microlessons demonstrate how the new learning environment in micro-teaching helps students plan, design, and execute learner-centred approaches.[22] To increase the efficacy of teaching skill development, the author's articles on using microteaching in geography pedagogy students combine microteaching with lesson study and the development of some fundamental teaching skills.

In the South African higher education system, microteaching is an integral component of teacher education programs, particularly in Geography teaching. It enables students to transition from theoretical coursework to practical classroom applications, bridging the gap between academic knowledge and professional practice.[23] The microteaching system offers a secure and supervised setting for student teachers to improve their teaching competencies. As a result, they can enhance their teaching efficacy before entering real classroom settings.[24] Preparing students for theory is vital, but adding a practical part to theory in the form of microteaching ensures the students' ability to be competent in teaching.

Competencies Acquired Through Geography Microteaching

This approach intends to help student teachers progressively build their fundamental competencies by having them practice specific teaching techniques.[25] This approach trains them to fulfil teachers' professional requirements after graduation. Additionally, there are unique characteristics to the way geography student-teachers build their teaching abilities.[26]

Studies by various scholars have emphasized how student teachers feel that microteaching gives them a chance to reflect on and assess their teaching strengths and shortcomings.[27] During microteaching

[21] Bede Blaise Chukwunyere Onwuagboke, Rita Chigozie Osuala, and Rowland Chibuike Nzeako, "The Impact of Microteaching in Developing Teaching Skills among Pre-Service Teachers in Alvan Ikoku College of Education Owerri, Nigeria," *African Research Review* 11, no. 2 (June 5, 2017): 237, https://doi.org/10.4314/afrrev.v11i2.18.

[22] Golightly and Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study."

[23] C Green, M Eady, and P Andersen, "Preparing Quality Teachers.," *Teaching & Learning Inquiry* 6, no. 1 (March 20, 2018): 104–25, https://doi.org/10.20343/teachlearninqu.6.1.10.

[24] Luo and Li, "Competence, Preparation, and Relaxation: Contributing Factors to EFL Student Teachers' Self-Efficacy and Teaching Performance in Microteaching Training."

[25] Jerry T. Mitchell, "Pre-Service Teachers Learn to Teach Geography: A Suggested Course Model," *Journal of Geography in Higher Education* 42, no. 2 (April 3, 2018): 238–60, https://doi.org/10.1080/03098265.2017.1398719.

[26] Ha Van, "Applying Micro-Teaching to Develop Content Competence for Geography Pre-Service Teachers."

[27] Golightly, "The Importance of Meaningful Quality Geography Education in South African Learning Contexts"; Teboli David Makafane, "Student Teachers Challenges in the Preparation and Implementation of Microteaching: The Case of the National University of

sessions, students developed abilities such as planning, inquiring, assessing, evaluating, controlling students' misbehaviour, utilising instructional materials, and having a positive attitude toward the profession. The findings demonstrated that student teachers' perception of self-efficacy in the classroom was positively impacted by microteaching.[28]

Yli-Panula et al. concluded that teaching geography necessitates geographic competencies, including knowledge and comprehension of the Earth's major natural systems (landforms, soils, water bodies, climate, vegetation), as well as the relationships between ecosystems and the major socioeconomic systems (population, agriculture, transportation, industry, trade, energy, and others).[29] Communicating, thinking, and using social and practical skills to investigate local and global geographical themes are all examples of valuable geographical skills. Geography education helps to bridge the gap between the natural and human sciences by making sure that student teachers understand the effects of their own and their societies' behaviour, have access to accurate information and skills to help them make environmentally sound decisions, and cultivate an environmental ethic to guide their actions.[30]

Shulman's framework of Pedagogical Content Knowledge (PCK) highlights the importance of integrating subject knowledge with effective teaching strategies.[31] Geography microteaching enhances PCK by requiring student teachers to design and deliver lessons incorporating geographical concepts with appropriate pedagogical methods.[32] This competency ensures that teachers can explain abstract geographical ideas, such as climate change or GIS mapping, in ways that are accessible to learners.[33]

Effective classroom management and communication are crucial competencies developed through microteaching.[34] Geography student teachers refine their ability to maintain student engagement, structure lessons effectively, and handle disruptions through repeated microteaching sessions. Studies show that South African student teachers who undergo microteaching demonstrate increased confidence in managing diverse classrooms and adapting instructional methods to suit various learning needs.[35]

Technology integration competence is acquired through the advancement of digital tools in education; microteaching allows student teachers to integrate technology into their lessons. Using Geographic Information Systems (GIS), interactive maps, and virtual simulations enhances spatial understanding and fosters student engagement.[36] South African universities emphasise the incorporation of ICT in Geography microteaching, aligning with the national curriculum's call for technology-enhanced learning.

A key competency developed through microteaching is designing and implementing formative assessments. Geography student teachers learn how to evaluate learners' understanding using various assessment strategies, including quizzes, discussions, and project-based tasks. Additionally, receiving structured feedback from peers and mentors helps student teachers reflect on their instructional approaches and refine their teaching strategies.[37]

Microteaching also fosters professional identity development and reflective practice among geography student teachers. According to Ammoneit et al., reflective practice is essential for continuous professional growth.[38] Through microteaching, student teachers analyse their teaching performances,

Lesotho," *International Journal of Academic Research in Progressive Education and Development* 9, no. 2 (March 30, 2020), https://doi.org/10.6007/IJARPED/v9-i2/7283; Green, Eady, and Andersen, "Preparing Quality Teachers."

[28] Ha Van, "Applying Micro-Teaching to Develop Content Competence for Geography Pre-Service Teachers."

[29] Yli-Panula, Jeronen, and Lemmetty, "Teaching and Learning Methods in Geography Promoting Sustainability."

[30] Golightly and Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study."

[31] Lee S Shulman, "Those Who Understand: Knowledge Growth in Teaching," *Educational Researcher* 15, no. 2 (1986): 4–14.

[32] Mitchell, "Pre-Service Teachers Learn to Teach Geography: A Suggested Course Model."

[33] Devika Naidoo, "Deep Learning Opportunities in the Geography Classroom," *South African Journal of Education* 41, no. 2 (May 31, 2021): 1–10, https://doi.org/10.15700/saje.v41n2a1901.

[34] Tabitha Grace Mukeredzi and Cephas Makwara, "Do Universities Prepare Student Teachers Adequately for Teaching Practice?," 2024.

[35] Mothofela Richard Msimanga, "The Impact of Micro Teaching Lessons on Teacher Professional Skills: Some Reflections from South African Student Teachers," *International Journal of Higher Education* 10, no. 2 (December 2, 2020): 164, https://doi.org/10.5430/ijhe.v10n2p164.

[36] Sizakele Matilda Serame and Gbenga Abayomi Afuye, "Geographic Information Systems Methods in Practice: Higher Education Curricula and Practitioner Registration Standards in South Africa," *Trends in Higher Education* 3, no. 4 (December 2, 2024): 1053–71, https://doi.org/10.3390/higheredu3040061.

[37] Koross, "Micro Teaching an Efficient Technique for Learning Effective Teaching Skills: Pre-Service Teachers' Perspective."

[38] Ammoneit, Turek, and Peter, "Pre-Service Geography Teachers' Professional Competencies in Education for Sustainable Development."

identify areas for improvement, and develop a professional identity aligned with effective geography teaching.

Challenges and Limitations of Microteaching in Geography Education

Despite its benefits, microteaching faces certain challenges within South African universities. Limited resources, such as insufficient access to technology and overcrowded training sessions, can hinder its effectiveness. Additionally, some student teachers experience anxiety during microteaching due to performance pressure, which may impact their ability to demonstrate acquired competencies.[39] Several contextual factors affect the effectiveness of microteaching in South African universities: Institutional Support: Availability of resources (e.g., GIS labs, projectors, internet access) influences the integration of technology in microteaching.[40] Mentorship Quality: Access to experienced lecturers and school-based mentors determines the depth of feedback provided to student teachers. Student Confidence and Anxiety: Performance pressure in microteaching sessions affects how well student teachers demonstrate their acquired competencies.[41]

THEORETICAL FRAMEWORK

Experiential Learning Theory

This study is grounded in Experiential Learning Theory (ELT), developed by David Kolb, which emphasises learning through experience (microteaching lessons).[42] This theory asserts that knowledge is created through experience transformation, making it particularly relevant to geography education microteaching. The theory describes learning as a cyclical process consisting of four stages (see Figure 2): concrete experience, reflective observation, abstract conceptualisation, and active experimentation.[43] These stages provide a structured framework for student teachers to develop essential teaching competencies through practical engagement, critical reflection, and iterative improvement in their teaching approaches.

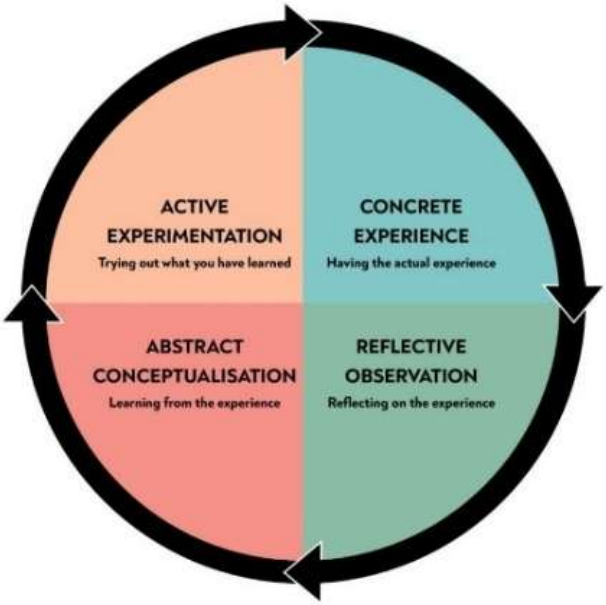

Figure 2: Kolb's Experiential Learning Cycle (adapted from Kolb, 1984)

[39] Golightly, "The Importance of Meaningful Quality Geography Education in South African Learning Contexts."
[40] Koross, "Micro Teaching an Efficient Technique for Learning Effective Teaching Skills: Pre-Service Teachers' Perspective."
[41] Golightly and Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study."
[42] David A Kolb, "Learning Style Inventory: Technical Manual (Rev. Ed.)," *Boston, MA: Mcber*, 1986.
[43] D. A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice-Hall, 1984).

Microteaching in geography education is an experiential learning platform where student teachers actively engage in the teaching process. The first stage, concrete experience, involves student teachers delivering short lessons to their peers, allowing them to practice teaching in a controlled yet realistic environment. This hands-on engagement exposes geography-specific instructional strategies and helps them build confidence in their teaching ability.[44] The reflective observation stage allows student teachers to critically analyse their performance, receive peer and mentor feedback, and identify areas for improvement. This reflective process enhances their ability to connect theoretical knowledge with practical application, a crucial step in developing effective pedagogical strategies.[45]

Following reflection, the abstract conceptualisation stage enables student teachers to refine their understanding of pedagogical content knowledge (PCK) in geography. By integrating feedback and modifying lesson plans, they develop more effective teaching strategies that align with diverse learners' needs.[46] Finally, in the active experimentation stage, student teachers apply their refined strategies in subsequent microteaching sessions or actual classroom settings, allowing them to test and adapt their teaching methods. This iterative process strengthens their competence in geography teaching methodologies and fosters adaptability in addressing various classroom challenges.[47]

By engaging in this experiential learning cycle, student teachers acquire several key competencies essential for geography education. Firstly, they develop lesson planning and curriculum adaptation skills, ensuring that their lessons align with curriculum standards while addressing the needs of diverse learners.[48] Additionally, they enhance their teaching strategies and classroom management abilities, particularly in the effective use of maps, Geographic Information Systems (GIS), and fieldwork techniques.[49] Furthermore, the reflective aspects of microteaching improve their capacity for assessment and feedback utilisation, enabling them to assess learners' understanding and adjust their teaching strategies accordingly.[50]

In the South African university context, the application of ELT in geography education microteaching is particularly valuable. Given the country's diverse educational environments and resource disparities, experiential learning ensures that student teachers develop adaptive and innovative teaching approaches that are relevant to various schooling contexts.[51] By engaging in this learning cycle, student teachers are better equipped to navigate the challenges of geography education in both urban and rural school settings, ultimately enhancing the quality of teaching and learning in the subject.

Experiential Learning Theory provides a robust theoretical foundation for understanding how student teachers acquire competencies through microteaching in geography education. Student teachers strengthen their pedagogical knowledge, instructional skills, and professional confidence through hands-on teaching practice, reflection, conceptual refinement, and continuous application. This process prepares them for effective classroom teaching and fosters a lifelong approach to adaptive and reflective teaching practices, ensuring their continued growth as geography educators.

METHODOLOGY

Research Paradigm, Approach, Design

This study used a qualitative research approach because it does not rely on the scientific method; it concentrates on understanding a social phenomenon from the participants' perspectives and reflections. The qualitative research approach utilizes a deep and wide-angle lens to study human behaviors and reality.[52]

The interpretive paradigm was used because the researcher wanted to provide evidence of the efficacy of competencies acquired during microteaching lessons. This paradigm allows the researcher to comprehend how individuals interpret the world and their daily activities. Therefore, this approach

[44] Golightly, "Microteaching to Assist Geography Teacher-Trainees in Facilitating Learner-Centered Instruction."
[45] Ammoneit, Turek, and Peter, "Pre-Service Geography Teachers' Professional Competencies in Education for Sustainable Development."
[46] Shulman, "Those Who Understand: Knowledge Growth in Teaching."
[47] Green, Eady, and Andersen, "Preparing Quality Teachers."
[48] Ammoneit, Turek, and Peter, "Pre-Service Geography Teachers' Professional Competencies in Education for Sustainable Development."
[49] Mohamad Amin and bin Jamaludin, "21st-Century Geography Teaching and Learning: Issues and Challenges."
[50] Golightly, "Microteaching to Assist Geography Teacher-Trainees in Facilitating Learner-Centered Instruction."
[51] Golightly, "The Importance of Meaningful Quality Geography Education in South African Learning Contexts."
[52] Sithole, "Overview of Disaster Management System in South Africa."

enabled a comprehension of students' worldviews and understanding of microteaching. This paradigm is highly recommended for the selected research method (qualitative).[53] It addresses understanding student teachers' experiences and research in a natural setting.

Population and Sampling

The research participants are undergraduate students for the 2024 academic year. This population was relevant as accessibility and availability were convenient. The population was made up of 66 student teachers involved in the program. The sample consisted of 22 student teachers from the population believed to be relevant in providing rich data on the efficacy of microteaching. The rationale for such a small population was not to generalize data and avoid bias during sampling and data collection. Convenience sampling was used because students' teachers were readily available and accessible at all times.

Data Collection Procedure

The perspectives of student teachers in relation to micro lessons were the focus for making the findings. The data was collected through observations and questionnaires with student teachers during the planning and implementation of microteaching lessons. The data was drawn during the preparation and implementation of their microteaching processes.

Data Analysis

This study used thematic analysis guided by the qualitative research method, systematically organising and analysing complex data sets. This study adopted this model because it is widely recognised in qualitative studies as it provides a systematic approach to identifying, analysing, and reporting themes within data. It involves looking for themes encapsulating the questionnaire answers in the data sets. It includes carefully reading and rereading the transcribed material to identify themes, and the results are reliable and enlightening.[54]

Ethical Considerations

All ethical protocols were observed in this study. Participants participated voluntarily, were assured of confidentiality and anonymity, and could withdraw freely from the survey at any time.The collected data were used for research purposes only, with all information being treated as confidential and stored securely to ensure participant privacy. All identifying information has been anonymised to ensure confidentiality, and student teachers are referred to using pseudonyms ST1 to ST18.

PRESENTATION OF FINDINGS AND DISCUSSIONS

The thematic analysis model by Braun and Clarke was utilised to address this paper's research question.[55] The thematic analysis model was selected because of its flexibility and adaptability to achieve the study's aim. In analysing this data, the following steps were followed: There was familiarisation with the data, which entailed being immersed in the data to understand the depth and context of teachers' voices. Thematic analysis was used to interpret the questionnaire data, following the six-step process, which includes familiarising the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final output.[56]

Microteaching is a critical training tool for student teachers, allowing them to develop essential teaching competencies through practice, feedback, and reflection. The responses from participants highlight key themes that encapsulate the competencies they gained during this process. These themes include teaching and pedagogical skills, communication skills, classroom management and confidence,

[53] Bunmi Omodan, "A Model for Selecting Theoretical Framework through Epistemology of Research Paradigms," *African Journal of Inter/Multidisciplinary Studies* 4, no. 1 (2022): 275–85, https://doi.org/10.51415/ajims.v4i1.1022.

[54] Saraswati Dawadi, "Thematic Analysis Approach: A Step by Step Guide for ELT Research Practitioners," *Journal of NELTA* 25, no. 1–2 (2020): 62–71.

[55] Virginia Braun and Victoria Clarke, "Conceptual and Design Thinking for Thematic Analysis.," *Qualitative Psychology* 9, no. 1 (February 2022): 3–26, https://doi.org/10.1037/qup0000196.

[56] Braun and Clarke, "Conceptual and Design Thinking for Thematic Analysis."

technology and ICT integration, collaboration and interpersonal skills, and critical thinking and adaptability. Below is a detailed discussion of each theme.

Theme 1: Teaching and Pedagogical Skills

Many responses indicated that student teachers acquired fundamental teaching skills, including lesson planning, teaching methods, and lesson delivery.

ST6: "Teaching skills, lesson planning and how to apply them"

ST 7: "I acquired skills such as effective lesson planning"

Effective teaching requires a well-structured approach, and microteaching provides an opportunity for student teachers to practice how to plan, structure, and deliver lessons effectively. This finding supports Golightly, who argued that microteaching bridges the gap between theory and practice.[57] From a theoretical standpoint, Kolb's Experiential Learning Theory provides a lens to understand this development. The lesson planning described by participants represents concrete experience, while their reflection on lesson effectiveness indicates reflective observation. This aligns with Shulman's PCK, which emphasises that effective teaching arises from integrating subject knowledge with pedagogy. Thus, the findings confirm earlier studies[58] that microteaching prepares student teachers to transform geography concepts into learner-centred lessons.

Theme 2. Communication Skills

Communication emerged as a vital competency:

ST 6: "Communication skill" (S6)

ST 18 "Effective communication and how to manage class"

Participants highlighted communication as a key outcome of microteaching, confirming Mukeredzi and Makwara, who argued that effective communication is essential for learner engagement.[59] Theoretically, Bandura's Social Learning Theory explains this finding. Participants learned communication strategies through observation, modelling, and reinforcement during microteaching sessions. Kolb's cycle also applies, as practising communication in peer settings reflects active experimentation, followed by reflection and refinement.[60]

Theme 3. Classroom Management and Confidence

Participants stressed how microteaching built confidence and management skills:

ST1: "Being able to stand in front of many students"

ST16: "Being able to stand in front of learners and teach"

These reflections align with Richard, who emphasised that microteaching enhances classroom self-efficacy.[61] From Kolb's cycle, these are concrete experiences fostering increased confidence through active experimentation. Standing in front of peers represents a concrete experience, while feedback and reflection build confidence through iterative practice. Bandura's Social Learning Theory also helps explain how observing peers managing classroom models effectively influences behaviours. These findings confirm international literature,[62] which suggests that microteaching reduces performance anxiety through simulations and builds confidence through direct, live interactions. The study both confirms prior work on confidence-building.

[57] Golightly, "Microteaching to Assist Geography Teacher-Trainees in Facilitating Learner-Centered Instruction."
[58] Mitchell, "Pre-Service Teachers Learn to Teach Geography: A Suggested Course Model."
[59] Mukeredzi and Makwara, "Do Universities Prepare Student Teachers Adequately for Teaching Practice?"
[60] Prinesha Naidoo, "South Africa's Unemployment Rate Is Now Highest in the World," *The Capital News* 44, no. 36 (2021): 15.
[61] Msimanga, "The Impact of Micro Teaching Lessons on Teacher Professional Skills: Some Reflections from South African Student Teachers."
[62] Woods, "Microteaching through the Practice Curriculum: Developing New Practice Educators."

Theme 4: Information and Communication Technology (ICT) Integration
Some participants reflected on technology skills:

ST15: "Communication and computer skills"

This demonstrates the role of ICT competence in geography education. It confirms Serame and Afuye's findings that ICT integration improves spatial understanding in geography.[63] ICT competence was another area of growth, with participants recognising the importance of digital tools in geography education. From Shulman's PCK perspective, ICT integration illustrates the fusion of content knowledge and pedagogy. Using digital tools enables teachers to communicate abstract geographical ideas effectively. Kolb's framework also applies, as participants experimented with digital tools (active experimentation) and refined their use through reflection.

Theme 5. Collaboration and Interpersonal Skills
Participants highlighted as a significant outcome:

ST 11: "Cooperation"
ST 13: "Cooperation skills"

These reflections confirm Golightly and Van der Westhuizen, who found that microteaching enhances professional collaboration.[64] From Bandura's perspective, collaboration represents social reinforcement of desired behaviours. Bandura's Social Learning Theory offers a strong explanation of collaboration in microteaching mirrors observational learning, where peers model and reinforce effective practices. Kolb's ELT also applies, as joint reflections represent the reflective observation stage, helping participants reshape strategies. Compared to technology-supported collaboration tools,[65] which promote virtual peer learning, this study highlights traditional, face-to-face cooperation. Thus, the findings confirm the importance of collaboration but reveal limited technological augmentation.

Theme 6: Critical Thinking and Adaptability
Participants reported critical thinking gains:

ST 10: "Critical thinking skills"

Participants indicated that microteaching improved their ability to think critically and adapt to classroom challenges. This supports Ammoneit et al., who highlighted reflective practice as key to professional growth.[66] Theoretically, Shulman's PCK framework explains how adaptability allows student teachers to align geography content with pedagogy. Kolb's cycle also applies, as participants' adjustments demonstrate abstract conceptualisation and active experimentation. Furthermore, Bandura's theory suggests that adaptability is socially reinforced when peers and mentors validate effective changes.

Discussion Summary
Overall, the findings of this study confirm much of the existing literature on microteaching while also highlighting the limited adoption of artificial intelligence (AI) tools compared to global trends. Through the triple theoretical lenses, the results provide deeper insights into the competencies acquired by student teachers. Kolb's Experiential Learning Theory explains how participants progressed from concrete teaching experiences to reflective observation and active experimentation, thereby enhancing their confidence, pedagogical skills, and adaptability. Shulman's Pedagogical Content Knowledge (PCK) framework is evident in the way geography content knowledge was integrated with effective lesson planning and delivery, allowing student teachers to transform abstract concepts into learner-friendly content. Similarly, Bandura's Social Learning Theory is reflected in the collaborative and interpersonal

[63] Serame and Afuye, "Geographic Information Systems Methods in Practice: Higher Education Curricula and Practitioner Registration Standards in South Africa."
[64] Golightly and Westhuizen, "An Assessment of Hybrid Collaborative Learning in Geography Micro-Teaching: A South African Case Study."
[65] Mohamad Amin and bin Jamaludin, "21st-Century Geography Teaching and Learning: Issues and Challenges."
[66] Ammoneit, Turek, and Peter, "Pre-Service Geography Teachers' Professional Competencies in Education for Sustainable Development."

skills gained, as participants learned by observing peers, modelling effective teaching practices, and reinforcing behaviours through social interaction and feedback. Collectively, these findings demonstrate that microteaching in the South African context strongly supports the development of essential teaching competencies. This contrast underscores the contextual reality of South African universities, where microteaching remains an effective experiential approach.

RECOMMENDATIONS

Based on the findings of this study, several recommendations are proposed to enhance the effectiveness of microteaching in geography education. First, teacher education programmes should increase the frequency and depth of microteaching sessions. This would provide student teachers with more opportunities to practice, reflect, and refine their teaching competencies. There is a need to enhance ICT training specifically tailored for geography student teachers. Incorporating digital tools such as Geographic Information Systems (GIS), interactive maps, and adaptive learning platforms will better prepare future teachers for technology-driven classrooms. The development of stronger peer feedback and mentorship mechanisms is essential. Structured evaluations by peers and mentors would encourage reflective practice and foster collaborative learning among student teachers. Integrating reflective practice more formally into teacher training programmes is also important, as regular reflection promotes critical thinking and self-evaluation skills. To support these activities, universities should address resource and time constraints by investing in adequate ICT infrastructure and allocating sufficient time within teacher training modules for effective microteaching practice. Future research should include longitudinal studies to investigate the long-term impact of microteaching on teaching competence and learner outcomes in actual classroom settings.

CONCLUSION

This study has explored the competencies gained through geography microteaching at a South African university, using qualitative reflections to assess its impact. The findings revealed that microteaching significantly enhanced a range of teaching skills, including pedagogical and communication abilities, classroom management, confidence, ICT integration, collaboration, and critical thinking. These outcomes align with existing literature on the benefits of microteaching. The study reaffirmed its core purpose: to examine how microteaching prepares student teachers for effective classroom practice by aligning pedagogical strategies with geography content knowledge. The research demonstrated that when microteaching is guided by established theoretical frameworks such as Kolb's Experiential Learning Theory, Shulman's Pedagogical Content Knowledge (PCK), and Bandura's Social Learning Theory, it becomes a powerful tool for professional development. Despite its strengths in building essential teaching competencies, there remains a pressing need to integrate ICT innovations more fully into microteaching. Doing so would ensure that South African teacher education stays aligned with global trends in digital pedagogy and prepares educators for the evolving demands of the modern classroom.

Declarations

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