E-Journal of Humanities, Arts and Social Sciences (EHASS)
ISSN – Online 2720-7722 | Print 2821-8949
Volume 5 Issue 11 September 2024 pp 1860-1878
Available online at: https://noyam.org/journals/ehass/
DOI: https://doi.org/10.38159/ehass.202451119

Implementing Flipped Classroom to Enhance Student Engagement: An Action Research

Nana Yaw Brenya Agyeman [1] & Venessa Aphane [2]

[1] Department of Business, Commerce and Management Education, Faculty of Education, Queenstown, Walter Sisulu University, South Africa.

[2] Department of Initial Primary Teacher Education, Faculty of Education, Queenstown, Walter Sisulu University, South Africa.

ABSTRACT

The flipped classroom, also known as inverted instruction, has gained significant attention recently.This teaching method involves students engaging with resources and activities, such as watching videos before class. Class time then focuses on discussions and problem-solving sessions. This study employed a qualitative research approach with a case study design to explore the flipped classroom's impact on learning outcomes. Eight participants were purposefully selected for structured interviews. Thematic analysis revealed the importance of student preparation for active participation, knowledge acquisition, and deeper engagement with the material. Additionally, pre-class reading enhanced student understanding maintained interest and promoted learning. The study revealed that the flipped classroom approach can create a positive learning atmosphere that fosters deeper student engagement. Interaction with class materials before class facilitated active participation and a thorough understanding of concepts during classroom interactions. Furthermore, the approach encouraged collaboration and teamwork among students and between students and instructors. Based on these findings, the research recommends that teachers should focus on student engagement with subject matter, resources, and tasks. To maximize the effectiveness of this method, curriculum and educational materials should promote teamwork skills. Additionally, academic institutions should emphasise time management strategies to encourage student self-motivation and interest in studying materials beyond regular class hours. This study will provide a guide for schools to encourage learner engagement and active learning among students and their teachers. Moreso, this will serve as a guide for schools and teachers to optimize the use of flipped classroom.

Keywords: *Active Learning, Collaboration, Curriculum, Deep Learning, Flipped Classroom, Inverted Instruction, Student Engagement.*

Correspondence
Nana Yaw Brenya Agyeman
Email: nagyeman@wsu.ac.za

Publication History
Received: 27th May, 2024
Accepted: 8th August, 2024
Published online:
11th September, 2024

INTRODUCTION

The flipped classroom model, also known as the inverted classroom, has gained significant attention.[1] The flipped classroom approach is an innovative pedagogical strategy that enriches student learning experiences by encouraging engagement and participation. It involves "flipping" the traditional lesson

[1] Lanqin Zheng et al., "The Effectiveness of the Flipped Classroom on Students' Learning Achievement and Learning Motivation: A Meta-Analysis," *Journal of Educational Technology & Society* 23, no. 1 (2020): 1–15, https://www.jstor.org/stable/26915403.

structure. Students access resources and study materials before class, allowing class time to focus on discussions and collaborative activities with peers and instructors.[2] This blended learning model combines self-directed learning with interactive class discussions, offering numerous benefits for student education.[3] This method allows students to interact with class materials and educational videos outside class time while class sessions focus on discussions and problem-solving activities.[4] This adaptability fosters a smoother transition between in-class and out-of-class interactions, promoting collaboration among students and educators.

South Africa's education system faces obstacles that hinder the quality of teaching, learning, and overall standards. This is evident in student performance in National Senior Certificate exams.[5] One key issue is traditional teaching methods. Mhlolo links low high school student performance to unengaging learning methods and a lack of innovation.[6] These methods fail to stimulate active learning and rich educational experiences. Therefore, Mhlolo suggests reducing reliance on passive teaching approaches. While research explores flipped classrooms and their impact on student engagement, a gap exists regarding the long-term benefits of this method in promoting engagement and deep learning, specifically within rural university contexts. In economics education, students passively absorb information during lectures, hindering their active participation and application of principles in real-world scenarios. Findings from the literature have revealed that the traditional face-to-face teaching approaches could not be used to engage effectively. For instance, Kumar's findings concur with this by showing how the traditional teaching methods in schools Have not been able to promote critical thinking, solving problems and applying their knowledge in real-world scenarios.[7] However, Kumar proposes active teaching methods that improve students' understanding and ability to apply them in a given context.[8]

Educational facilitators have observed students who seem disengaged in traditional classroom settings. Encouraging student participation is crucial for fostering a rich learning experience, especially in rural areas often facing resource limitations. Higher education is a well-established driver of progress, and leveraging education can be particularly transformative for these regions. Many students entering rural universities come from backgrounds with academic deficiencies, highlighting the need for teaching strategies that promote active participation and deep learning. Thus, this action-based study explores how implementing a flipped classroom method can enhance student learning and comprehension in rural universities with an emphasis on one rural South African university. This study examines the effectiveness of the flipped classroom approach in promoting learning. This study also examines the effectiveness of implementing flipped classrooms to enhance learning at a rural South African university. This research further investigates how the flipped classroom method can address these challenges. The primary goal is to encourage student participation, collaborative learning, and the development of critical thinking skills. The study aims to move away from lecture-based teaching, which often fails to engage students effectively, leading to poor academic performance and limited motivation. This research project will evaluate the flipped classroom model's effectiveness in enhancing student engagement and elevating learning outcomes in first-year economics courses. The following questions underlie the study:

1. How does implementing the Flipped Classroom approach influence student engagement in the learning process?
2. What challenges and opportunities affect implementing the flipped classroom approach?

[2] N. El-Bassiouny and D. H. El-Naggar, " Flipped Classroom Application in an Advanced Research Methods Course: Insights from Social Cognitive Theory and Self-Determination Theory," *The International Journal of Management Education* 21 (2023): 1–10; P. Joy et al., "Flipped Classroom: A Student Perspective of an Innovative Teaching Method during the Pandemic," *Education Medica* 24 (2023): 1–7.
[3] N. Aljaber et al., " Flipped Classrooms in Pharmacy Education: A Systematic Review," *Saudi Pharmaceutical Journal* 3, no. 1 (2023): 1–18.
[4] Zheng et al., "The Effectiveness of the Flipped Classroom on Students' Learning Achievement and Learning Motivation: A Meta-Analysis."
[5] Michael Kainose Mhlolo, "Is Rote Learning of Number Concepts 'Inherently Rotten' or Is It Just a Blame and Shame Game That Vitiates Principles of Natural Progression?," *Mediterranean Journal of Social Sciences*, December 1, 2014, https://doi.org/10.5901/mjss.2014.v5n27p1581.
[6] Mhlolo, "Is Rote Learning of Number Concepts 'Inherently Rotten' or Is It Just a Blame and Shame Game That Vitiates Principles of Natural Progression?"
[7] Narendra Kumar, "Innovative Teaching Strategies for Training of Future Mathematics in Higher Education Institutions in India," *Futurity Education* 3, no. 1 (2023): 16–33.
[8] Kumar, "Innovative Teaching Strategies for Training of Future Mathematics in Higher Education Institutions in India."

LITERATURE REVIEW

The Implementation of the Flipped Classroom Method

Teaching techniques like the flipped classroom have gained significant recognition for their positive impact on student learning outcomes and achievement. A study by Ruzaf Martinez et al. compared the flipped classroom to traditional teaching methods and found that it significantly enhanced knowledge acquisition and improved student learning.[9] Notably, students reported higher satisfaction levels with the flipped classroom approach than with lectures, which often struggle with student engagement.[10] Similar positive outcomes were observed by Kai Ng among first-year nursing students, who demonstrated a marked improvement in performance through the flipped classroom approach.[11]

Acknowledging that the flipped classroom's success may vary depending on the subject is essential. This emphasizes the need for customized strategies tailored to different disciplines.[12] Therefore, selecting a teaching methodology requires careful consideration of knowledge acquisition and student satisfaction.[13] A study by Lawter and Garnjost compared face-to-face instruction with flipped classroom practices in nursing education.[14] It found significant improvement in final-year students' competencies across knowledge, skills, and global competence domains. The flipped classroom, known for its use of learning materials and interactive technology tools, fostered a positive attitude, improved skills, and led to greater competence compared to traditional face-to-face teaching.

These findings align with Borysova's emphasis on technology's role in enhancing student learning experiences.[15] The study highlights that online platforms can effectively support flipped classroom implementation and suggests that further technological integration could be beneficial. Interestingly, the research also suggests that combining elements of flipped classrooms and traditional methods might positively impact student competence. Beyond the core knowledge acquisition, the flipped classroom approach seems to enhance aspects of learning crucial for nurses, such as research skills, critical thinking abilities, and information interpretation, all fostered by active engagement with course materials.

Students' perceptions of the flipped classroom offer valuable insights into its effectiveness. Colombo Magana et al. review of flipped classroom studies yielded mixed results but consistently demonstrated its influence on student academic performance across various disciplines.[16] Students from different fields reported that the flipped classroom approach positively impacted their performance and learning outcomes. Additionally, the research highlighted a boost in student engagement and a more positive perception of course content. It also underscored the role of technology and online resources in enriching students' educational experiences.

These findings support the recommendation for integrating the flipped classroom model to enhance student involvement. Baig and Yadegaridehkordi's study adds another layer of evidence.[17] It found that employing the flipped classroom method, compared to traditional methods, effectively enhances students' critical thinking skills. Notably, the study suggests that a modified flipped classroom model, incorporating class preview activities and post-class reflection sessions, further aids students in interpreting, analyzing, and evaluating the information presented.

---

[9] María Ruzafa-Martínez et al., "Effectiveness of the Flipped Classroom Methodology on the Learning of Evidence-Based Practice of Nursing Students: Quasi-Experimental Design," *Nurse Education Today* 128 (September 2023): 105878, https://doi.org/10.1016/j.nedt.2023.105878.

[10] Ruzafa-Martínez et al., "Effectiveness of the Flipped Classroom Methodology on the Learning of Evidence-Based Practice of Nursing Students: Quasi-Experimental Design."

[11] Emily Ka Lai Ng, "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review," *Nurse Education in Practice* 68 (March 2023): 103585, https://doi.org/10.1016/j.nepr.2023.103585.

[12] Ruzafa-Martínez et al., "Effectiveness of the Flipped Classroom Methodology on the Learning of Evidence-Based Practice of Nursing Students: Quasi-Experimental Design."

[13] Ruzafa-Martínez et al., "Effectiveness of the Flipped Classroom Methodology on the Learning of Evidence-Based Practice of Nursing Students: Quasi-Experimental Design."

[14] Leanna Lawter and Petra Garnjost, "Effectiveness of Flipped Classroom Format in Quantitative and Non-Quantitative Business Courses–A Meta-Analysis," *The International Journal of Management Education* 21, no. 3 (2023): 100849.

[15] S. Borysova, "Digital Competence in Ukrainian Education of the Future: Teaching Assessment," *Futrirty Education* 4, no. 3 (2023): 217–31.

[16] E. C. Colombo-Magana et al., " University Student's Perception of the Usefulness of the Flipped Classroom Methodology," *Education Sciences* 10, no. 1 (2020): 1–20.

[17] M. I. Baig and E. Yadegaridehkordi, " Flipped Classroom in Higher Education: A Systematic Literature Review and Research Challenges," *International Journal of Educational Technology in Higher Education* 20, no. 6–1 (2023): 1–26.

The introduction of flipped classrooms has been observed to promote collaboration and active engagement among students. Alqahtani et al. conducted a study in Saudi Arabia to analyze student participation trends across various disciplines using the flipped classroom approach.[18] Their results showed increased student engagement in health sciences, management sciences, business studies, law, and engineering. However, participation rates were lower in Sharia sciences and Islamic studies.[19] These differences suggest that the effectiveness of the flipped classroom may vary depending on how it is implemented within different fields. While Baig and Yadegaridehkordi highlight the flipped classroom's potential to foster active engagement and collaboration, they also acknowledge potential challenges hindering its implementation.[20] These challenges include:

- A lack of student motivation to prepare before class.
- There is a need for guidance addressing pre-recorded materials and activities.
- Insufficient online resources to support independent learning.

Providing robust support systems for student learning outside the classroom is crucial to address these challenges effectively.

Research suggests that the flipped classroom model offers advantages for both students and teachers. Ma et al. discovered that implementing the flipped classroom helped alleviate teacher workload and address issues related to out-of-class assignments.[21] Traditional methods, they argue, can lead to student procrastination and learning challenges. The flipped classroom, emphasizing pre-class materials and in-class activities, can be a step towards addressing these problems. A literature review suggests that the flipped classroom approach, compared to traditional methods, boosts student engagement in learning (mention studies here if you have included them previously). By incorporating a variety of resources, including pre-class materials, post-class assignments, and in-class assessments, the flipped classroom can lighten the workload for both students and teachers.[22]

However, research also suggests that the flipped classroom's success may be enhanced when combined with other teaching strategies.[23] Campillo Ferrer and Miralles Martinez advocate incorporating innovative teaching methods like quizzes and group activities to enhance student motivation and learning experiences.[24] These findings imply a need for ongoing research to optimize learning outcomes within the flipped classroom setting and address existing and emerging challenges inside and outside the classroom environment.

The Challenges and Opportunities of the Flipped Classroom Approach

The flipped classroom is celebrated as an innovative pedagogical approach to enhancing student learning, and it represents a departure from traditional face-to-face teaching. However, its successful implementation necessitates adept navigation of inherent challenges and opportunities directly impacting teaching. The flipped classroom, hailed as an innovative approach to boost student learning, represents a significant departure from traditional face-to-face instruction. However, its successful implementation requires educators to navigate challenges and opportunities directly impacting teaching and learning outcomes. As educators adopt and integrate this pedagogical shift, thoughtful consideration and sensitivity are crucial.

Below, the study delves into the complexities surrounding these critical challenges and opportunities within the flipped classroom model, acknowledging their potential influence on student learning experiences.

[18] T. M. Alqahtani, F. D. Yusop, and S. H. Halili, "Dataset on the Relationship between Flipped Classroom Approach, Students Learning Satisfaction and Online Anxiety in the Context of Saudi Arabian Higher Education Institutions," *Data in Brief* 45, no. 1 (2022): 1–7.
[19] Alqahtani, Yusop, and Halili, "Dataset on the Relationship between Flipped Classroom Approach, Students Learning Satisfaction and Online Anxiety in the Context of Saudi Arabian Higher Education Institutions."
[20] Baig and Yadegaridehkordi, " Flipped Classroom in Higher Education: A Systematic Literature Review and Research Challenges,."
[21] Yan Ma, Changwu Wei, and Feixue Huang, "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers," *Heliyon* 10, no. 2 (January 2024): e24864, https://doi.org/10.1016/j.heliyon.2024.e24864.
[22] Ma, Wei, and Huang, "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers."
[23] J. M. Campillo-Ferrer and P. Miralles-Martinez, " Humanities and Social Sciences Communications," *Humanities & Social Sciences Communications* 8, no. 176 (2021): 1–9.
[24] Campillo-Ferrer and Miralles-Martinez, " Humanities and Social Sciences Communications."

The Challenges of Using the Flipped Classroom Approach

Integrating the flipped classroom method into education presents various challenges, prompting institutions to explore creative solutions and thorough planning for seamless implementation. As Hoshang et al. noted, a key challenge lies in providing adequate support for educators and students transitioning to this approach.[25] Research suggests that 89% of teachers advocate for training and support to enhance student use of the flipped classroom model.[26] Additionally, teachers should offer ongoing guidance to students throughout the implementation process.

Perminova explores the potential of integrating AI into the flipped classroom as an educational advancement.[27] However, the study also raises concerns about the potential drawbacks of this novelty. While AI holds promise for enriching learning experiences, its current limitations and the risk of diminishing teacher involvement could negatively impact students' critical thinking skills. Perminova's findings highlight important considerations for educators moving forward.

While flipped classrooms offer numerous benefits, their successful implementation requires addressing several challenges. A key obstacle is student engagement and motivation. Despite aiming to promote active learning, some students struggle to adapt to the self-directed learning required for pre-class activities outside the traditional classroom setting.[28] To address this, Galindo Dominguez suggests that teachers create engaging and stimulating class materials that actively draw students into the learning process.[29] Without addressing student motivation, the flipped classroom model can falter.

Another challenge is the workload associated with flipped classrooms. Cevikbas and Argun highlight the increased preparation required by instructors and students for in-class activities and pre-class materials.[30] This additional workload can strain educators and students, potentially impacting student well-being.[31] Ma et al. further state that flipped classrooms may not necessarily reduce students' time on assigned tasks.[32] Schools can effectively tackle these obstacles by providing support structures for teachers. This could include professional development sessions on flipped classroom implementation, collaborative planning opportunities for educators to share best practices, and resource-sharing platforms for lesson materials. By addressing these challenges, schools can create a more successful flipped classroom environment that fosters student learning and well-being.

While the flipped classroom holds promise for student learning, a key challenge is catering to students' varying perspectives and attitudes toward this approach.[33] Alyousef found that some students readily embrace the flipped classroom, actively engaging with pre-class materials.[34] However, others struggle to adapt to self-directed learning or feel overwhelmed by the independent preparation required. Chan highlights the importance of independent learning in fostering critical thinking and participation.[35] However, research reveals that many students struggle to engage with class activities and resources independently, hindering their interactions with peers and participation in class discussions.

This diversity in student preparedness and responsiveness challenges educators implementing the flipped classroom model. To meet these diverse needs, educators must plan strategically and provide ongoing support to ensure that all students can fully benefit from the flipped classroom approach. Bridging the gap in student engagement requires ongoing effort to ensure all students feel equipped and motivated to learn independently. One of the key challenges to implementing the flipped classroom model is the

[25] S. Hoshang, T. A. Hilal, and H. A. Hilal, " Investigating the Acceptance of Flipped Classrooms and Suggested Recommendations," . . *Procedi Computer Science* 184, no. 1 (2021): 411–18.
[26] Hoshang, Hilal, and Hilal, " Investigating the Acceptance of Flipped Classrooms and Suggested Recommendations."
[27] L. Perminova et al., "The Role of Artificial Intelligence in Improving the Quality of Education and Research," *Futurity Education* 3, no. 4 (December 25, 2023): 46–59, https://doi.org/10.57125/FED.2023.12.25.03.
[28] H. Galindo-Dominguez, "Flipped Classroom in the Educational System," *Educational Technology & Society* 24, no. 3 (2021): 44–60.
[29] Galindo-Dominguez, "Flipped Classroom in the Educational System."
[30] M. Cevikbas and Z. Argun, " An Innovative Learning Model in the Digital Age: The Flipped Classroom," *Journal of Education and Training Studies* 5, no. 11 (2017): 189–200.
[31] Cevikbas and Argun, " An Innovative Learning Model in the Digital Age: The Flipped Classroom."
[32] Ma, Wei, and Huang, "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers."
[33] I. Y. Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)," *Journal of Instructional Leadership* 8, no. 1 (2023): 1–14.
[34] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."
[35] C.K.Y. Chan, "A comprehensive AI policy education framework for university teaching and learning." *International Journal of Educational Technology in Higer Education.* 20(38). 1-25. https://doi.org/10.1186/s41239-023-00408-3

issue of equitable access to technology and digital resources outside of school.[36] This approach relies heavily on students interacting with pre-class materials online, such as videos, readings, and quizzes. However, it often assumes that all students have access to technology and reliable internet connections.

Internet access plays a crucial role in the success of the flipped classroom by enabling students to engage with online resources before attending in-person classes. Kumar's research highlights how the lack of internet access and online resources can significantly hinder students' ability to achieve the flipped classroom's objectives.[37] Students sometimes could not participate because they lacked access to class materials. This issue is further compounded by the digital divide, where many students face barriers such as a lack of personal electronic devices and limited familiarity with online tools.[38] These disparities worsen students' challenges in attaining learning goals, as students without internet connectivity struggle to complete pre-class assignments or actively participate in online discussions.[39]

Implementing the flipped classroom model requires collaboration from school leaders, education authorities, and teachers. These stakeholders must work together to address students' challenges, including ensuring equitable access to technology and reliable internet connections. Providing targeted assistance to students struggling with flipped classroom activities is also essential. Such support can foster the development of critical thinking skills by helping students engage more effectively with the learning materials.

The Opportunities offered by the Flipped Classroom Approach

The flipped classroom model offers exciting possibilities for improving student learning experiences and encouraging participation in language learning settings.[40] This method provides a strategic advantage by reorganizing teaching techniques. Students gain independent access to pre-class materials, often delivered through multimedia resources and online tools.[41] This approach frees up valuable class time for student-centred activities like group discussions and practical exercises, allowing students to apply their knowledge actively.

Beyond promoting engagement, the flipped classroom technique fosters deeper student learning. Nerantzi's research suggests that the flipped classroom's success hinges not simply on using multimedia or providing pre-recorded lectures.[42] Instead, it requires carefully planned activities that promote student involvement, which is essential for their progress.[43] To achieve this effectively, instructors need to gain a thorough understanding of the flipped classroom approach. This empowers them to actively encourage student inquiry and personalize support for individual learning needs. The flipped classroom model offers broader benefits than simply boosting student interaction and engagement.[44] It also actively supports the application of knowledge through class discussions with classmates and teachers. These researchers emphasize the flipped classroom's role in nurturing student learning by providing:

- Flexibility: Tailored content that caters to different learning styles.
- Inclusivity: A student-centered approach that promotes participation.[45]

[36] Kumar, "Innovative Teaching Strategies for Training of Future Mathematics in Higher Education Institutions in India."
[37] Kumar, "Innovative Teaching Strategies for Training of Future Mathematics in Higher Education Institutions in India."
[38] Zheng et al., "The Effectiveness of the Flipped Classroom on Students' Learning Achievement and Learning Motivation: A Meta-Analysis."
[39] Zheng et al., "The Effectiveness of the Flipped Classroom on Students' Learning Achievement and Learning Motivation: A Meta-Analysis."
[40] Joseph P. Vitta and Ali H. Al-Hoorie, "The Flipped Classroom in Second Language Learning: A Meta-Analysis," *Language Teaching Research* 27, no. 5 (September 24, 2023): 1268–92, https://doi.org/10.1177/1362168820981403.
[41] Vitta and Al-Hoorie, "The Flipped Classroom in Second Language Learning: A Meta-Analysis."
[42] Chrissi Nerantzi, "The Use of Peer Instruction and Flipped Learning to Support Flexible Blended Learning during and after the COVID-19 Pandemic," *International Journal of Management and Applied Research* 7, no. 2 (2020): 184–95.
[43] Nerantzi, "The Use of Peer Instruction and Flipped Learning to Support Flexible Blended Learning during and after the COVID-19 Pandemic."
[44] C. Jia et al., "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study," *The Internet and Higher Education*, 2023, 1–20.
[45] Jia et al., "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study."

Mardiha et al. further highlight the value of the flipped classroom as a solution for teaching and learning during emergencies like pandemics.[46] This approach ensures uninterrupted learning by facilitating remote delivery of course content. Kaplan et al. endorse the flipped classroom model for its ability to encourage learning and student engagement through technology-delivered content.[47] This can include pre-recorded lectures or digital readings, allowing students to access materials at their own pace. These studies collectively confirm that the flipped approach stimulates discussions and hands-on activities and allows for continued teacher guidance, even in remote learning environments.

Research suggests that the flipped classroom model offers valuable flexibility and adaptability in teaching and learning, allowing educators to cater to diverse contexts and student needs.[48] This was particularly evident during the COVID-19 pandemic, where the flipped classroom provided a structured method for delivering course content through online platforms.[49] Educators can leverage various tools to create pre-class materials, such as videos, that promote active student participation. Students can view and revisit these resources at their convenience, enabling asynchronous content delivery inside and outside the classroom. This approach effectively addresses individual learning needs and fosters deeper comprehension.[50]

Gren's research aligns with these findings, demonstrating that the flipped classroom method, compared to traditional approaches, helped many students progress in their studies and enhance their learning experiences.[51] However, it is essential to acknowledge that this approach may necessitate additional school support to empower students with the independence and motivation needed to thrive in a more self-directed learning environment. Research suggests that the flipped classroom model is particularly successful in nursing and medical education, improving student learning outcomes.[52] This method encourages students to engage with course materials before class, paving the way for richer in-class experiences focused on discussions, problem-solving, and hands-on activities.[53]

The flipped classroom's appeal extends beyond nursing and medicine. Studies by Aljaber et al. indicate a preference for this approach among students and instructors across various educational disciplines.[54] Effective implementation involves several critical elements highlighted by Kai Ng, such as:

- Pre-class preparation with quizzes and simplified assignments.
- Interactive in-class activities that encourage participation.
- Collaborative learning through peer discussions.[55]

These tactics all contribute to the flipped classroom's success. Gren's analysis of 21 studies investigating the flipped classroom's impact on learning depth is particularly revealing.[56] The analysis found that 18 studies indicated that the flipped classroom approach was more effective than traditional face-to-face teaching methods. This study suggests that the flipped classroom's efficacy may stem from its ability to foster student self-motivation and independent learning.

[46] Sayyed Mortaza Mardiha, Goudarz Alibakhshi, Masoumeh Mazloum, and Reza Javaheri. "Electronic Flipped Classrooms as a Solution to Educational Problems Caused by COVID-19: A Case Study of a Research Course in Iran Higher Education." *Electronic Journal of e-Learning* 21, no. 1 (2023): 26-35.
[47] Ali Kaplan, Cevriye Özdemir, and Özlem Kaplan, "The Effect of the Flipped Classroom Model on Teaching Clinical Practice Skills," *Journal of Emergency Nursing* 49, no. 1 (2023): 124–33.
[48] Oğuzhan Nacaroğlu and Oktay Bektaş, "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement," *Thinking Skills and Creativity* 47 (2023): 101244.
[49] Nacaroğlu and Bektaş, "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement."
[50] Nacaroğlu and Bektaş, "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement."
[51] L. Gren, "A Flipped Classroom Approach to Teaching Empirical Software Engineering," *IEEE Transactions on Education* 63, no. 3 (2020): 155–63.
[52] Ng, "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review."
[53] Ng, "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review."
[54] Aljaber et al., " Flipped Classrooms in Pharmacy Education: A Systematic Review."
[55] Ng, "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review."
[56] Aljaber et al., " Flipped Classrooms in Pharmacy Education: A Systematic Review."

THEORETICAL FRAMEWORK

Constructivism: A Foundation for Active Learning

The modern education system increasingly emphasizes constructivism, a learning theory that posits that students actively construct their knowledge through experiences and reflection.[57] This theory, developed by Jean Piaget in the mid-20th century, challenges traditional, passive learning methods. It argues that students are not simply information receptacles but actively process, interpret, and derive personal meaning from their interactions with the world.[58]

Constructivism is a multifaceted concept in education, influencing research and teaching practices.[59] It shapes how educators approach learning and teaching processes within classrooms. Notably, Taber differentiates between two main constructivist viewpoints: constructivism and radical constructivism. These distinctions spark ongoing discussions about the influence of external factors on knowledge construction.

Gatt emphasizes students' ability to create interpretations that might differ from the teacher's intended message.[60] This highlights the importance of fostering constructivist learning environments. In such environments, teachers can better understand and support students' unique learning paths, bridging the gap between what they intend to teach and how students grasp the concepts. Here, Piaget's Theory of Cognitive Development, which proposes four distinct stages of cognitive development, becomes particularly relevant:

- Sensorimotor Stage (Birth - 2 years old**):** Infants learn through their senses and physical actions during this initial stage. They develop fundamental concepts like object permanence (understanding that objects exist even when unseen) and cause-and-effect relationships.
- Preoperational Stage (2 - 7 years old): As children enter this stage, they use language and symbols to represent the world around them. They engage in pretend play and start to categorize objects. However, their thinking can still be egocentric (centred on their perspective) and lack logical reasoning.
- Concrete Operational Stage (7 - 11 years old): Children develop more logical thinking skills in this stage. They can now grasp concepts like conservation (understanding that the quantity of a substance remains constant despite changes in appearance). They can also reason about concrete objects and actions, but abstract thinking remains challenging.
- Formal Operational Stage (11 years old and beyond): Adolescence marks the beginning of formal operational thought. Teenagers can now think abstractly, solve problems systematically, consider multiple possibilities, and develop their moral code.

Piaget's stages of cognitive development highlight the dynamic nature of learning and the importance of educators fostering environments that encourage curiosity, participation, and introspection.[61] The theory of Cognitive Development categorizes four distinct stages that include. These include sensorimotor (between birth to 2 years old), preoperational (between 2 to 7 years old), concrete operational (between 7 to 11 years) and formal operational (between 11 years and beyond) Each of these stages, as explained above, is characterized by cognitive abilities and weaknesses. This shows the importance of the nature of learning and how educators can improve the school environment that promotes students' curiosity, engagement and reflection. This aligns with constructivism's principles, as Olusegun has emphasized.[62] Constructivism posits that students actively construct their knowledge through experiences and reflection. Here are a few key ways to promote active learning in a constructivist classroom.

[57] G. M. Bodner, "Constructivism: A Theory of Knowledge," *Journal of Chemical Education* 63, no. 1 (1986): 873–78.
[58] Keith S. Taber, "Constructivism in Education," in *Early Childhood Development* (IGI Global, 2019), 312–42, https://doi.org/10.4018/978-1-5225-7507-8.ch015.
[59] Taber, "Constructivism in Education."
[60] S. Gatt, "Constructivism: An Adequate Theory of Learning.," *Social Studies, Mathematics, Science, ICT, Design and Technology*, 2003, 1–20.
[61] Gatt, "Constructivism: An Adequate Theory of Learning."
[62] Steve Olusegun Bada and Steve Olusegun, "Constructivism Learning Theory: A Paradigm for Teaching and Learning," *Journal of Research & Method in Education* 5, no. 6 (2015): 66–70.

- Promote Active Learning**:** Encourage students to explore, experiment, and solve problems through hands-on activities and inquiry-based learning.
- Establish classrooms that prioritize students' interests, existing knowledge, and individual learning preferences.
- Encourage students to reflect on their learning experiences to develop an understanding and express their thoughts effectively.
- Act as a facilitator by offering guidance and assistance while allowing students to navigate their learning journey.

By creating a learning environment that fosters student knowledge construction, teachers can empower them to achieve deeper conceptual understanding, develop critical thinking skills, and remain motivated to excel academically.[63] This constructivist approach allows students to take ownership of their learning experiences with teacher support, giving them an active role in shaping their education.

Constructivism provides a valuable foundation for understanding and promoting effective learning. By encouraging active participation, reflection, and student-centred approaches, educators can cultivate learners who construct their understanding and knowledge throughout their lives.

METHODOLOGY

This research investigated the effectiveness of the flipped classroom model in promoting participation among first-year economics students from disadvantaged backgrounds at a rural university in South Africa. These students often face academic challenges upon entering university. The study adopted an action research approach, following the principles outlined by Apers and Corte.[64] This methodology allowed for cyclical exploration, reflection, and adaptation processes. The research focused on a specific group, including first-year economics students at the university above.

A qualitative approach was chosen for its suitability for exploring complex phenomena like student participation. Eight students were purposefully selected and assigned pseudonyms (ES 1-8) to protect their identities. Semi-structured interviews were conducted with the students based on the flexible interview method described by Ruslin and Alhabsyi.[65] This approach allowed for an in-depth exploration of their experiences with the flipped classroom model.

Inspired by Dawadi, thematic analysis was used to identify recurring themes related to student participation in the flipped classroom setting.[66] Trust-building efforts and extended participant interaction were emphasized to ensure the research's credibility. Reliability was achieved by applying consistent data analysis procedures.

Ethical considerations were paramount. University approval was secured, and participants were informed about the study's objectives. Their right to withdraw from the research at any point was communicated.

PRESENTATION OF FINDINGS AND DISCUSSIONS

How does implementing the Flipped Classroom approach influence student engagement in the learning process?

The flipped classroom approach's impact on student involvement and learning methods is noteworthy, with participant feedback revealing factors that affect its success. Students' viewpoints offer perspectives on its implementation. Patterns recognized from their encounters can guide efforts to enhance their application in education settings. The following conversations delve into emerging themes linked to the study's inquiry.

[63] Taber, "Constructivism in Education"; Bada and Olusegun, "Constructivism Learning Theory: A Paradigm for Teaching and Learning."
[64] P. Apers and U. Corte, " What Is Qualitative Research? ," *Qualitative Sociology* 42, no. 1 (2019): 139–60.
[65] R. Ruslin and F. Alhabsyi, "Semi-Structured Interview: A Methodological Reflection on Developing a Qualitative Research Instrument in Educational Studies," *IOSR Journal of Research & Method in Education* 12, no. 1 (2022): 22–29.
[66] S. Dawadi, " Thematic Analysis Approach: A Step by Step for ELT Research Practitioners," *Journal of Nelta* 25, no. 1–2 (2020): 63–71.

Theme 1: Preparation for and understanding of pre-class activities.
Participants shared their thoughts on how the flipped classroom method impacts student engagement in learning, highlighting the importance of students preparing and grasping the course materials before attending classes. Some participants emphasized that;
ES 2: "Reading and studying the materials before class improved my grasp of the lesson content."
ES 4: "Reviewing the materials and watching videos on the subject matter was key in grasping the lesson's concepts."
ES 5: "Delving into the provided materials and viewing related lecture videos greatly enhanced my comprehension of the class content."

Student readiness and comprehension of class tasks are critical factors for a successful flipped classroom implementation. Feedback from participants underscores the importance of student preparation and pre-class engagement with course materials. Studies have shown that when students prioritize activities like reading, watching videos, and studying before class, they gain a firmer grasp of concepts.[67] This deeper understanding allows them to participate more meaningfully in class discussions. Ma et al. further suggest that pre-class activities can cultivate student interest in learning.[68] Additionally, incorporating class reviews, post-session assignments, and in-class assessments allows students and educators to share the workload effectively. This approach gives students ample time to engage with materials and tasks, leading to better knowledge acquisition.

The flipped classroom's blend of self-directed learning activities with group discussions is particularly beneficial. Research by Ruiz-Jimenez et al. suggests this combination can enhance students' knowledge acquisition and satisfaction with their learning journey. To promote participation and learning, they recommend creating customized strategies tailored to the specific topic being taught. While the flipped classroom method has the potential to boost student understanding, the way an instructor implements it plays a crucial role in achieving desired outcomes.[69]

Theme 2: Promoting collaboration with peers.
Responses from participants indicated that the flipped classroom approach in teaching and learning helps foster active engagement of students and collaboration between students and the teacher, as well as between students and their peers. Participants' responses specifically highlighted the benefits of the flipped classroom in promoting:
ES 1: "The tasks we receive help us enhance our thinking skills and foster collaboration with our classmates."
ES3: "Engaging in activities inside and outside the classroom allows us to deepen our knowledge and understanding and participate actively in group work."
ES6: "Participating in class discussions and group projects aids us in honing our teamwork skills and sharpening our thinking abilities."

Participants in the research indicated the flipped classroom's transformative effect on fostering collaboration between students and instructors. They emphasized the importance of collaborative learning, highlighting how designated tasks, both in and outside of class, encourage critical thinking and teamwork among classmates. Participants noted that engaging in flipped classroom activities promotes teamwork, leading to a deeper grasp of the subject matter. Additionally, they observed that the flipped classroom's inherent activities allow students to collaborate in groups and hone essential collaboration skills. This feedback underscores how the flipped classroom method provides a platform for students to engage in discussions and work with their peers.

Research supports these observations. Ng found that implementing the flipped classroom strategy encourages student collaboration within the classroom, facilitating the exchange of viewpoints, critical

[67] Ma, Wei, and Huang, "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers."
[68] Ma, Wei, and Huang, "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers."
[69] M.C. Ruiz-Jimenez, R. Martinez-Jimenez, and A. Liceran-Gtierrez, "Students perceptions of their learning outcomes in a flipped classroom environment." *Educational Tech Research Dev*. 72(1), (2024); 1205-1223. https://doi.org/10.1007/s11423-023-10289-y

evaluation, and idea sharing for learning.[70] This approach motivates students to collaborate with their peers and encourages teacher interaction during class sessions, as evidenced by Aljaber et al.'s research.[71] Their study found that educators and students prefer the flipped classroom approach over traditional face-to-face teaching methods. However, creating tasks that necessitate individual work and teamwork is essential to implementing the flipped classroom to encourage collaboration effectively. This structure helps students develop the skill of collaborating effectively with their peers to accomplish shared goals.

Theme 3: Enhancing active engagement and learning

Feedback from participants regarding incorporating the flipped classroom method in university education indicated that it fosters participation and enriches student's educational journeys. According to participants,

ES2: "The flipped classroom method enables me to be more involved in reviewing materials before class and participating in activities."

ES4: "The teaching strategy of the flipped classroom has an impact on my participation in the learning process."

ES5: "I have noticed that my capacity to actively participate in learning and comprehend course materials provided ahead of class is enhanced when the flipped classroom approach is utilized."

Feedback from participants underscores the flipped classroom method's positive impact on student engagement and collaboration with classmates. They emphasized how tasks assigned outside of class settings promote critical thinking and foster collaborative experiences among peers. As participants highlighted, activities in a flipped classroom setting encourage teamwork, enabling students to deepen their comprehension of the material while actively engaging with their peers. Engaging in discussions in and outside of class was also identified as a strategy that fosters student participation and knowledge acquisition.

Research acknowledges that student engagement and motivation can hinder flipped classroom implementation.[72] While Galindo Dominguez suggests that the flipped classroom encourages student involvement and participation, it is also noted that some students struggle with self-directed learning.[73] Jia et al. offer a contrasting perspective, arguing that the flipped classroom model provides opportunities for students to actively interact, engage in discussions with peers and instructors, and apply knowledge.[74] However, to ensure the flipped classroom's effectiveness and success, students must feel motivated to learn and be willing to participate in discussions and collaborative activities with their peers.

Theme 4: Improvement in learning experiences and deep learning

Participants' feedback highlighted that the flipped classroom method improves students' learning journeys and encourages in-depth understanding. Their answers to the research query suggested that the flipped classroom:

ES7: "The use of the flipped classroom teaching method allows students to actively participate and inspire critical thinking, which makes us learn to be more effective and interesting".

ES8: "I can actively participate in the learning materials given to us before class and contribute effectively during group activities and discussions when the flipped classroom approach is used".

ES1: "I have observed that when the flipped class is used, it helps other students and me interact and exchange ideas. In addition, this teaching approach helps us to engage with learning materials deeply".

Participant feedback overwhelmingly indicates that the flipped classroom model significantly enhances student learning experiences. They perceive this method as encouraging participation, promoting critical thinking, and boosting overall learning effectiveness and motivation. As one participant noted, the

[70] Ng, "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review."
[71] Aljaber et al., " Flipped Classrooms in Pharmacy Education: A Systematic Review."
[72] Galindo-Dominguez, "Flipped Classroom in the Educational System."
[73] Galindo-Dominguez, "Flipped Classroom in the Educational System."
[74] Jia et al., "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study."

flipped classroom allows students to interact with course materials beforehand, enabling them to contribute to group activities and discussions actively. Participants agreed that the interactions and knowledge exchange facilitated by the flipped classroom play a crucial role in fostering engagement and enriching learning experiences. These responses illustrate how the flipped classroom positively impacts students' comprehensive understanding of their subjects.

The research aligns with these observations. Studies have explored how the flipped classroom approach influences student learning and facilitates more profound understanding. However, Alyousef highlights a potential challenge: While some students readily embrace this method, others may struggle with self-directed learning.[75] For the flipped classroom to be successful, students need the ability to learn independently with guidance from instructors. Vitta and Al Hoorie offer a supportive perspective, emphasising the flipped classroom's potential to boost student engagement and learning outcomes.[76] They also note its potential to enhance students' language proficiency as a learning tool. Their research aligns with the participant feedback, suggesting that implementing the flipped classroom model can lead to better student learning experiences and promote more profound understanding.

What challenges and opportunities affect the implementation of the flipped classroom approach?

In this research, students' perspectives on the flipped classroom approach revealed valuable insights. While acknowledging the flipped classroom's potential to enhance student learning, they also identified challenges that could impact its effectiveness. This section explores student feedback on the key themes that emerged: the benefits and difficulties of implementing the flipped classroom approach in education.

Theme 1: Challenges of the flipped classroom approach

This research identified some challenges associated with implementing the flipped classroom method. If not addressed effectively, these challenges could hinder student learning outcomes. Participants' responses revealed several key themes related to these difficulties.

Sub-theme 1: Effective management of time

Participants highlighted a potential challenge with the flipped classroom method: the assumption that students will dedicate sufficient time to reviewing class materials and watching videos before class to grasp the content thoroughly. This can be difficult for students who must manage their time effectively across multiple subjects. As the study participants noted:

ES1: "We have to balance the limited time for the materials given to us before class with other subject activities, making it difficult to spend adequate time for in-depth understanding."

ES2: "Having to thoroughly engage pre-class activities in addition to other school and extra curriculum activities becomes daunting".

Participants in the research shared concerns about balancing their time within the flipped classroom model. They highlighted a fundamental challenge: finding sufficient time to engage with pre-class materials. Students noted that while the flipped classroom expects them to dedicate time to reviewing materials and watching videos, managing this workload can be challenging, given their extracurricular commitments. These responses suggest that feeling overwhelmed by demands from different subjects and activities can be a significant obstacle to implementing the flipped classroom effectively.

Research supports these observations. Good time management is critical for the flipped classroom's success. Galindo Dominguez emphasizes that providing students with class materials beforehand fosters engagement and reduces in-class time spent on essential content delivery.[77] However, this approach relies on students' self-motivation and drive, as a lack of these qualities can negatively impact learning outcomes.

[75] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."
[76] Vitta and Al-Hoorie, "The Flipped Classroom in Second Language Learning: A Meta-Analysis."
[77] Galindo-Dominguez, "Flipped Classroom in the Educational System."

While Colombo Magana et al. acknowledge the challenges associated with the flipped classroom, they also highlight its effectiveness in saving time and enhancing learning outcomes.[78] Their research suggests that the flipped classroom model remains valuable for promoting student achievement despite these hurdles. In essence, research suggests that the flipped classroom, though requiring effort to implement, can ultimately lead to richer learning experiences.

Sub-theme 2: Challenges related to integration of technology

The flipped classroom model hinges on students' ability to interact with course materials and utilize technology tools to access them. However, obtaining the necessary devices and reliable internet connectivity can be a significant challenge for students from disadvantaged backgrounds or attending universities with limited Wi-Fi access or expensive internet plans. Consequently, the flipped classroom's effectiveness can greatly diminish in such situations. The study participants highlighted these concerns, pointing out the following issues:

ES3: "Access to the internet both at residence and at the campus is unreliable. Hence, it becomes difficult to access materials online and watch pre-class videos from the internet".
ES4: "There is a lack of continuity between classroom teaching and pre-class activities. We need an effective internet to watch recorded videos and access materials needed from the internet".

Participant feedback highlighted the difficulties of integrating technology into the flipped classroom strategy. While students recognize the value of utilizing online resources and technology tools in education, many face obstacles in accessing the required technology. The reliability of internet connectivity and the availability of devices present significant challenges to implementing the flipped classroom approach effectively. These challenges are often exacerbated by the gap between the university's location and students' socioeconomic backgrounds, making it even harder for them to acquire the necessary devices. To ensure successful flipped classroom implementation, the university should offer support by ensuring teaching and learning are well-supported by technological and online resources.

Research acknowledges the limitations of the flipped classroom approach. Galindo Dominguez found that many students struggle to adapt to self-directed learning, which requires them to complete tasks independently before class.[79] To address this, educators must carefully select class materials that facilitate active student engagement in the learning process. Alyousef highlights student perceptions and attitudes as another factor.[80] Their research suggests that while some students may readily embrace the flipped classroom, others may find it challenging to adapt to self-guided learning and feel overwhelmed by the independent study requirements.

Sub-theme 3: Students' accountability and self-discipline in Learning

The flipped classroom method's success hinges on student engagement. This approach requires students to be motivated, responsible, and take ownership of their learning by actively engaging with the material. Feedback from participants underscored these requirements, highlighting the following key observations:
ES5: "We find some students struggle to cope with the work demand through self-discipline to complete activities and tasks given before the class meeting".
ES6: "For this approach to be effective, we as students must maintain accountability for completing the pre-tasks given before class discussion. This process can be challenging to achieve".

Students' sense of responsibility and self-control are crucial factors shaping their academic achievements and learning experiences. Fostering a classroom climate emphasising accountability and discipline empowers students to take charge of their learning and growth. Feedback from participants in the research underscored the significance of student responsibility and discipline in a flipped classroom

[78] Colombo-Magana et al., " University Student's Perception of the Usefulness of the Flipped Classroom Methodology."
[79] Galindo-Dominguez, "Flipped Classroom in the Educational System."
[80] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."

setting. This method requires students to be proactive in their learning. Before attending face-to-face classes, they must exhibit discipline and self-motivation to complete assigned readings and tasks. Participants' feedback suggests that a student's ability to be independent and disciplined is critical in promoting more profound learning experiences and active participation in flipped classroom settings.

Actively engaging in-class exercises can be challenging for students, necessitating motivation and taking responsibility for their education. Alyousef supports this view, highlighting that some students readily adopt the flipped classroom approach by utilizing resources and actively engaging in activities, while others demonstrate a lack of commitment to preparing beforehand.[81] This variation in student preparedness levels can significantly impact the flipped classroom's effectiveness. Alyousef further suggests that student perceptions of the flipped classroom method can differ.[82] While some students may embrace the approach by actively interacting with class materials, others may struggle with self-directed learning or feel overwhelmed by the responsibility of independent preparation for class. These varying levels of preparedness and engagement among students can challenge educators aiming to implement the flipped classroom approach successfully.

Opportunities for Flipped Classroom Approach

The flipped classroom approach has shown promise in enhancing student learning and achievement in higher education settings. Participants' responses indicate several critical advantages of implementing the flipped classroom method in universities. These views are discussed by the participants of the study below.

Theme 1: Opportunities for flipped classroom approach

Sub-theme 1: Flexibility in students learning

The study found that using flipped classrooms significantly makes learning and access to learning materials more flexible and accessible. Participants were of the view that:

ES1: "We can learn at our own pace and convenience by accessing materials needed for discussions. This makes learning much more flexible and easier".

ES2: "The opportunity to review and attempt pre-class materials and content at our own time encourages deep learning and our understanding".

Participants in the research highlighted several advantages of the flipped classroom approach, particularly for students in rural colleges. They emphasized that this method offers students flexibility in their learning experiences, fostering a sense of empowerment and control over their studies. The flipped classroom allows students to access course materials and conveniently complete preparatory tasks. This flexibility empowers them to create personalized study schedules that align with their needs and preferences. This, in turn, can lead to a more adaptable learning environment that promotes deeper comprehension of the material.

Furthermore, the literature supports the flipped classroom's ability to enhance student engagement. Studies by Jia et al. suggest that flipped classrooms can foster student interaction and engagement by allowing students to apply their knowledge through discussions with peers.[83] Similarly, Kaplan et al. highlight the flipped classroom's flexibility in catering content to diverse learning styles and preferences, promoting inclusivity and student-centred education.[84] Oguzhan and Bektas add that the flipped classroom's adaptability allows for learning customization across environments, facilitating smooth transitions to online learning, especially during challenging times like pandemics.[85] However, it is essential to acknowledge that not all students readily embrace the flipped classroom's autonomy. Alyousef

[81] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."
[82] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."
[83] Jia et al., "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study."
[84] Kaplan, Özdemir, and Kaplan, "The Effect of the Flipped Classroom Model on Teaching Clinical Practice Skills."
[85] Nacaroğlu and Bektaş, "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement."

found that some students struggle with self-directed learning, highlighting the need for careful implementation and student support strategies.[86]

Sub-theme 2: Promotes active engagement and participation in learning

Access to materials before class has been beneficial for students' learning as it allows them to actively participate in the content before discussions with peers and teachers. This was supported by participants who highlighted that:

ES3: "Having to interact and engage peers and instructors on class activities helped deepen our understanding of the subject matter".

ES4: "Listening to peers and engaging in discussions with peers and instructors help to develop teamwork and improve our critical thinking".

Participant feedback highlights how the flipped classroom method fosters deeper student involvement and engagement in the learning process. Providing early access to class materials allows students to participate in tasks and assignments before class actively. Pre-class interaction with these resources allows students to come prepared to collaborate and interact with their peers during class sessions. Participants' responses further suggest engaging with peers and instructors fosters a rich exchange of ideas, perspectives, and insights. This, in turn, strengthens students' critical thinking skills and their ability to work collaboratively. Establishing a classroom environment where students feel comfortable expressing their thoughts enhances their learning experiences and deepens their understanding of the subject matter.

The research aligns with these observations. Studies, such as one by Galindo Dominguez, have found that the flipped classroom approach encourages active student participation in learning.[87] However, some students may initially face challenges adjusting to this method. Vitta and Al Hoorie add that utilizing multimedia resources and diverse online materials can enrich students' learning experiences and promote collaboration.[88] Their research suggests that the flipped classroom offers opportunities for student-centred activities, group discussions, and applying knowledge, ultimately leading to deeper student engagement, even though some students may require additional support during the transition.

Sub-theme 3: The learning process is personalized and tailored to suit students' needs

In the flipped classroom, education is customized to meet each student's requirements, enhancing comprehension and offering personalized assistance to address student's needs. Those involved highlighted that;

ES5: "The flipped classroom approach is tailored to our individual needs and personal learning style, which enhances our understanding of the content".

ES6: "This approach allows us to use the resources suitable to our needs as individuals and support our learning".

The flipped classroom approach allows for the creation of customized learning experiences tailored to students' needs. Feedback from participants in the research highlights how personalized learning plays a crucial role in fostering more profound engagement with academic content. The flipped classroom creates an environment catering to their needs and learning styles by tailoring learning activities to individual student requirements. Participants' responses indicate that this approach encourages students to engage with course material that aligns with their preferences, ultimately leading to a deeper comprehension of the subject matter.

The research aligns with these observations. Studies emphasise the importance of learning strategies that address students' individual needs, reflecting a shift towards a more student-centred approach to education. Jia et al. support this notion, affirming that the flipped classroom model offers

[86] Alyousef, "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)."
[87] Galindo-Dominguez, "Flipped Classroom in the Educational System."
[88] Vitta and Al-Hoorie, "The Flipped Classroom in Second Language Learning: A Meta-Analysis."

tailored support for student learning styles and needs, enhancing their educational journey.[89] Ruiz-Jimenez et al. advocate for utilizing methods that promote learning based on the subject being taught.[90] Additionally, Oguzhan and Bektas highlight the flexibility of the flipped classroom, arguing that it allows for curriculum design that can be adapted to different contexts and student needs.[91] These research findings underscore the benefits of customized learning experiences in the flipped classroom, leading to a transition to student-focused learning that ultimately improves student education by catering to their requirements.

RECOMMENDATIONS

The flipped classroom approach hinges on creating a dynamic learning space that engages students with content, materials, and activities. To maximize its effectiveness, flipped classrooms should promote student teamwork and collaboration. This collaborative environment allows students to build upon each other's knowledge and perspectives, leading to a deeper understanding of the subject matter.

However, it is essential to acknowledge that the flipped classroom model requires practical time management skills. Schools can play a crucial role in supporting students by emphasising good time management practices. This can help students develop self-motivation and engagement with learning materials outside class hours. Ultimately, the flipped classroom aims to foster a sense of ownership and responsibility in students, encouraging them to feel driven and motivated to work independently and collaboratively.

Integrating the flipped classroom approach into teaching methods holds significant promise for enhancing student learning experiences.This method can foster profound understanding, boost engagement, and improve literacy skills.

Equitable access to technology and online platforms is crucial for the flipped classroom model's success. Fostering student responsibility, self-motivation, and discipline is critical to creating an environment that promotes active participation and deep learning.

The flipped classroom thrives when students feel empowered to take charge of their learning. By providing guidance and access to resources, educators can equip students with the skills for self-directed learning and maximize the flexibility this approach offers.

Flipped classrooms can foster deeper learning and participation by incorporating engaging activities. Additionally, incorporating elements of personalized learning, similar to strategies used at the university level, can further enhance the effectiveness of this approach.

CONCLUSION

This study explored the flipped classroom approach and its influence on student engagement in teaching and learning at the university. Through the analysis of feedback from students through interviews, several themes emerged. These themes that were explored included collaboration, active student engagement and deep learning that occurs in the flipped classroom in schools.

The findings significantly revealed how flipped classroom teaching provides opportunities for active engagement and improved students' learning experiences. The findings of the study underscored the benefits of students learning at their own pace, obtaining in-depth understanding through engaging in pre-class activities and active involvement in discussions and collaboration with peers. Findings from the study showed how the flipped classroom method of teaching empowers students to own their learning and promotes deeper learning experiences for students.

However, the study revealed challenges that require to be mitigated to ensure the successful use of the flipped classroom approach. Some of these challenges that can be impediments to the use of this approach are time management, technology accessibility and the accountability of students. These challenges can

[89] Jia et al., "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study."
[90] Ruiz-Jimenez, Martinez-Jimenez, and Liceran-Gtierrez, "Students perceptions of their learning outcomes in a flipped classroom environment."
[91] Nacaroğlu and Bektaş, "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement."

be addressed by educational institutions through the provisioning of technological and resource support, and by promoting strategies that foster the self-discipline and motivation of students to effectively engage.

On the whole, employing flipped classrooms in universities has the potential to foster active learning, and promote intense personalized learning experiences. However, recognizing the opportunities and challenges inherent in flipped classrooms can assist instructors and facilitators in effectively adopting the use of the flipped classroom approach to improve learning outcomes and student success.

LIMITATIONS

A fundamental limitation of this study is the sample size. The research involved only eight participants, specifically first-year economics students at a university in South Africa. This restricted sample size limits the generalizability of the findings to other educational environments and student populations. Consequently, the results may not fully capture students' perspectives with diverse needs and learning preferences.

SUGGESTION FOR FURTHER STUDIES

The study sample size was identified as a critical limitation. The research involved only eight participants, all first-year economics students from a rural university in South Africa. This restricts the generalizability of the findings to other educational contexts and student populations.
Future research could address this limitation by:

- **Widening the Sample Size:** Including participants from diverse backgrounds, year levels, and educational institutions.
- **Employing a Mixed Methods Approach:** Combining surveys, interviews, and classroom observations to better understand student experiences in flipped classrooms.

By addressing these limitations, future studies can enhance the generalizability and applicability of the findings to broader educational settings. This would contribute significantly to advancing our knowledge of implementing flipped classrooms and improving teaching, learning, and educational practices more broadly.

BIBLIOGRAPHY

Aljaber, N., J. Alsaidan, N. Shebl, and M. Almanasef. " Flipped Classrooms in Pharmacy Education: A Systematic Review." *Saudi Pharmaceutical Journal* 3, no. 1 (2023): 1–18.

Alqahtani, T. M., F. D. Yusop, and S. H. Halili. "Dataset on the Relationship between Flipped Classroom Approach, Students Learning Satisfaction and Online Anxiety in the Context of Saudi Arabian Higher Education Institutions." *Data in Brief* 45, no. 1 (2022): 1–7.

Alyousef, I. Y. "Acceptance of a Flipped Classroom to Improve University Students Learning: An Empirical Study on the TAM Model and the Unified Theory of Acceptance and Use of Technology (UTAUT)." *Journal of Instructional Leadership* 8, no. 1 (2023): 1–14.

Apers, P., and U. Corte. " What Is Qualitative Research? ." *Qualitative Sociology* 42, no. 1 (2019): 139–60.

Bada, Steve Olusegun, and Steve Olusegun. "Constructivism Learning Theory: A Paradigm for Teaching and Learning." *Journal of Research & Method in Education* 5, no. 6 (2015): 66–70.

Baig, M. I., and E. Yadegaridehkordi. " Flipped Classroom in Higher Education: A Systematic Literature Review and Research Challenges." *International Journal of Educational Technology in Higher Education* 20, no. 6–1 (2023): 1–26.

Bodner, G. M. "Constructivism: A Theory of Knowledge." *Journal of Chemical Education* 63, no. 1 (1986): 873–78.

Borysova, S. "Digital Competence in Ukrainian Education of the Future: Teaching Assessment." *Futrirty Education* 4, no. 3 (2023): 217–31.

Campillo-Ferrer, J. M., and P. Miralles-Martinez. " Humanities and Social Sciences Communications." *Humanities & Social Sciences Communications* 8, no. 176 (2021): 1–9.

Cevikbas, M., and Z. Argun. " An Innovative Learning Model in the Digital Age: The Flipped

Classroom." *Journal of Education and Training Studies* 5, no. 11 (2017): 189–200.
Chan, C.K.Y. "A comprehensive AI policy education framework for university teaching and learning." *International Journal of Educational Technology in Higer Education.* 20(38), (2023);1-25. https://doi.org/10.1186/s41239-023-00408-3
Colombo-Magana, E. C., R. Soto-Varela, J. R. Ruiz-Palmero, and M. Gomez-Garcia. " University Student's Perception of the Usefulness of the Flipped Classroom Methodology." *Education Sciences* 10, no. 1 (2020): 1–20.
Dawadi, S. " Thematic Analysis Approach: A Step by Step for ELT Research Practitioners." *Journal of Nelta* 25, no. 1–2 (2020): 63–71.
El-Bassiouny, N., and D. H. El-Naggar. " Flipped Classroom Application in an Advanced Research Methods Course: Insights from Social Cognitive Theory and Self-Determination Theory." *The International Journal of Management Education* 21 (2023): 1–10.
Galindo-Dominguez, H. "Flipped Classroom in the Educational System." *Educational Technology & Society* 24, no. 3 (2021): 44–60.
Gatt, S. "Constructivism: An Adequate Theory of Learning." *Social Studies, Mathematics, Science, ICT, Design and Technology*, 2003, 1–20.
Gren, L. "A Flipped Classroom Approach to Teaching Empirical Software Engineering." *IEEE Transactions on Education* 63, no. 3 (2020): 155–63.
Hoshang, S., T. A. Hilal, and H. A. Hilal. " Investigating the Acceptance of Flipped Classrooms and Suggested Recommendations." . . *Procedi Computer Science* 184, no. 1 (2021): 411–18.
Jia, C., K. F. Hew, D. Jiahui, and L. Liuyufend. "Towards an Entirely Online Flipped Classroom Model to Support Student Learning Outcomes and Engagement: A Two-Year Design-Based Study." *The Internet and Higher Education*, 2023, 1–20.
Joy, P., R. Panwar, R. Azhagiri, A. Krisnaurthy, and M. Adibatti. "Flipped Classroom: A Student Perspective of an Innovative Teaching Method during the Pandemic." *Education Medica* 24 (2023): 1–7.
Kaplan, Ali, Cevriye Özdemir, and Özlem Kaplan. "The Effect of the Flipped Classroom Model on Teaching Clinical Practice Skills." *Journal of Emergency Nursing* 49, no. 1 (2023): 124–33.
Kumar, Narendra. "Innovative Teaching Strategies for Training of Future Mathematics in Higher Education Institutions in India." *Futurity Education* 3, no. 1 (2023): 16–33.
Lawter, Leanna, and Petra Garnjost. "Effectiveness of Flipped Classroom Format in Quantitative and Non-Quantitative Business Courses–A Meta-Analysis." *The International Journal of Management Education* 21, no. 3 (2023): 100849.
Ma, Yan, Changwu Wei, and Feixue Huang. "A Full-Flipped Classroom Mode from the Perspective of Junior High School English Teachers." *Heliyon* 10, no. 2 (January 2024): e24864. https://doi.org/10.1016/j.heliyon.2024.e24864.
Mortaza Mardiha, Sayyed, Goudarz Alibakhshi, Masoumeh Mazloum, and Reza Javaheri. "Electronic Flipped Classrooms as a Solution to Educational Problems Caused by COVID-19: A Case Study of a Research Course in Iran Higher Education." *Electronic Journal of e-Learning* 21, no. 1 (2023): 26-35.
Mhlolo, Michael Kainose. "Is Rote Learning of Number Concepts 'Inherently Rotten' or Is It Just a Blame and Shame Game That Vitiates Principles of Natural Progression?" *Mediterranean Journal of Social Sciences*, December 1, 2014. https://doi.org/10.5901/mjss.2014.v5n27p1581.
Nacaroğlu, Oğuzhan, and Oktay Bektaş. "The Effect of the Flipped Classroom Model on Gifted Students' Self-Regulation Skills and Academic Achievement." *Thinking Skills and Creativity* 47 (2023): 101244.
Nerantzi, Chrissi. "The Use of Peer Instruction and Flipped Learning to Support Flexible Blended Learning during and after the COVID-19 Pandemic." *International Journal of Management and Applied Research* 7, no. 2 (2020): 184–95.
Ng, Emily Ka Lai. "Student Engagement in Flipped Classroom in Nursing Education: An Integrative Review." *Nurse Education in Practice* 68 (March 2023): 103585. https://doi.org/10.1016/j.nepr.2023.103585.

Perminova, L., Svitlana Vasylyuk-Zaitseva, Iryna Shapka, and Nataliia Savastru. “The Role of Artificial Intelligence in Improving the Quality of Education and Research.” *Futurity Education* 3, no. 4 (December 25, 2023): 46–59. https://doi.org/10.57125/FED.2023.12.25.03.

Ruiz-Jimenez, M.C., Martinez-Jimenez, R and Liceran-Gtierrez, A. "Students perceptions of their learning outcomes in a flipped classroom environment." *Educational Tech Research Dev.* 72(1), (2024); 1205-1223. https://doi.org/10.1007/s11423-023-10289-y

Ruslin, R., and F. Alhabsyi. “Semi-Structured Interview: A Methodological Reflection on Developing a Qualitative Research Instrument in Educational Studies.” *IOSR Journal of Research & Method in Education* 12, no. 1 (2022): 22–29.

Ruzafa-Martínez, María, Alonso Molina-Rodríguez, Verónica Pérez-Muñoz, César Leal-Costa, and Antonio Jesús Ramos-Morcillo. “Effectiveness of the Flipped Classroom Methodology on the Learning of Evidence-Based Practice of Nursing Students: Quasi-Experimental Design.” *Nurse Education Today* 128 (September 2023): 105878. https://doi.org/10.1016/j.nedt.2023.105878.

Taber, Keith S. “Constructivism in Education.” In *Early Childhood Development*, 312–42. IGI Global, 2019. https://doi.org/10.4018/978-1-5225-7507-8.ch015.

Vitta, Joseph P., and Ali H. Al-Hoorie. “The Flipped Classroom in Second Language Learning: A Meta-Analysis.” *Language Teaching Research* 27, no. 5 (September 24, 2023): 1268–92. https://doi.org/10.1177/1362168820981403.

Zheng, Lanqin, Kaushal Kumar Bhagat, Yuanyi Zhen, and Xuan Zhang. “The Effectiveness of the Flipped Classroom on Students’ Learning Achievement and Learning Motivation: A Meta-Analysis.” *Journal of Educational Technology & Society* 23, no. 1 (2020): 1–15. https://www.jstor.org/stable/26915403.

ACKNOWLEDGEMENT

The authors wish to express their sincere gratitude to Walter Sisulu University for their support and guidance throughout this research. They are also grateful to their colleagues for their invaluable support during the writing and publication process of this research article.

ABOUT AUTHORS

Agyeman, Nana Yaw Brenya

The researcher is a dedicated lecturer passionate about fostering effective teaching and learning environments. With a strong background in school leadership, the researcher is committed to exploring strategies that enhance educational outcomes. As a university lecturer, the university is actively researching school leadership, innovative teaching methods, and the dynamics of school leadership.

Aphane, Venessa

Venessa is currently a lecturer in the Initial Primary Teacher Education Department famously known as Foundation Phase. Beyond the classroom, she actively contributes to curriculum development and collaborative research, demonstrating her natural curiosity and eagerness to learn from more seasoned researchers. This dedication, coupled with her inherent talent, has contributed to her interest in research.