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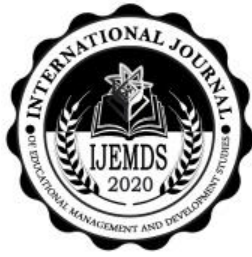
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Exploring students' experiences in the dynamic learning program model

¹Shidrex M. Gonzales & ²Preciosa D. Villacruel

Abstract

This qualitative study, grounded in descriptive phenomenology, investigated the lived experiences of students studying in a private school under the Central Visayan Institute Foundation - Dynamic Learning Program (CVIF-DLP) framework. Through eight focus group discussions involving 62 participants analyzed with the use of thematic analysis, the research explored the advantages, disadvantages, and transformative potential of the CVIF-DLP approach outlined to the three learning domains. Findings revealed that students focus first on the tangible aspects of learning such as learning activity sheet and writing. They also believed that CVIF-DLP has limited special impact on their physical aspects but affects greatly their cognitive and affective aspects. Despite the varied perspectives and encountered challenges, students agreed that the program helps them improve intellectually and personally. It revealed the complex dynamics shaping student learning journeys, emphasizing the need for ongoing program refinement to address student needs effectively. The study offered valuable insights into educational innovation and pedagogical practices, guiding future efforts to enhance the educational experiences of the implementers of CVIF-DLP.

Keywords: *dynamic learning program, CVIF-DLP, learning activity sheet, parallel class, strategic rests, independent learning*

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1. Introduction

The search for innovative and effective teaching strategies has taken center stage in the field of education in the current global climate. Many pedagogies have attracted differing levels of attention to identify the most effective means of promoting student participation in all facets of their behavior, emotions, and cognition (Mc Mullen, 2022). In addition, one of the United Nations Sustainable Development Goals (UNSDG) is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Yet, one unfortunate reality in education is that poverty is one of the primary reasons that hinders students from accessing quality education (NEDA, n.d.).

In the Philippines, educational problem is more than just simplifying the learning process; it's mainly about raising the standard of education (Filoteo, 2021). The perennial issue of teacher shortage, particularly in public schools (Chi, 2023), is largely exacerbated by the numerous unfilled positions within the Department of Education (EDCOM2, 2023). According to Mercado (2023), the Department of Education has reported 51,127 unfilled positions, resulting in a current teacher-student ratio of 1:40. This ratio is far below the ideal 1:30 as studied. In response to these challenges, educational institutions in the Philippines have undertaken continuous reform initiatives aimed at elevating the standard of education. One of the notable initiatives concerning uplifting the quality of education was launched by a couple who has pioneered an innovative approach to education known as the Central Visayan Institute Foundation - Dynamic Learning Program (CVIF-DLP) (Asenorio et al., 2022).

The CVIF-DLP is considered a potential remedy to the persistent educational challenges, such as teacher and textbook shortages in public schools (Chi, 2023) and the need for more engaging learning experiences (Opdenakker & Minnaert, 2011). Remarkably, it achieves these goals without heavy reliance on advanced technology and with flexibility to accommodate a diverse range of learners, offering ease of implementation, adaptability for individualized student experiences, applicability across various educational settings, and notably, it incurred minimal expenses (Bernido & Bernido, 2020). In addition, given its high level of credibility, it comes as no surprise that PLDT, Smart Communications, and the PLDT-Smart Foundation, among others, have emerged as main supporters and advocates of this pedagogical approach to learning (Rioferio, 2023). It has reached 400 schools and 19

municipalities around the Philippines as of 2022, and more than 15,000 teachers have been trained since its inception in 2012 (DepEd Hails PLDT, Smart for Inclusive Education, Aiding Face-to-face Transition, 2023). With such huge impact, the proponents, Ma. Victoria Bernido and Christopher Bernido, were honored with the Ramon Magsaysay Award in recognition of their pioneering efforts in revolutionizing the way students are taught.

The CVIF-DLP has four key pillars that have been substantiated by recent neuroscientific discoveries (Bernido & Bernido, 2020), which include parallel classes, activity-based learning by doing, in-school comprehensive portfolio, and strategic rest. There are a few research proving its effectiveness (Asenorio et al., 2022; Bernido & Bernido, 2020) rooted on quantitative measures, specifically students' performance in standardized tests. Yet, this approach predominantly evaluates only one of the three learning domains for the holistic development of students - the cognitive domain. While quantitative research methods have dominated the research about CVIF-DLP, there is a need for additional qualitative research to give a more in-depth knowledge of the complex processes involved in learning (Sotto, 2018). By adopting a qualitative phenomenological method to investigate the experiences and perceptions of students involved in a dynamic learning program, this study seeks to fill this gap.

Another research gap is the concentration of the research studies related to CVIF-DLP in Visayas and Mindanao areas in the Philippines, where most of the early implementers can be found. Consequently, there were few and limited published studies about the CVIF-DLP implementation in Luzon. Each region in the Philippines can have unique educational, cultural, and social factors that influence the effectiveness and experience of educational programs. Therefore, research findings from Visayas and Mindanao may not directly translate to the specific conditions and challenges faced by institutions in Luzon. This contextual variation is essential to acknowledge because it emphasizes the need for research that is specific to the setting of implementation to ensure that the findings are directly relevant and applicable to the local educational environment.

Despite the acknowledgments and potential benefits of the CVIF-DLP, there have been few to no studies available about the lived experiences of students who have transitioned from a traditional school setup to the CVIF-DLP. This transition, which represents a significant shift

in educational methodology, presents its unique challenges and opportunities. In lieu of the deficiency in the literature and limited exploration of how the CVIF-DLP affects students across the three domains of learning, this study aimed to determine the lived experiences of Senior High School Students at a private school studying under the CVIF-DLP.

2. Literature review

2.1. The Central Visayan Institute Foundation - Dynamic Learning Program

This study is anchored on the CVIF-DLP model (Bernardo & Bernardo, 2020), where the non-negotiable features of DLP, specifically the four pillars, were employed as the lens to have an insightful analysis of each of the pillars based on the student's actual experiences. Its four key pillars include parallel classes, activity-based learning by doing, in-school comprehensive portfolio, and strategic rest.

The first pillar is the parallel classes. There are two main roles to be filled that help facilitate student learning: the expert teacher and facilitators. Since the hallmark of CVIF-DLP is independent learning through its learning activity sheet (LAS), this pillar minimizes the intervention of the teacher in the students learning by 80%. In this setup, the expert teacher, who typically serves as the regular classroom instructor, assumes responsibility for a specific subject. Their roles encompass designing and preparing daily learning activities, as well as evaluating and assessing student performance within that subject. In parallel classrooms, when the expert teacher is not present, a facilitator, who may not necessarily be a subject expert, will supervise the class. If students have any questions or issues related to the LAS or the subject, they will await the return of the expert teacher to address their inquiries.

The second pillar is the activity-based learning by doing. With this approach, the students have more time to do learning activities on their own. The expert teacher is not readily available most of the time when students are working on the LAS, and as a result, they are less inclined to provide immediate assistance. Consequently, this approach can be applied in various learning environments, including but not limited to distance learning and alternative learning systems.

In the third pillar, the concept of preparing a portfolio is adapted and made more comprehensive. The students compile all their daily LAS, small projects, quizzes, and examinations. Thus, the output of the students was placed in one portfolio, which allowed the "expert teachers" to monitor the improvement of the students. This comprehensive portfolio acts as a representative documentation of a student's schoolwork, serving as both a reviewer and tangible evidence of their performance in school. With these, students improve their self-worth, become more motivated, and have better satisfaction (Sotto, 2018).

The last pillar is the incorporation of the no-homework policy into its educational approach, extending to both weekdays and weekends. In addition, strategic rest includes a light midweek load, which means that all students have their Physical Education, Music, Arts, and Health on Wednesday, and the program strongly discourages tutorial sessions after school hours.

2.2. Challenges in the Philippine education and the need for CVIF-DLP

Despite the Department of Education (DepEd) efforts to enhance the quality of education in the Philippines through the implementation of the K to 12 Program (Abranga et al., 2022), recent global surveys have revealed that the country continues to face challenges. With the most recent PISA 2022 results, the Philippines show poor performance (Ines, 2023), suggesting a five- to six-year gap in the nation's learning skills, according to DepEd. In addition, Schleider (2023) provides an interpretation and insights from the result, emphasizing that a lack of social variety in schools suggests that socially and economically challenged students are more prone to share classrooms with other underprivileged families, which might adversely impact how well they perform. It is crucial to emphasize that despite the discouraging outcome, the DepEd has taken a proactive stance by acknowledging these results and realizing the urgent need to address issues and gaps in the pursuit of quality basic education in the Philippines. However, it is important to recognize that the root causes of these problems are complex and not easily resolved. These underlying issues encompass a lack of high-quality educators, insufficient educational resources, and scarcity of textbooks, among other challenges (Bernido & Bernido, 2020).

Sotto (2018) has recommended the adoption of the CVIF-DLP in schools with necessary modifications. It not only offers solutions to longstanding problems like teacher shortages and textbook inadequacies but also presents a contemporary teaching approach that does not heavily rely on advanced technology. This approach holds promise in addressing some of the educational challenges faced by the Philippines. Moreover, it has its origins in the Philippines, specifically in high schools in 2002 (Bernido & Bernido, 2020). According to its proponents, it represents a harmonious blend of classical and contemporary pedagogical theories, thoughtfully adapted to cultivate the highest levels of learning, creativity, and productivity across a broad spectrum of students.

According to Rioferio (2023), CVIF-DLP's impact across 162 public high schools in Bohol, Philippines from 2011 to 2014 revealed a consistent rise in National Achievement Test scores, progressing from 57.58 percent to 58.62 percent and finally reaching 64.35 percent. Conversely, the failure rate steadily dropped from 5.70 percent to 2.13 percent. Similarly, Davao Christian High School, an early CVIF-DLP adopter since 2005, excelled in the 2016-2017 National Career Assessment Examination (NCAE). Over half of their students ranked in the top one percent nationally, with an impressive 77 percent in the top two percent. In addition, the University of the East's Basic Education Department in Manila saw substantial improvements after just one year of CVIF-DLP implementation during 2012-2013. Most students achieved "excellent" ratings, particularly in English, Science, and Mathematics. On the contrary, findings of Basilio (2009, as cited by Asenorio et al., 2022) indicated no notable variance in post-test scores between students who had no prior exposure to CVIF-DLP and those who had experienced it. However, the research also highlights a significant disparity in post-test scores between students with no exposure and those exposed to CVIF-DLP for one year. This suggests that the program was already effective in its initial year of implementation. Nonetheless, prolonged exposure to the program does not necessarily guarantee improved performance. The program has improved a lot since 2012 as the program continues to innovate based on the results of the recent neuroscientific research findings (Bernido & Bernido, 2020). The improvement of the program focuses on promoting more independent learning, which focuses on activity over traditional lectures (Sotto, 2018).

2.3. Independent learning

According to Livingston (2012, as cited by Belawati et al., 2023), in an independent learning technique or process, students take responsibility for and control over their education; they lead, manage, and evaluate their own learning. In order to satisfy his learning requirements, the independent learner can create objectives, and make decisions, and choices. They can also assume responsibility for creating and carrying out their own learning, keep track of how well they are being met, and self-evaluate the results. Independent learning or independent study is a process, method, and philosophy of education in which a student acquires knowledge through his or her efforts, and develops the ability for inquiry and critical evaluation (Madrado & Dio, 2020).

In a literature review conducted by Meyer et al. (2020) across different studies, independent learning has been shown to improve the academic performance of students. It increases motivation and confidence, provides greater student awareness of their limitations and their ability to manage them, enables teachers to provide differentiated tasks for students and fosters social inclusion by countering alienation. On the contrary, the same authors discovered that the greatest obstacle to adopting independent learning is the emphasis on delivering the curriculum and whole-class instruction, which contradicts the teacher's role in promoting individual learning.

2.4. Research framework

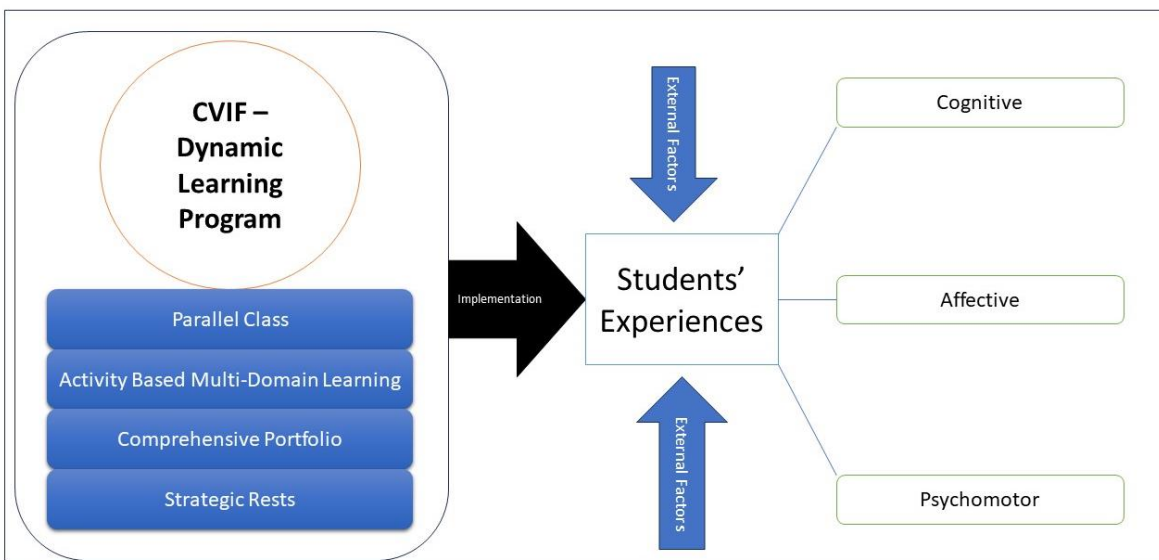
In this study, each pillar of the CVIF-DLP was used to assess how it affects the three learning domains; cognitive, affective, and psychomotor. The analysis sheds light on the CVIF-DLP holistic qualities, its ability to support learners' cognitive, emotional, and psychomotor development, and its potential to produce educational experiences that are well-rounded.

The Benjamin Bloom's three domains of learning, which are cognitive, affective, and psychomotor, were outlined to gain a more comprehensive understanding of the pillars of the pedagogical approach (Bloom et al., 1956, as cited by Ambalegin & Handayani, 2023). These domains of learning act as a valuable roadmap to gain a deeper understanding of learning experiences. It aids in data organization and facilitates comparisons among participants, shedding light on the diversity of learning experiences and the factors influencing them.

Moreover, it provides insights to enhance education by tailoring instructional approaches to meet the needs of learners (Main, 2021). In essence, applying Bloom's three domains of learning in phenomenological research allows for a more thorough exploration of how people learn and contribute to the improvement of educational practices (West, 2023). Utilizing the three domains of learning in this phenomenological study offers a comprehensive view of how individuals learn, considering three key aspects: thinking, emotions, and physical engagement. The cognitive aspect reveals how participants understand and engage with the subject matter, assessing the depth of their knowledge. Exploring the affective domain allows to uncover emotions and the importance individuals attach to their learning experiences. The psychomotor domain highlights the physical actions and interactions in the learning process. Through the application of this framework, the CVIF-DLP pillars can be assessed within the context of these fundamental learning domains.

Figure 1

Research framework



3. Methodology

In this research, a qualitative approach employing the phenomenological research method was utilized to explore the firsthand experiences of senior high school students studying at a private school enrolled in the CVIF-DLP. Although phenomenological in nature,

the data were collected through focus group discussions (FGD). It is an excellent way to gather individuals with similar experiences and backgrounds to discuss a particular subject of interest (Mishra, 2016). According to Bradbury-Jones et al. (2009), utilizing focus groups can offer a deeper insight into the phenomenon being investigated.

This study used a purposive sampling method to gather appropriate participants who gave diverse and in-depth data to better understand the phenomenon under investigation by selecting individuals with relevant backgrounds. The participants of this study were the Senior High School students, both grade 11 and 12 of a private school in Laguna, Philippines. They came from the four different academic strands, namely, Accountancy, Business and Management (ABM), Information and Communication Technology (ICT), Home Economics (Cookery), and Home Economics (Tourism). The choice to conduct FGDs across the different strands recognizes the potential for variations in experiences, challenges, and perspectives among students pursuing distinct educational pathways.

The schedule and the participants for each FGD were set, and the participants were notified in advance. Prior to participation, informed consent and assent were obtained from each participant, ensuring they understood the purpose of the study, their rights, and the confidentiality of their responses. Each FGD consists of participants from the same academic strand to capture the unique experiences within each group. FGD sessions were organized in a comfortable and confidential setting. With participants' consent, and parents' assent, the FGDs were audio-recorded to capture the discussions accurately.

Audio recordings of the FGDs were then transcribed cleaned verbatim. Thematic analysis was employed to identify patterns, themes, and insights from the FGD transcripts. Then, an intercoder reviewed the codes and the themes. This study adopted the thematic analysis approach guided by the framework outlined by Maguire and Delahunt (2017), which aligns closely with the method proposed by Braun and Clarke (2006). As suggested in the framework, the following steps were taken: (1) immersion in the data, and gaining familiarity with the content and context; (2) initial codes were generated to identify and label segments of text that capture relevant concepts, ideas, and patterns; (3) systematically searching for recurring themes or patterns within the dataset, grouping related codes together; (4) the identified themes underwent a rigorous review process to ensure their coherence and alignment

with the data; (5) themes were precisely defined and described to encapsulate the essence of the lived experiences of the participants; and (6) the final step involves writing a comprehensive report that presents the identified themes, supported by illustrative quotes and a thorough discussion of their significance. The data analysis procedure adhered to a structured and validated thematic analysis framework, ensuring rigor and consistency in the identification and interpretation of key themes.

This study was not only a pursuit of knowledge but a commitment to ethical principles. During the conduct of the study, numerous ethical considerations have been thoughtfully integrated into the research methods, prioritizing the utmost standards of research integrity and safeguarding the well-being of the participants and the institution being studied. By upholding ethical consent and authorization, informed consent and assent, confidentiality, privacy and security, and voluntary participation, this research endeavors to contribute to the academic discourse while respecting and protecting the rights and dignity of each participant.

4. Findings and Discussion

Table 1

Generated themes and responses on students' perception of CVIF-DLP

Sub-Themes	Coded Response
Sub-theme 1. Unique Learning methods and strategies	<ul style="list-style-type: none"> • Learning Activity Sheet (LAS) • Writing • Independent Learning • No Assignment • Output Oriented
Sub-theme 2. Conducive Learning Environment	<ul style="list-style-type: none"> • Strategic Rest • Unique Learning Experience • Non-Monotonous Learning Experience • Active Participation
Sub-theme 3. Interconnected Social Dynamics	<ul style="list-style-type: none"> • Teamwork • Collaboration • Overcoming Shyness
Sub-theme 4. Physical Impact and Emotional Response	<ul style="list-style-type: none"> • Exhaustion • Writing-related discomfort • Gratefulness • Learning through hardships

Table 1 shows participants often prioritize tangible aspects of learning, such as engaging with LAS and extensive writing tasks, as these represent tangible manifestations of their educational journey. But they do not only concentrate on schoolwork; they also address more general issues like the value of social interaction, difficulties like fatigue, and learning opportunities. This demonstrates how students understand the complex nature of education and how social and academic connections shape their learning results and general well-being. Their acknowledgment of fatigue underscores the physical and emotional demands of the learning process.

Participants demonstrated a strong connection with LAS, emphasizing how well they foster independent learning and critical thinking abilities. Students were given a framework by the organized nature of LAS to investigate ideas, apply what they had learned, and gain a greater comprehension of the course material. This fits with the program's pedagogy of developing independent learners who can handle challenging academic material.

Annotated exemplar:

“For me, it's essential to learn on your own. You need to learn even without a teacher in class. It means that even without someone teaching you, you should learn the lesson. You should be able to answer questions even if they haven't been taught yet. That's why you need to learn to be independent.” (FGD 3, Participant 5)

Participants also emphasized how the program's planned strategic rest offered a break from the responsibilities of their studies and promoted overall well-being. In addition to reducing academic stress, the allotted time for relaxation and renewal gave students the chance to engage in extracurricular activities and hobbies that complemented a healthy lifestyle. This is positive for students because participation in extracurricular activities may have a big impact on how their identity develops and can increase their sense of well-being and belonging (Winstone et al., 2020).

Annotated Exemplar:

“For me, it's strategic rest. There are no assignments and no academic classes every Wednesday. But there are plenty of activities.” (FGD 1, Participant 3)

Participants stressed the value of collaboration in promoting learning and problem-solving in the CVIF-DLP methodology. Through cooperative exercises like group talks and peer tutoring, students may exchange ideas, clarify concepts, and encourage one another's academic success. In addition to fostering active involvement and collaboration in both academic and extracurricular interests, the focus on teamwork among students also promotes a sense of solidarity and collective responsibility.

Annotated Exemplar:

“Teamwork. Because sometimes one person's answer is everyone's answer. It's not always exact, but the ideas tend to align, especially in math.” (FGD 6, Participant 7)

A significant number of participants in the CVIF-DLP program indicated that long writing tasks had caused them to become physically uncomfortable, especially calluses. Students experience discomfort because of the demanding academic requirements and concentration on writing-intensive tasks. Even while calluses might not look like much, they highlight the physical consequences of extended writing sessions and the significance of ergonomics in learning environments.

Annotated Exemplar:

“For me, it's calluses. Calluses from writing! We're used to having calluses.” (FGD 4, Participant 2)

On a positive note, participants expressed their gratitude for being able to take part in the program and learn about CVIF-DLP. A sense of gratitude for the encouraging learning environment, stimulating curriculum, and chances for both academic and personal development provided is the foundation of gratitude. However, because of the program's

demands, students sometimes mentioned feeling emotionally and physically exhausted in addition to feeling grateful. Moreover, participants also underscored the value of resilience in overcoming obstacles and disappointments they may face while pursuing their education.

Annotated Exemplar:

“No pain, no gain. We learn and improve when we experience hardship. We may have calluses, but that's where we learn.” (FGD 7, Participant 1)

It is essential to include students' viewpoints and ideas in the educational process for several reasons. It gives students a sense of agency and ownership, enabling them to take an active role in directing their own learning. Students are more likely to participate actively in class activities and take responsibility for their academic achievement when they believe that their opinions are acknowledged and heard.

The results support the study of Alkhaldeh (2023), which emphasizes the importance of managing cognitive load and catering to diverse learning styles in maximizing the effectiveness of tailored learning. This study reveals that students prioritize tangible aspects of learning, such as engaging with LAS and collaborative exercises. Although independent learning and critical thinking skills were developed among the students, it is equally important to consider minimizing the exhaustion experienced by the student to further improve the efficiency of the program.

Moreover, understanding students' perspectives on instructional techniques is crucial, especially in light of recent findings such as the PISA 2022 results indicating persistent challenges in Filipino students' performance (Chi, 2023). As this study highlighted several challenges, it emphasizes how important it is to address students' real-world experiences and obstacles in addition to the cognitive components of learning. A more adaptable and productive learning environment may be established by incorporating student voices and experiences into the educational process. This may ultimately improve the nation's educational results.

Table 2*Generated themes on the students' lived experiences relevant to intellectual aspect*

Sub-theme 1. Cognitive Development and Engagement	<ul style="list-style-type: none"> • Improved sentence construction and grammar • Increased confidence in constructing sentences • Pushes the student to think • Helps student to learn on their own • Encourage accountability and hard work
Sub-theme 2. Challenges and Adaptation	<ul style="list-style-type: none"> • Difficulty in understanding certain subjects • Pose challenges for slow learners on specific subjects • Mentally and physically exhausting • Initial worries about the unique approach of DLP • Some students struggle with comprehension
Sub-theme 3. Language Proficiency and Learning Strategies	<ul style="list-style-type: none"> • Writing enforces the student to read • Learned how to translate into English • Improved vocabulary • Advantageous to English subject
Sub-theme 4. Independence and Equal Learning Opportunities	<ul style="list-style-type: none"> • Gives equal importance to all students • Limited opportunity for advanced study • Hands-on approach in certain subjects • Cooperation emphasized over competitiveness

Table 2 demonstrates the experiences of the students in the CVIF-DLP program highlighting an overarching theme acknowledging that the program encourages them to enhance their cognitive skills but requires some adaptation time. Although the curriculum successfully promotes the development of their cognitive skills, it also demands a time of adaptation. Students thank the curriculum for emphasizing a big impact on their intellectual development. Nonetheless, a lot of students also admit the initial difficulties they had acclimated to the program's teaching style and classroom setting. Students must overcome obstacles during this adaptation period, which is marked by novel teaching strategies and classroom dynamics as they become used to the increased academic demands.

Participants frequently reported having improved their grammar and sentence structure, which suggests that the interactive format of the CVIF-DLP, particularly in LAS, helps them hone their communication abilities. They also demonstrated a noticeable improvement in their

linguistic self-confidence when they interacted more actively by expressing greater confidence while constructing sentences.

Annotated exemplar:

“This helps us improve our sentence and paragraph construction. We also become more conscious of grammar. We are practicing, so to speak.” (FGD 1, Participant 3)

Most participants reported that the CVIF-DLP challenges their cognitive abilities, requiring them to think critically and come up with answers on their own. The focus on self-directed learning and addressing issues fosters a mindset of inquisitiveness, enabling learners to assume responsibility for their own educational path.

Annotated exemplar:

“There's a thrill in DLP because you need to think through your answer. Since the lesson hasn't been taught yet, you need to understand the lessons on your own.” (FGD 8, Participant 3)

Moreover, participants reported feeling more agency and autonomy in their academic endeavors when dynamic learning approaches, such as inquiry-based tasks and collaborative learning experiences, were used. They noted that there was no bias or partiality in the program's teaching methods, which highlighted its dedication in providing fair learning opportunities. In the classroom, collaboration is valued more highly than competition, which highlights the program's commitment to advancing diversity and creating a feeling of community among students.

Annotated exemplar:

“Before, the focus was often on who already knew. You really felt that. Here in this system, everyone will learn. Everyone is equal.” (FGD 6, Participant 8)

On the contrary, participants also faced difficulties, especially those who studied at a slower phase. Participants highlighted situations in which subjects like mathematics provided

significant difficulties. In addition, the early concerns raised by students about the DLP's distinct methodology represent the process of adaptation needed. As such, they need to become used to this new teaching approach. These difficulties highlight how different students have different learning demands and how important it is to use adaptable pedagogical techniques to meet different learning styles and rates.

Annotated exemplar:

*"There are subjects where DLP fits perfectly, especially in theoretical subjects like English, Philosophy, Research, and others. But in Math, it's difficult because students have different strengths."
(FGD 6, Participant 7)*

The acknowledgment of the adaptation phase accentuated how crucial it is to take students' transitory experiences into account when putting cutting-edge educational initiatives like CVIF-DLP into practice. To provide a more seamless transition, educators need to be aware of and prepared to handle the difficulties that students can have throughout the adjustment period. Through the provision of suitable support mechanisms, scaffolding, and resources, educators may assist students in overcoming early challenges and achieving maximum engagement with the curriculum. Besides, acknowledging the adaptation process as a normal aspect of educational transition highlights the need to create a safe and encouraging learning environment for students that promotes experimentation, resilience, and ongoing development. By carefully weighing the advantages and difficulties of creative curricular methods, teachers may create a learning environment that supports students' holistic growth.

The results are consistent with Emig (2022) emphasizing that writing requires the brain to work to its maximum potential, which means that both the left and right hemispheres must actively participate in the process. The results show that through the help of writing LAS, students were required to think, thus perceiving improved cognition in the process. However, it is important to underscore the necessity of the adaptation time to this teaching methodology. The acknowledgment of an adaptation phase within the CVIF-DLP curriculum highlights the importance of accommodating students' transitional experiences. In addition, the experiences of the students were coherent with the results of the improved National Achievement Test

(NAT) of the implementers of the DLP (Bernido & Bernido, 2020). Thus, confirming that the CVIF-DLP has a positive impact on the intellectual development of the students.

Table 3

Generated themes on the students' lived experiences relevant to physical aspect

Sub-theme 1. Limited Influence on Physical Well-being	<ul style="list-style-type: none"> • DLP has no special impact on the physical aspect • Fewer days for Physical Education
Sub-theme 2. Physical Fatigue and Mental Strain	<ul style="list-style-type: none"> • Physically tiring when using the mind • Compelled attendance even physically ill • Physical activities on Wednesday are tiring • Exhausted for long DLP hours • DLP has exhausting activities
Sub-theme 3. Rest and Recovery Opportunities	<ul style="list-style-type: none"> • Beneficial for physical rest

Table 3 shows the overarching theme of the participants' experience in the CVIF-DLP in terms of physical aspects. It illustrates that, even though there is no clear emphasis on physical health in the program's design, students frequently report feeling physically exhausted. The primary cause of this weariness is thought to be mental strain brought by the DLP's demanding academic requirements and cognitive involvement. In an educational context, there is a complicated interaction between mental and physical well-being that is highlighted by the responses of the participants.

Participants see the DLP's effects on their physical well-being as being similar to those of conventional teaching methods, with no appreciable improvements or changes. The results pertaining to the limited impact on physical well-being offer multiple perspectives on the comprehensive effects of DLP on students. It seems that the program places more focus on academic and cognitive growth than it does on organized physical activity or health promotion campaigns. Also, while the DLP emphasizes academic rigor and cognitive engagement, the absence of programs specifically for physical enhancement highlights areas in which the curriculum should be improved.

Annotated exemplar:

*"For me, DLP doesn't have a direct effect on our physical improvement. The program is normal, but it also doesn't harm us."
(FGD 5, Participant 2)*

The participants also reveal a widespread feeling of weariness among students who experience mental exhaustion due to the demanding academic curriculum of the program. This frequently manifests as physical fatigue, demonstrating the intricate relationship between mental and physical health. According to the study conducted by Xu et al. (2018), mental fatigue can hinder physical performance since it reduces one's capacity for motor control. The relationship between mental weariness and academic rigor implies that the program's design may unintentionally exacerbate students' physical exhaustion.

Annotated exemplar:

"It's a bit draining to write and think all day. We study from 7 to 5. So it's really draining. The tendency is that you're already tired because you still have things to do at home." (FGD 4, Participant 2)

On a positive note, participants express gratitude for the breaks provided by the DLP, which include fewer physical education classes and weekends without homework. These breaks offer crucial chances for rest and recovery. These responses emphasize how important relaxation is for maintaining students' general well-being and raise the possibility that the program's design unintentionally encourages rest and recuperation times, which would enhance students' educational experiences and make them more well-rounded.

Annotated exemplar:

"In terms of physical activity, we only have PE every Wednesday. But if you include getting proper rest at home, that's a big help for our physical well-being. It's better compared to staying up late doing assignments." (FGD 4, Participant 2)

The prevailing occurrence of physical exhaustion highlights the significance of implementing a comprehensive strategy for student assistance within the academic environments. One way to tackle this issue would be to incorporate techniques for handling psychological fatigue and encouraging physical toughness into the program's structure. In order to help students achieve balanced and sustainable learning experience, instructors may help alleviate the effects of mental tiredness by including wellness activities, stress management approaches, and chances for rest and recuperation.

The findings of the study align closely with the balanced approach advocated by Bernido and Bernido (2020). The findings show that even though the program places a strong emphasis on academic rigor and cognitive engagement, students usually get physically exhausted as a result of the rigorous curriculum. This tiredness emphasizes how closely physical and mental health are related in an educational setting. Participants do, however, also indicate appreciation for the DLP's pauses, emphasizing the significance of relaxation and recuperation for preserving overall well-being. In addition, these findings resonate with the notion put forth by Bernido and Bernido (2020) that a well-rounded educational strategy that incorporates scheduled breaks and recreational activities can improve students' general well-being and lead to more pleasurable and long-lasting learning opportunities.

Table 4

Generated themes on the students' lived experiences relevant to emotional and aspects

Sub-theme 1. Building Relationships and Cooperation	<ul style="list-style-type: none"> • Helps build relationship • Improves interaction among class • Creates cooperation among class • Promotes peer tutoring • Improves closeness
Sub-theme 2. Promotes Personal Development	<ul style="list-style-type: none"> • Build personal confidence • Teaches us to be generous • Develops leadership skills • Builds social pressure
Sub-theme 3. Challenges and pressures	<ul style="list-style-type: none"> • Issue on academic integrity • Creates social discomfort • Creates social conflict • Lesser teacher-student interactions

Table 4 depicts the overarching theme of the students' experiences with respect to their social and emotional aspects. Most participants view the program as a spark for forming personal connections and developing oneself. Although there have been incidents of social unrest, questions about academic honesty, and fewer teacher-student exchanges, students recognize the program's critical role in creating deep relationships with classmates and encouraging personal development. Within the DLP framework, students are given chances for leadership development, peer interactions, and collaborative activities that foster a feeling of empowerment.

With a variety of cooperative exercises, including LAS copying, peer tutoring sessions, and shared learning experiences, students had plenty of chances to interact, share ideas, and work together to solve problems in the classroom. The DLP also played a key role in helping students develop deep connections with one another. In the classroom and beyond, students reported feeling more connected to one another and more camaraderie when a culture of inclusion, cooperation, and support was fostered. The program's focus on teamwork also became apparent as a major idea, with students actively engaging in cooperative learning activities, particularly LAS, and utilizing one another's advantages to meet shared academic objectives.

Annotated exemplar:

"Before, I was quite silent, but because of peer tutoring, I was forced to speak to other people. Before, it was almost prohibited to talk inside the class, but now it's allowed." (FGD 2, Participant 5)

Participants reported an evident gain in their confidence and self-assurance through a variety of peer interaction, collaborative learning, and skill-building exercises. Furthermore, students who actively engaged in peer tutoring, information sharing, and giving of LAS to their peers demonstrated that the DLP had instilled in them a spirit of generosity. It also shows that the program was crucial in helping students acquire leadership abilities. Students acquired essential experience in problem-solving, decision-making, and effective communication through classroom activities, managing events, and leadership responsibilities. This experience enhanced their leadership talents and equipped them for future difficulties.

Annotated exemplars:

"Being asked for advice boosts confidence. It feels like you're doing well because others come to you for help." (FGD 8, Participant 3)

"The program (DLP) often encourages you to be generous because you have classmates who really have nothing, so you give them." (FGD 3, Participant 7)

While encouraging teamwork, the program's emphasis on collaboration and peer tutoring occasionally resulted to social friction and disputes among peers. Participants point out difficulties with maintaining academic integrity, especially regarding the desire to commit academic dishonesty, including duplicating answers in LAS. They also perceived that there was a decline in the amount of interaction between teachers and students because students perceived a lower degree of direction and assistance from teachers, particularly when it came to answering LAS. These emphasized the difficulties in putting collaborative learning techniques into practice within the DLP framework and the necessity of taking preventive measures to deal with demands from the classroom and society at large.

Annotated exemplar:

"However, sometimes they become abusive when you help them, this is just my opinion. For example, they always want help. If you don't help them once, they immediately call you selfish." (FGD 2, Participant 1)

This highlights students' flexibility and resilience when faced with obstacles in cooperative learning settings. Students understand the program's transformative influence in improving their interpersonal skills, gaining confidence, and creating a supportive community, despite the challenges associated with collaborative learning methodologies. Through an emphasis on connection building and personal development, the CVIF-DLP prepares students for success in the academic, professional, and personal domains of life by fostering their social-emotional well-being in addition to providing them with fundamental academic competencies.

The results support Cheng et al. (2021) on the role of collaborative learning in forming students' social and emotional experiences. Even with obstacles including societal unrest and problems with academic integrity, students recognize the program's value in promoting meaningful relationships with classmates and personal development. Students' confidence and leadership development are enhanced by collaborative activities like interactive LAS sessions and peer tutoring. However, there are issues with upholding academic integrity and reducing teacher-student engagement. Effective collaborative learning tactics can improve student satisfaction and provide a more pleasant learning environment. Hence, this study argues the necessity to adapt the program to optimize the benefits of collaborative learning across different learning institutions.

5. Conclusion

By exploring the experiences of students under CVIF-DLP, students provide a complex story that includes setbacks, adjustments, and chances for personal development. Their struggles with anything from heavy writing assignments to managing classroom dynamics highlight how complex teaching is within the CVIF-DLP paradigm. Despite the varied perspectives and encountered challenges, students agree that the program helps them improve intellectually and personally. Therefore, this study concludes that senior high school students have unique positive and negative experiences while studying under the CVIF-DLP. Given the lived experiences of the students, this study recommends refinement of the program based on the context of institutional characteristics and capabilities.

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Transforming educational leadership in higher education with innovative administrative strategies

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Abstract

In developing nations particularly in Africa, innovative administrative strategies are essential for educational leaders to navigate inherent challenges in education. This study aims to explore how educational leaders in higher education can be equipped with innovative administrative strategies to cause a positive change in education delivery. A systematic literature review was conducted to achieve this aim, drawing on the transformational leadership model as its theoretical underpinning. The search encompassed scholarly publications from major repositories like Scopus, Web of Science, and International Bibliography of the Social Sciences and Textbooks from 1967 to 2023. The search process went a series of exclusive and inclusive processes and yielded 43 research articles. The synthesized findings were analyzed using a thematic approach. The findings indicate that transformational leadership has the potential to incorporate innovation into higher educational administrative practices. It was also found that innovative administrative practices in higher education can be achieved through staff motivation, technology integration, adoption of agile methodologies, collaborative research, interdisciplinary collaboration, seminars, workshops, and positive organizational culture. Based on the findings, professional development programs for managers and administrators in higher education were highly recommended. These programs would help enhance the knowledge and skills of employees in educational administration.

Keywords: *education, employable skills, leadership development, staff development, systematic literature review, transformational leadership model*

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1. Introduction

Educational leadership's role in higher education is crucial for its growth and development. Educational leaders must follow administrative practices to improve staff quality and achieve institutional excellence (Nguyen et al., 2021). Acknowledging the pivotal role of education in addressing societal issues, it is crucial for educational leadership across the African continent to take proactive measures. This involves ensuring broad access, elevating the quality of schools, and aligning educational curricula with the dynamic needs of the swiftly evolving global economy. It is evident that numerous developing nations are faced with prevalent economic challenges encompassing issues such as poverty, unemployment, and deficient infrastructure (World Bank, 2023). Redemption of fate among citizens of such nations lies in transformational leadership, particularly in education, where young people acquire knowledge and skills. This level of education must equip young people to tackle new challenges and be able to shift the contours of educational paradigms to align with societal needs (Fullan, 2021; Gronn, 2020). Tackling these educational challenges requires effective leadership. This is a fundamental step towards fostering sustainable development and empowering the citizens of any developing country for a more promising and enlightened future.

The increasing focus on innovative leadership in education is key for aligning with societal needs. This is because preparing students for the future demands a departure from the conventional, one-size-fits-all approach (Mieghem et al., 2022; Pentang et al., 2022). It necessitates transformational leaders who can steer educational institutions towards strategies that nurture critical thinking, creativity, and comprehensive development of skills in students (Meyers et al., 2023). In this light, analyzing the outcomes and advantages of adopting innovative strategies in higher education is crucial. Doing so can address gaps in institutional performance and contribute to improved student success. This approach enables educational institutions to adeptly respond to the rapidly changing global environment and empower students with skills for achieving success. Educational leaders must also respond to changes and adopt strategies that prioritize student-centred learning (Noriey, 2023), and foster creativity, critical thinking, collaboration, and problem-solving skills.

The modern student population particularly in developing countries is characterized by diverse learning needs, interests, and abilities, necessitating personalized and engaging

learning experiences (Chizhik & Chizhik, 2018). However, there is evidence that many educational institutions in the African continent are faced with limited resources (UNESCO, 2021), be it financial, technological, or infrastructural. Innovative administrative strategies are essential for leaders to optimize these scarce resources. For example, leveraging digital platforms can alleviate shortages in physical learning materials, while forging strategic partnerships with businesses or non-profits can reinforce the need for more infrastructure. This can facilitate the adoption of modern teaching methods emphasizing critical thinking, problem-solving, digital literacy, and entrepreneurship. In this way, the students will be better prepared to confront global challenges and compete internationally. Addressing these needs requires educational leaders who can take innovative approaches (Pentang et al., 2022; Vassallo, 2022). Such leaders must be able to work actively towards narrowing achievement gaps, reducing disparities in educational outcomes, and ensuring equal opportunities for all students to thrive. This calls for a managerial role that involves identifying and addressing systemic barriers implementing evidence-based strategies and collaborating with stakeholders from various backgrounds (Devanadera & Ching, 2023). While existing literature recognizes the significance of collaboration and interdisciplinary approaches in education, empirical studies investigating the leadership practices, initiatives, and challenges involved in fostering collaboration across diverse stakeholders are lacking. Therefore, this study would address the following research questions.

1. How can educational leaders foster a culture of innovation and creativity in higher education?
2. How relevant are collaboration and interdisciplinary approaches to higher educational administrative practices?

2. Literature review

2.1. Theoretical framework

Transformational leadership model (TLM) emphasizes inspiring and motivating individuals to unlock their full potential and enhance their skills (Bass, 1985). Within the field of education, Kwan (2020) found that transformation leadership has proven to be highly effective in improving student outcomes, teacher satisfaction, and overall school culture. A study by Leithwood, et al. (1999) discovered that schools led by transformational leaders

consistently outperformed those led by leaders who did not embody this style. Moreover, Hallinger and Heck (1996) conducted another study revealing a positive correlation between transformational leadership and teacher job satisfaction, and their commitment to the school. According to Bass (1985), the transformational leadership model encompasses four key components, which are:

- i. *Idealized influence*. This concerns the leader's ability to embody a role model for their followers, earning them trust and respect.
- ii. *Inspirational motivation*. This centres around the leader's skill to artfully convey a captivating and motivating vision, thereby igniting enthusiasm and drive among their followers to strive for its actualization actively and enthusiastically.
- iii. *Intellectual stimulation*. The leader's ability to inspire followers to embrace innovative and critical thinking, thereby fostering an environment of growth and development.
- iv. *Individualized consideration*. This involves emphasizing the leader's capacity to grasp and effectively respond to the distinct requirements of every individual follower. This entails cultivating an environment that is both encouraging and growth-oriented.

In this study, TLM is pivotal in the literature review aiding in addressing research questions. The area of higher education is marked by the necessity for innovation and adaptability. As such, this model provides valuable insights into the methods through which leaders can propel constructive transformation, cultivate an environment conducive to innovation, and effectively navigate administrative hurdles. Therefore, the study has explored the literature surrounding the transformation of educational leadership in higher education. This model has offered a perspective that allows for an in-depth examination of leaders' roles in instigating and executing change activities.

2.2. Shaping the quality and outcomes of educational institutions through leadership

The significance of effective leadership in educational settings cannot be overstated, as it plays a crucial role in establishing a positive school culture, fostering academic excellence, and facilitating student success (Fullan, 2014; Hallinger & Heck, 2010). One prominent leadership style that has been widely acknowledged for its impact on educational institutions is transformational leadership. This approach, characterized by visionary and inspirational

leadership, has demonstrated its ability to enhance the quality of schools (Bass & Riggio, 2006). Transformational leaders motivate and empower their followers, cultivating a shared vision and creating an environment of trust, innovation, and continuous improvement (Leithwood & Jantzi, 2005). Extensive research has indicated a positive relationship between transformational leadership and various educational outcomes, including student achievement, teacher satisfaction, and overall school performance (Robinson et al., 2008). Another leadership approach gaining recognition in educational research is distributed leadership. This model emphasizes shared responsibility and collaborative decision-making among leaders, teachers, and stakeholders (Harris, 2008). By promoting distributed expertise, professional learning communities, and collective efficacy, distributed leadership contributes to improved educational outcomes (Spillane et al., 2004). Effective school leaders employ a range of practices and strategies to shape the quality and results of educational institutions. One such approach is instructional leadership, which focuses on supporting and enhancing teaching and learning processes, ultimately leading to improved student achievement (Hallinger & Heck, 2010). Instructional leaders provide valuable feedback, facilitate professional development opportunities, and offer necessary resources to enhance instructional practices among teachers (Seashore et al., 2010). In practice, distributed leadership entails the dispersion of expertise and authority throughout the organization, encouraging active participation and input from teachers, administrators, and other members of the school community. This approach nurtures professional learning communities, where educators collaborate to exchange knowledge, explore best practices, and collectively address challenges.

School leaders who prioritize the establishment of a safe, inclusive, and supportive environment play a crucial role in enhancing student engagement, minimizing disciplinary issues, and elevating academic performance (Hoy & Tarter, 2011). By cultivating strong relationships with students, parents, and staff members, they positively impact student well-being and achievement (Leithwood et al., 2004). Research consistently emphasizes the profound influence of leadership on student success and overall school performance. Effective leadership practices, such as setting high expectations, monitoring student progress, and providing timely feedback, yield positive outcomes in terms of student learning (Leithwood et al., 2006). Strong instructional leadership and a commitment to continuous improvement significantly increase student achievement (Hallinger & Murphy, 1985). Furthermore, studies have consistently demonstrated a correlation between effective leadership and improved

school performance indicators, including graduation rates, attendance, and standardized test scores (Louis et al., 2010; Robinson et al., 2008). Leaders who foster a positive school climate, establish a clear vision and implement data-driven decision-making processes actively contribute to overall school enhancement and success (Fullan, 2005).

The literatures outline research gaps in educational leadership, including the interaction between leadership styles, implementation challenges, contextual factors' influence, long-term impact assessment, and measurement methods. Hence, it highlights the need for in-depth exploration of how different leadership approaches interact, challenges leaders face in practice, contextual factors' role, long-term effects, and robust measurement methods to evaluate leadership effectiveness. Addressing these gaps could enhance understanding and inform evidence-based practices for improving student success and school performance.

2.3. Innovative approaches to administrative practices

Recently, there has been a surge of interest in reimagining administrative practices to optimize efficiency, productivity, and overall organizational performance (Farrell, 2018; Bason, 2017). One key aspect of this transformation revolves around integrating technology (Hesselink & Schalk, 2007). By leveraging cutting-edge technologies like artificial intelligence (AI), machine learning, and robotic process automation (RPA), traditional administrative tasks have undergone a significant evolution (Bhatti, 2020). For instance, implementing AI-powered Chatbots has revolutionized customer service interactions, resulting to reduced response times and heightened customer satisfaction. Additionally, RPA has played a pivotal role in automating repetitive administrative tasks, leading to substantial savings in time and costs (Siau et al., 2021). Moreover, the adoption of agile methodologies, has captured the attention of administrative practices. Agile administrative practices embrace iterative and adaptable approaches to problem-solving and decision-making (Cohn, 2017). This methodology fosters collaboration, flexibility, and swift responses to dynamic circumstances. Research indicates that embracing the agile approach enhances organizational responsiveness and fuels innovation, ultimately yielding improved administrative outcomes (Baral et al., 2019).

Modern approaches to administration place a growing emphasis on the human aspect within organizations (Peterson et al., 2020). These human-centric approaches prioritize the well-being, engagement, and empowerment of employees, recognizing their significant influence on overall organizational performance. One way this is achieved is by implementing

innovative administrative practices such as flexible work arrangements and employee wellness programs (Mpuangnan et al., 2022). Research has shown that such initiatives enhance job satisfaction and reduce employee turnover rates (Khanyile & Mpuangnan, 2023). Additionally, fostering a culture of innovation and creativity among employees has proven beneficial for problem-solving and decision-making in administrative functions (Collins et al., 2022). Furthermore, the availability of vast amounts of data and advancements in data analytics have revolutionized administrative practices, enabling evidence-based decision-making (Ma et al., 2018). By leveraging data-driven insights, organizations can make informed decisions, optimize resource allocation, and identify areas for improvement (Chan et al., 2021). For instance, predictive analytics can be employed to forecast demand and optimize inventory management, resulting in cost savings and improved customer service. The integration of data analytics into administrative practices has the potential to enhance efficiency, effectiveness, and overall organizational performance.

Literature highlights gaps in optimizing administrative practices for organizational performance. While interest in leveraging technologies like AI and RPA for administrative tasks is high, research on implementation challenges and long-term impact is lacking. Similarly, while agile methodologies gain traction, empirical studies on their effectiveness and scalability are scarce. Human-centric approaches, including employee well-being initiatives, lack comprehensive research on outcomes and sustainability. Furthermore, data analytics' potential in informing decision-making requires more exploration for effective resource allocation. Addressing these gaps could provide valuable insights for organizations aiming to enhance administrative efficiency and overall performance.

2.4. Revitalizing educational leadership through innovative administrative practices

To effectively address the evolving needs of students and equip them for a rapidly changing world, it is crucial to reimagine educational leadership and embrace innovative administrative practices. Central to this transformation is adopting of transformational leadership (Leithwood et al., 1999). Transformational leaders can inspire and motivate followers by conveying a compelling vision and empowering them to unlock their full potential (Bass & Riggio, 2006). This leadership style has been proven to positively impact student achievement and foster a positive school culture (Leithwood et al., 2008). By fostering

innovation, creativity, and collaboration, transformational leaders drive meaningful change within educational institutions.

Another vital aspect of revitalizing educational leadership is the implementation of distributed leadership practices (Alma, 2002). Distributed leadership involves sharing responsibilities among various individuals, including administrators, teachers, and stakeholders (Harris, 2014). This collaborative approach encourages shared decision-making, collaboration, and the utilization of diverse expertise. Research indicates that distributed leadership enhances instructional practices, improves student outcomes, and cultivates a culture of continuous improvement (Harris et al., 2013). In addition, embracing innovative administrative practices necessitates the effective integration of technology in educational leadership (Scherer & Teasley, 2017). Technology offers opportunities to enhance administrative efficiency, promote data-informed decision-making, and support personalized student learning experiences. By leveraging technology effectively, educational leaders can optimize their administrative processes and empower educators to implement innovative teaching strategies.

Integrating technology in educational settings offers numerous benefits for administrative processes, decision-making, and student learning experiences (Halverson et al., 2015). By harnessing technological tools and platforms, educational leaders can effectively connect with stakeholders, foster transparency, and cultivate an atmosphere of innovation. To revitalize educational leadership, it is crucial to establish a culture that embraces innovation within educational institutions (Fullan, 2021). This involves promoting practices encouraging risk-taking, supporting experimentation, and prioritizing continuous learning (Robinson et al., 2009). Educational leaders play a vital role in cultivating a culture of innovation by providing professional development opportunities, allocating resources for research and development, and acknowledging and appreciating innovative approaches (Anderson & Dexter, 2005). A culture that values innovation nurtures creativity, adaptability, and resilience, which are vital qualities for educational leaders operating within a dynamically evolving educational landscape.

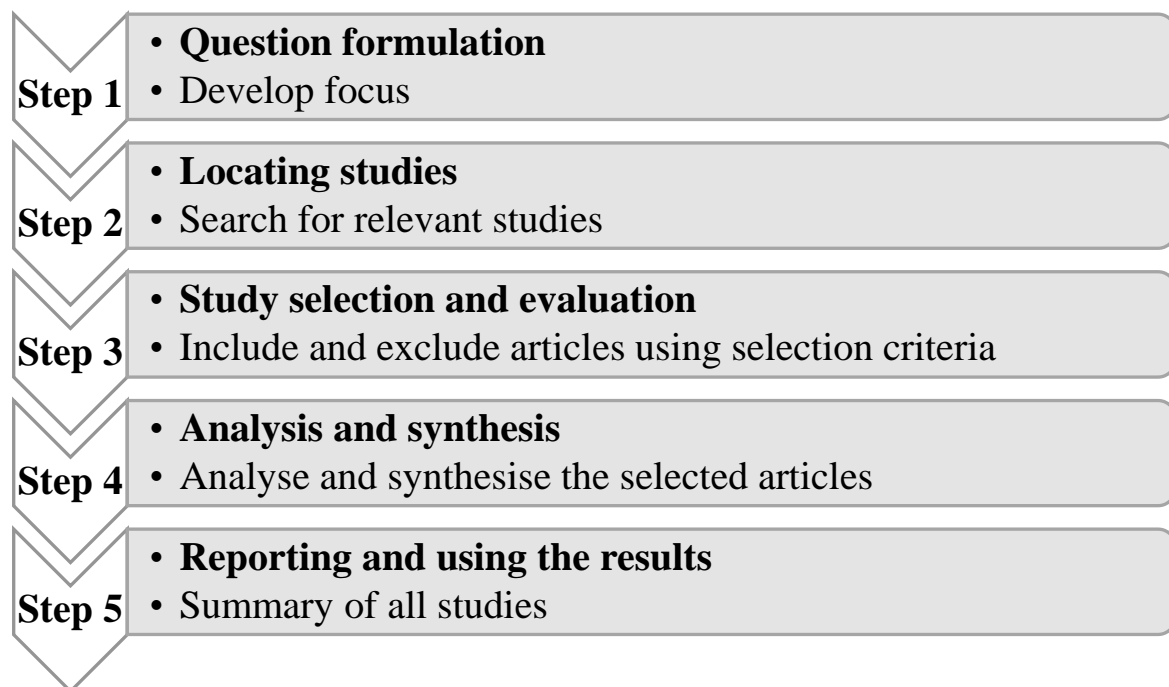
3. Methods

The study was carried out through a systematic literature review (SLR), which involves synthesizing ideas from a wide array of sources to form a coherent and comprehensive

argument (Dickins & Weber-Buchholz, 2022). Employing this approach, the researcher gathered information from various outlets, including academic journals, conference proceedings, reports found within Scopus, Web of Science (WoS), and the International Bibliography of the Social Sciences (IBSS). The search was focused on specific themes such as innovative administrative practices, the roles of educational leaders, and interdisciplinary approaches to administrative practices. The search process adhered to the five-step framework outlined by Denyer and Tranfield (2009), which is detailed further in Figure 1.

Figure 1

Five steps of Systematic Literature Review



Source: Adapted from Denyer and Tranfield (2009)

Step 1: Question formulation. The initial step involves delineating the scope and establishing a lucid focal point for the investigation (Han & Dong, 2020; Denyer & Tranfield, 2009). The study's objective was to employ pertinent literature (spanning from 1959 to 2023). Comparing older literature with contemporary studies enables researchers to discern changes, advancements, or enduring themes within the field. The studies addressed the subsequent research questions:

1. How can educational leaders foster a culture of innovation and creativity among teachers and staff to revitalize administrative practices in the education setting?
2. How can educational leaders promote collaboration and interdisciplinary approaches among stakeholders, such as teachers, parents, and community members, to drive innovation in administrative practices?

Step 2: Locating studies. The second phase of the model involves systematically identifying, evaluating, and compiling the primary contributions relevant to the research questions (Han & Dong, 2020; Denyer & Tranfield, 2009). This investigation scoured prominent online scholarly databases such as Scopus, WoS, and IBSS to ensure impartiality and encompass a comprehensive spectrum of sources and data. These databases were chosen due to their accessibility within educational institutions and utilization in analogous investigations. The exploration was driven by thematic criteria encompassing innovative administrative practices, the roles of educational leaders, and the interdisciplinary approaches to administrative practices. Additionally, a proactive approach was adopted, examining supplementary sources generated from citations within the chosen studies. It is pertinent to note that no supplementary pertinent studies were unearthed during this exploration process.

Step 3: Study selection and evaluation. The study employed a rigorous and transparent process for selecting relevant articles from various repositories, maintaining clarity throughout its various phases. A total of 217 articles were initially sourced from abstracts of Scopus, WoS and IBSS as well as textbooks. The articles were taken through inclusive and exclusive criteria in various stages. Within Scopus, a total of 18 articles and books were included, indicating a substantial contribution to the repository's database. WoS follows closely behind with 10 articles deemed suitable for inclusion, suggesting a slightly narrower selection compared to Scopus. IBSS included 7 articles, reflecting a focused yet significant addition to its collection. Additionally, 8 books were included, indicating a recognition of the value of book publications alongside scholarly articles. In total, 43 articles and textbooks were selected from these repositories and included in this study.

The process of selecting the articles goes both exclusive and inclusive phases. In Scopus, a notable number of articles initially encountered rejection, primarily due to duplication, totaling 32 instances. Despite these initial exclusions, 26 articles are subsequently deemed unfit upon further review, highlighting Scopus's dedication to upholding rigorous

quality standards. Additionally, 11 items face a second rejection, signifying ongoing efforts to refine and enhance the database's content. Consequently, Scopus boasts a substantial collection, comprising a total of 87 articles. Similarly, a comparable trend emerges in the data pertaining to WoS. Here, 40 articles are initially rejected, reflecting the repository's careful screening process. Of these, 23 undergo further evaluation and are consequently excluded, alongside 7 items facing a second rejection. These figures underline WoS's commitment to maintaining the integrity and uniqueness of its database. Ultimately, WoS encompasses 80 articles and books within its repository.

In contrast, IBSS demonstrates a relatively lower frequency of initial rejections, with 13 instances. Despite this, 8 items are excluded upon subsequent scrutiny, highlighting IBSS's dedication to quality assurance. Moreover, only 4 items face a second rejection, indicative of a stringent selection process. IBSS hosts a total of 32 articles, reflecting its commitment to maintaining a high standard of scholarly literature. Furthermore, the analysis extends to the realm of book publications, where rejection rates are comparatively lower than those for articles. For instance, only 3 books are initially rejected, with 5 undergoing a second rejection. Similar trends are observed in both WoS and IBSS, where rejection rates for books remain relatively minimal. Overall, books contribute to a total of 18 items across all repositories, further enriching the scholarly landscape within these platforms. The entire process of article selection is visually represented in Table 1, offering a comprehensive overview of the systematic approach employed in this study. Ultimately, the findings were presented as per the emerging themes.

Table 1

Inclusive and exclusive criteria for selection of articles and textbooks

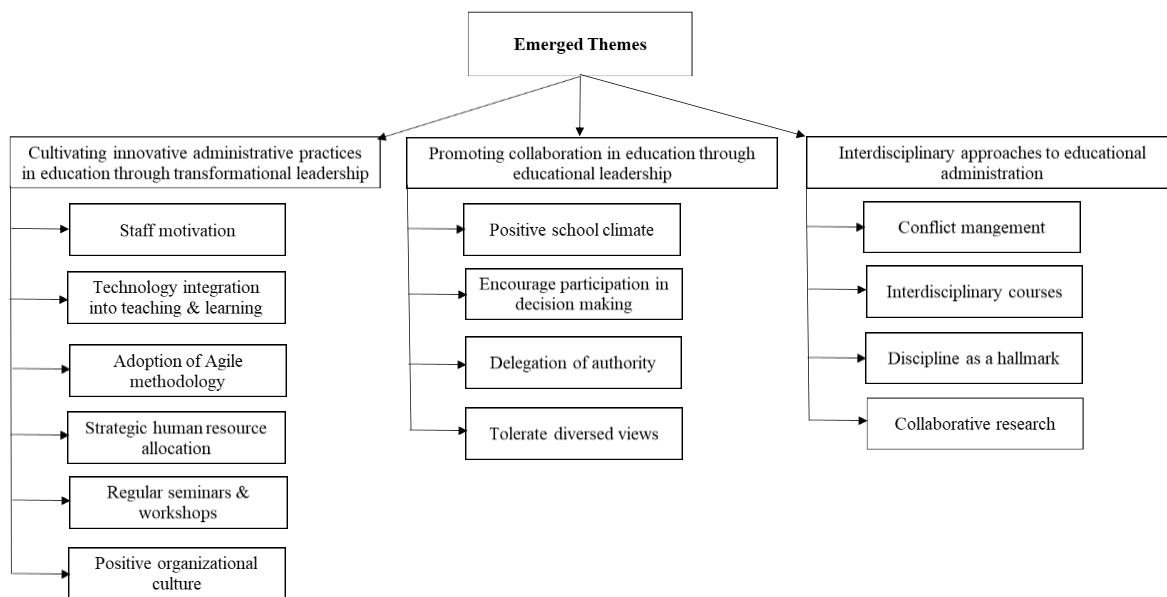
Repository	Articles & Textbooks Included	Articles & Textbooks Excluded			Total
		First Rejection	Second Rejection	Duplicated Articles & Textbooks	
Scopus	18	32	26	11	87
WoS	10	40	23	7	80
IBSS	7	13	8	4	32
Books	8	3	5	2	18
Total	43	88	62	24	217

4. Findings and Discussions

The study's results were organized into three main thematic areas, with each major theme explored in detail. The major themes encompassed cultivating innovative administrative practices in education through transformational leadership, promoting collaboration in education through educational leadership and interdisciplinary approaches to educational administration. Within each major theme, various sub-themes surfaced as shown in Figure 2, and were elaborated upon in paragraph format. The subsequent presentation provides a comprehensive breakdown of the study's findings, offering insights into the aspects of each thematic area and its corresponding sub-themes.

Figure 2

Thematic presentation of the data



4.1. Cultivating innovative administrative practices in education through transformational leadership

The synthesis of studies under this sub-theme has highlighted the profound impact of staff motivation on organizational creativity and performance. When organizations foster intrinsic motivation among employees, they empower them to take ownership of their responsibilities, leading to enhanced effectiveness. Staff motivation, as evidenced by Inam et al. (2021) and Saeid et al. (2022), fosters individual creativity and contributes to achieving institutional goals. Moreover, the role of transformational leadership, as revealed by Park et al.

(2022) and Avolio and Bass (2001), is paramount in creating a culture of trust, collaboration, and innovation. Through providing support, and essential resources, and enabling professional growth, transformational leaders empower employees to excel, leading to enhanced job performance and organizational commitment. Therefore, higher education seeking to thrive in today's dynamic and competitive environment must prioritize cultivating staff motivation and embracing transformational leadership practices to drive innovation, creativity, and ultimately, organizational success.

Incorporating technology into teaching and learning processes in higher education holds substantial significance for institutional development. However, it requires a strategic and transformative approach driven by effective leadership to foster a culture of innovation and creativity among staff members. Such leadership must value innovative approaches and create an environment conducive to technology integration. This approach, as advocated by scholars like Chaker and Jarraya (2021), is crucial for enhancing educational experiences and outcomes for students. Moreover, Lai and Bower (2019) underline the importance of resource accessibility in driving educators' practices concerning technology integration. Therefore, by embracing transformational leadership principles and prioritizing the cultivation of a culture of innovation, higher education institutions can effectively leverage technology to enhance teaching and learning experiences, ultimately contributing to improved educational outcomes.

Another powerful approach to nurturing innovation in higher education lies in the adoption of agile methodologies. It can be established that agile methodologies possess significant potential to foster a culture of innovation when transposed into the education domain. Sawyer (2007) affirms that these methodologies emphasize collaboration and teamwork, engendering an ecosystem wherein educators and staff collaborate on ventures, exchange thoughts, and draw insights from each other's journeys. By embracing this approach, teachers and staff gain a sense of autonomy, enabling them to exercise the decision-making process and assume ownership of their endeavours. Also, it can be learned from the data that agile methodologies underline self-organization, furnishing individuals with the authority to make decisions collectively, thereby kindling the flames of creativity and innovation. This metamorphoses into an iterative process, enabling educators to flexibly adapt to evolving needs while nurturing an environment steeped in innovation (Nerur et al., 2005). Furthermore, the acquisition of innovative skills by staff members equips them with the confidence to embrace risk-taking and to experiment with novel concepts. Consequently, setbacks are regarded not as

setbacks but rather as invaluable prospects for growth and enhancement, echoing the sentiment expounded by Boelens et al. (2017). Thus, by embracing agile methodologies, higher education institutions can foster a culture of innovation, collaboration, and continuous improvement, ultimately enhancing the educational experience for all stakeholders.

The strategic management of human resources under transformational leadership has been recognized as a critical determinant of organizational success. The findings serve to testify that organizations led by transformative leaders possess the capability to effectively assess, train, and strategically allocate human resources to achieve specific objectives. This alignment ensures that human resources are strategically deployed to maximize their contribution towards achieving organizational goals. According to Boon et al. (2019), strategic human resource management involves comprehending the external factors influencing the organization, recognizing its internal capabilities and limitations, and ensuring that HR strategies are aligned to propel the organization towards its goals effectively. In essence, this approach involves the deliberate and planned management of human resources and manpower to achieve organizational goals and gain a competitive advantage. Noe and Winkler (2012) support that developing manpower effectively requires regular in-service training. This can provide employees with opportunities to acquire fresh knowledge, hone existing skills, and stay attuned to industry dynamics and best practices (Blanchard & Thacker, 2013). The training can focus on enriching diverse domains, including technical competencies, leadership enhancement, communication finesse, customer service excellence, problem-solving acumen, and more. In this light, Meyers et al. (2023) establish that in-service training nurtures a culture of perpetual learning within the organizational fabric, empowering employees to remain current with industry regulations, trends, and optimal methodologies.

Seminars and workshops serve as crucial catalysts in fostering innovation and creativity among educators and staff members in higher education institutions. Rust (1998) posits that these platforms have the potential to induce tangible shifts in the practical application of organizational strategies. Specifically, within higher education, participation in seminars and workshops enables teachers to stay updated on emerging pedagogical techniques, innovative strategies, and resourceful problem-solving methodologies. Engaging in such events exposes educators and staff members to novel concepts and alternative approaches, stimulating inventive thinking and encouraging experimentation with new teaching paradigms. These forums provide dedicated time and space for reflection, prompting participants to critically

assess their current instructional methods and educational strategies. Consequently, collaborative activities like group discussions, analysis of real-world cases, and hands-on exercises become avenues for educators to scrutinize their practices, identify areas for improvement, and devise innovative solutions. This iterative process of reflective practice cultivates a culture of continuous improvement and empowers educators to explore innovative pedagogical techniques with confidence.

Innovative administrative practices can be enhanced through a positive organizational culture. According to Potnuru et al. (2019), cultivating a positive organizational culture is closely intertwined with prioritizing employee well-being and job satisfaction. Luthans and Peterson (2019) agree that job satisfaction, a crucial component of employee well-being, stems from the underlying motivations driving employees' actions. Job satisfaction can manifest in various forms, such as monetary rewards, promotions, recognition, approval, or the sense of fulfilment derived from performing well (Mankoe, 2007). To effectively support and motivate employees, it takes a transformative leader to establish a reasonable reward system that acknowledges the work quality of the followers (Ya-Ting & Huang, 2021). This system must be designed objectively to ensure equitable treatment and employee satisfaction. According to Herzberg (1959), rewards can be either intrinsic or extrinsic, including factors like pay and benefits. In an educational institution, extrinsic rewards may involve additional compensation or incentives for employees who work overtime, while intrinsic rewards encompass the internal gratification derived from engagement and meaningful contributions. To ensure transparency and fairness, the administrator needs to develop a comprehensive motivation policy that guides establishing a reward system equitable to all employees. This policy should mitigate ambiguity or bias, fostering an environment where employees feel valued and motivated to contribute their best efforts. The details of the articles cited under this theme are presented in table 2.

Table 2

Articles about cultivating innovative administrative practices in education

Repository	Author name and year of publication	Number of Articles
Scopus	Ian & Stephanie (2021), Inam et al., (2021), Saeid et al., (2022), Park et al. (2022), Avolio & Bass (2001), Chaker & Jarraya (2021), Boon et al. (2019), Rust (1998), Potnuru et al. (2019), Luthans & Peterson (2019), Ya-Ting & Huang (2021),	10
WoS	Nerur et al. (2005), Boelens et l. (2017),	2
IBSS	Meyers et al. (2023)	1
Books	Sawyer (2007), Noe & Winkler (2012), Blanchard & Thacker (2013), Mankoe (2007), Herzberg (1959)	5
Total		18

4.2. Promoting collaboration in education through educational leadership

In higher education, effective leadership can promote a positive school climate. This involves establishing an inclusive and collaborative work environment among staff members. For instance, distributed leadership has emerged as a powerful approach that fosters collaboration and interdisciplinary practices among diverse stakeholders (Harris, 2022), such as teachers, administrators, students, parents, and community members. This form of inclusive and school-positive climate holds immense potential for generating innovative solutions, enhancing educational outcomes, and adopting a comprehensive and holistic approach to education. A research study like Harris et al. (2018) has supported evidence that distributed leadership positively impacts collaboration and interdisciplinary work among these stakeholders. Their analysis identified various mechanisms through which distributed leadership facilitates collaboration, including establishing professional learning communities, cultivating shared goals and visions, and promoting a culture based on trust and shared responsibility. Consequently, this form of leadership encourages the exchange of expertise and the pooling of resources, thereby fostering increased collaboration among stakeholders from different disciplines (Gronn, 2009). As a result, these stakeholders can leverage their diverse perspectives and knowledge to address complex educational challenges and implement innovative approaches effectively.

It can be learned that effective leadership in higher education promotes collaboration among staff members through a participatory decision-making process. This assertion is supported by Owen and Steinhoff's (1987) findings, which indicate that active involvement within a group context fosters a stronger commitment to shared objectives and enhances personal accountability. Also, the emphasis on collaboration in educational administration, as highlighted in the argument, underlines the importance of openly sharing knowledge, information, and personal experiences with staff to cultivate a culture of cooperation. The data further advocate for a spectrum of staff involvement, ranging from basic suggestions to comprehensive democratic models where employees have significant control over management and decision-making. This approach can foster inclusivity and acknowledge the value of diverse perspectives in achieving organizational goals. The importance of effective communication and procedural transparency is also emphasized in the argument (Benjamin et al., 2022), particularly in the context of facilitating productive staff meetings. Providing advance notice, allowing staff to submit grievances and suggestions for the meeting agenda,

and ensuring that every participant has an opportunity to voice their opinions during discussions are crucial components of fostering an environment conducive to collaboration and mutual respect. It can be inferred that when staff members collaborate, decision-making processes tend to rely on achieving majority consensus or agreement. This approach serves to pre-emptively address and mitigate future potential conflicts and criticisms that may arise in the institution.

It can be deduced from the literature that delegation of authority in higher education has an impact on fostering collaboration and interdisciplinary approaches. Kameron et al. (2021) agree that delegating routine tasks and responsibilities to educators and administrators liberates their time and energy, allowing them to focus on critical educational aspects such as curriculum design, student support, and strategic planning. This method stresses the distribution of decision-making power among various stakeholders within educational institutions, including administrators, teachers, and support staff. Daft and Marcic (2016) contend that delegation cultivates shared responsibility and collaboration, which are essential components of effective educational environments. The inclusion of diverse perspectives and expertise through delegation is highlighted as a crucial aspect of collaborative efforts (Liu, 2021). This aligns with the principles of interdisciplinary approaches, where the integration of various disciplines and perspectives enhances the understanding and resolution of complex educational challenges (Clark & Wallace, 2015). Moreover, delegation allows for the specialization of individuals or teams in specific aspects of education (Mbatha et al., 2006). This specialization enables stakeholders to leverage their expertise, contributing to the development and implementation of interdisciplinary initiatives. As stakeholders concentrate on their areas of strength, they can make significant contributions to broader educational objectives while fostering a culture of collaboration and mutual support.

The notion of tolerating diverse views within higher education underlines a fundamental principle for promoting collaboration among workers. This approach emphasizes the importance of allowing subordinates to have decision-making authority over areas directly related to their responsibilities (Ming-Hong, 2017), recognizing that those closest to the challenges are often best equipped to address them effectively. By decentralizing decision-making to appropriate levels, organizations can streamline processes, enhance productivity, and improve overall effectiveness. Mia et al. (2022) assert that decision-making authority in higher education involves individuals who possess both the capacity and accountability to

make significant decisions that impact the institution and its stakeholders. This authority is distributed among various tiers of governance, including institutional executives, faculty members, administrative personnel, students, and external stakeholders, as noted by Sheng-Ju et al. (2023). Each of these stakeholders assumes roles that align with the institution's overarching objectives and strategic plans, ensuring that decisions are in harmony with the institution's core mission and values. This collaborative approach to decision-making not only fosters inclusivity but also promotes a shared sense of ownership and commitment to the institution's success, ultimately contributing to its overall effectiveness and sustainability in fulfilling its educational mission. Table 3 shows the details of articles used under this theme.

Table 3

Articles about promoting collaboration in education through educational leadership

Repository	Author name and year of publication	Number of Articles
Scopus	Clark & Wallace (2015), Mia et al. (2022), Sheng-Ju et al. (2023)	3
WoS	Owens & Steinhoff (1987), Benjamin et al. (2022), Liu (2021), Mbatha et al. (2006)	4
IBSS	Harris (2022), Kameron et al. (2021), Ming-Hong, 2017)	3
Books	Harris et al. (2018), Gronn (2009), Daft & Marcic (2016)	3
Total		13

4.3. Interdisciplinary approaches to educational administration

Effective conflict management has the potential to foster an interdisciplinary approach to educational management in higher education. Since conflict is inevitable, especially in educational institutions with diverse backgrounds (Deem & Brehony, 1993), the effort to manage it cannot be overlooked. Various stakeholders, including teachers, administrators, parents, and policymakers must be actively engaged in addressing conflicts. This is because conflict resolution in education is crucial for promoting collaboration and a positive educational environment (Patel, 2023). Conflicts within educational settings can stem from numerous sources, including competition for resources, conflicting goals, and frustration with others' actions. To mitigate conflicts and promote collaboration, an interdisciplinary approach is essential (Guilherme, 2015). An interdisciplinary approach must be employed to build trust,

enhance communication, foster innovation, resolve power dynamics, and promote continuous improvement across disciplines. It can be deduced from the data that school leaders prioritizing the establishment of safe, inclusive, and supportive environments can elevate academic performance by minimizing disciplinary issues. Ndijsye (2022) concludes that by adopting appropriate conflict management strategies, stakeholders can cultivate an inclusive, collaborative, and effective educational environment conducive to interdisciplinary approaches and positive educational outcomes.

The development of interdisciplinary courses or programs serves as another crucial instrument for fostering interdisciplinary approaches in higher educational administration. According to Liu et al. (2022), interdisciplinary courses can enhance understanding of complex educational issues and facilitate a progressive educational methodology that transcends the boundaries of single disciplines. Incorporating perspectives from various academic backgrounds can equip individuals with a more comprehensive and holistic grasp of challenges within the field of education. This pedagogical strategy supports Jæger (2021) and acknowledges the multifaceted nature of real-world complexities, which often require a multidimensional viewpoint for effective resolution. Lu (2022) holds a similar view on the interdisciplinary approach as it prompts learners to move beyond narrow perspectives, engaging with diverse ideas and viewpoints from different disciplines. Exposure to various disciplines and their distinct methodologies expands intellectual horizons and nurtures critical thinking skills as students learn to analyze and integrate information from diverse sources. For example, in educational matters, integrating knowledge from psychology, sociology, economics, and neuroscience can lead to a deeper understanding of how factors such as classroom dynamics, social contexts, economic disparities, and cognitive processes intersect to shape learning outcomes. This integrated approach enables students to uncover patterns and interdependencies that may go unnoticed when studying each discipline in isolation. Therefore, educational leaders in higher education need to encourage interdisciplinary activities to achieve institutional excellence.

Maintaining discipline among workers is crucial for fostering interdisciplinary collaboration in higher education. Discipline ensures adherence to the rules and regulations that govern every institution (Oliveira et al., 2022). Weak discipline within an organization can lead to a breakdown in moral fibre, subsequently impacting work ethics and effectiveness. Ditommaso (2017) argues that discipline is a hallmark of fostering effective teamwork,

communication, and the integration of diverse perspectives. When educators, administrators, policymakers, and other stakeholders embrace a disciplined approach, they establish a strong foundation for collaboration, ensuring that everyone is working towards a shared purpose. This shared vision serves as a unifying force to encourage interdisciplinary collaboration (Stohlman et al., 2022). For instance, without discipline, it will be difficult to carry out interdisciplinary projects where input and contributions are required from multiple stakeholders. Gilson et al. (2015) assert that discipline is key to ensuring that each stakeholder's time and expertise are utilized efficiently to accomplish a goal. This, in turn, facilitates the smooth collaboration flow and reduces delays. Therefore, leadership in higher education must acknowledge the importance of discipline in attaining a shared objective.

Collaborative research activities promote interdisciplinary administrative processes in higher education. Collaborative research brings together experts from diverse fields to solve complex problems and transform educational administrative challenges. Evis (2022) concurs that fostering interdisciplinary research within the field of education offers a gateway to a wealth of viewpoints, methodologies, and insights into a problem. This cooperative activity facilitates the interchange of ideas, methodologies, and discoveries from other fields, including psychology, sociology, neuroscience, economics, and pedagogy (White & Deevy, 2020). This interdisciplinary can pave the way for creating more potent and precisely targeted interventions, policies, and practices that effectively grapple with the multifaceted nature of educational challenges. Therefore, embracing collaborative research stands indispensable for propelling the field of higher education forward and effecting meaningful, enduring enhancements in teaching, learning, and educational outcomes. Table 4 shows the details of articles used under this theme.

Table 4

Articles justifying interdisciplinary approaches to educational administration

Repository	Author name and year of publication	Number of Articles
Scopus	Ndijuye (2022), Lu (2022), Ditommaso (2017), Evis (2022), White & Deevy (2020)	5
WoS	Liu et al. (2022), Jæger (2021), Oliveira et al. (2022), Gilson et al. (2015)	4
IBSS	Patel (2023), Guilherme (2015), Deem & Brehony (1993)	3
Books	-	0
Total		12

5. Conclusion and Recommendation

The future of education holds tremendous promise through the revitalization of educational leadership and the implementation of innovative administrative practices. As the education environment continuously evolves, it becomes imperative for educational leaders to adapt their approaches to meet the diverse needs of students, teachers, and the community. Embracing innovative methods throughout higher educational practices can help leaders cultivate a dynamic learning environment that nurtures creativity, critical thinking, and student collaboration. These are relevant skills that must be bestowed on young people to be relevant in society now and in the future. This can be achieved through transformational leadership's efforts including leveraging technology to enhance teaching and learning, human resource training, positive organizational culture, as well as adopting data-driven decision-making processes.

It can be established that revitalizing educational leadership through innovative approaches can yield positive outcomes for students, thereby ensuring that institutions remain agile, responsive, and future-ready. Through this approach educational leaders can prioritize individualized instruction, personalized learning pathways, and holistic support systems, to create an inclusive and equitable educational experience for all students. This approach can foster academic success and supports the social-emotional well-being of students for lifelong learning and future achievements. In this context, higher education institutions in developing nations must demonstrate unwavering commitment to ongoing professional development, collaboration, and adaptability to embrace necessary administrative changes, all for the betterment of their communities.

Based on the discussions, the following implications could be drawn to assist governments, educators and researchers who are interested in this field:

- i. Professional development programs for managers and administrators in higher educational institutions are highly recommended. These programs help them enhance their knowledge and skills in educational administration.
- ii. Conducting further research on theories of educational administration and their impact on employee behaviour in higher education is recommended for a deeper

- understanding of the field. This research can provide insights into effective educational administration practices and strategies.
- iii. Management of higher education must hire educational administrators based on their background in educational administration, management, or related fields. Candidates with a strong educational administration background are likely to have studied relevant courses on administration and possess the necessary competence for the job.
 - iv. It is important to involve the communities in the decision-making processes. By allowing communities to participate in decision-making processes, educational institutions can benefit from their input, especially in discipline and adherence to moral values. This involvement creates a system of checks and balances that contributes to the success of the institutions.
 - v. Administrators should avoid adopting an authoritative leadership style within educational institutions. Instead, administrators should adopt leadership styles that foster collaboration, cooperation, and mutual respect among all stakeholders in the educational community. This approach tends to yield better outcomes and promote a positive learning environment.

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Triarchic intelligences and engagement: The erratic factors in mathematics achievement

Grace Mae Flores

Abstract

This study determined the relationship between triarchic intelligences and engagement as factors in mathematics achievement of 1148 Grade 10 students in the Division of Davao del Norte, Philippines. It also investigated the relationship among the variables utilizing a descriptive-correlational and causal-comparative research design. Modified survey questionnaires were used for triarchic intelligence and engagement scales which were validated by the panel of experts. Standardized Division Unified Test was used to measure the mathematics achievement. Mean and Pearson product moment coefficient correlation were used to determine the proficiency level and the relationship between the variables while multiple linear regression was also used to derive the value and identify the predictor variable. The findings of the study showed that students did not meet the expectations on mathematics achievement; triarchic intelligences and engagement were at moderate level. Among the six indicators, only behavioral engagement was the predictor of the achievement. This indicates that the mathematics achievement of the students is best anchored on engagement. Thus, the result suggests that the more engaged the students are, the better and higher the achievement in mathematics.

Keywords: *triarchic intelligences, engagement, mathematics achievement, Davao del Norte, Philippines*

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1. Introduction

In a mathematical world, students who can do and understand mathematics have better opportunities that others do not have. Mathematics need not be tough for anyone, or even if it is difficult as experienced by many, it can still be enjoyed and appreciated as it should be so that an individual may reach a certain point of achievement. The enjoyment of the subject depends on how significant and dynamic the person's perception is. While the K to 12 curricula in the Philippines aims to uplift the quality of education and develop students to be well-prepared in emotional and cognitive aspects (Abad, 2016), the low achievement score on the National Achievement Test (NAT) shows otherwise. For instance, the Division of Davao del Norte has noted the poor performance of the students in mathematics during the Achievement Test. When the K to 12 started the NAT, the data revealed that in 2012-2013 was only 64.89. In the second year 2013-2014, the mean percentage score was only 67.39%. Moreover, the result disclosed a poor performance of students in Davao del Norte with 71.45% based on the data from DepEd NAT Result 2013.

Numerous studies showed that most of the students are afraid of mathematics (Sokolowski & Ansari, 2017; Costado & Piñero, 2024; Rozgonjuk et al., 2020; Khasawneh et al., 2021; Luttenberger et al., 2018) signified by scratching their heads whenever teachers start their lessons especially on word problem-solving. This is associated to several factors such as student-related factors (Ali et al., 2009; Honor, 2007; Elona, 2011) and school-related factors (Krishna-Reddy, 2009). However, majority of researchers associate low performance in mathematics to student engagement (Cevikbas & Kaiser, 2022; Maamin et al., 2022; Xia et al., 2022; Chand et al., 2021; Schnitzler et al., 2021; Joshi et al., 2022; Wong & Wong, 2019). While most of the studies proved student achievement through their analytic performance (Mayasari et al., 2021) in mathematics, studies suggest complete assessment through triarchic abilities (Grigorenko & Sternberg, 2001; Ekinci, 2014). However, there is limited research on triarchic intelligences of students in mathematics and there is no study associating student engagement and triarchic intelligences. Hence, this study tests the association between triarchic intelligences and engagement to reveal appropriate pedagogy that could lead to having a better teaching-learning process specifically in a mathematical perspective.

2. Literature Review

2.1. *Factors affecting mathematical achievement*

Achievement refers to the students' self-determination to accomplish something in an academic task. Because mathematics is challenging for the students (Abalde, 2023), their attitude towards the subject or the learning strategies affect their academic performance. Mazana (2019) specified that a number of factors have an impact of on learning and performance in Mathematics such as students' attitudes and confidence toward the subject, teachers' instructional practices, and school environment while Appiah et. al (2022) identified teacher-student relationship, self-efficacy, and student perception of mathematics. In spite of the role played by the teacher, the so-called self-concept, anxiety, self-efficacy, instructional design and attitude toward mathematics are pointed as factors to meet the expectation in mathematical success.

According to Mabena et al. (2021), poor performance in mathematics has been a global concern that has prompted developing countries to participate in initiatives to bring positive change in their communities. Mathematics excellence can bring positive change in developing countries to develop their education systems for shaping the future and prospects of young people; to develop infrastructure; and to improve economic knowledge, culture and morality, as well as the living standards of their people. However, mathematics underperformance has become a perennial concern which can prevent these developing countries from achieving their developmental goals.

2.2 *Triarchic intelligences and mathematics achievement*

Triarchic intelligence refers to the act of capitalizing on one's strengths and correcting or compensating for one's weaknesses to adapt, shape, and select environments through a combination of analytical, creative, and practical abilities (Sternberg, 1999). It is measured with indicators such as analytical intelligence, creative intelligence, and practical intelligence. *Analytical intelligence* is the ability to visualize, articulate, conceptualize or solve both complex and uncomplicated problems by making decisions that are sensible given the available information. *Creative intelligence* refers to as experiential intelligence which enables an individual to invent new ideas and solutions when dealing with new situations. *Practical intelligence* is defined as street-smart and the ability of a person to adapt to an environment, or change accordingly to best suit the personal needs. It was used in this study to help analyze,

explain difficult ideas, design and explore new ways, and apply the formula for computing worded problems.

Triarchic intelligence plays an important role inside the classroom since it involves formulating a meaningful and coherent set of goals for the students to reach them. Individuals coordinate those goals so that they form a coherent story in seeking life and moving a substantial distance along the path toward reaching the goals (Sternberg, 1999). Moreover, intelligence is directed towards behavioral goals relevant to the life of the individual like the adaptation of the environment and selection and shaping of an environment that leads to favorable academic performance. This intelligence involves practical, creative and analytical that embodied in tacit knowledge, increases with experience, and it is how one profit or learns from experience (Sternberg et al., 2000).

According to Dandagal et al. (2017) and Hendriyanto (2022), when student's mathematics achievement increases, their IQ will increase. Intelligence has a strong correlation with individual cognitive abilities such as thinking, remembering, reading, learning, problem-solving and language use. Hence, Natsir and Munfarikhatin (2021) argue that mathematical literacy is also essential in developing children's mathematical intelligence. However, Kullar et al. (2019) revealed that students with low IQ have significantly lower academic achievements compared to those with normal IQs. This shows that the students' IQ levels affect their academic achievement. Syafi'i et al. (2018) explain that this condition is caused by psychological factors which are one of the causes of fluctuations in learning achievement.

While many studies have suggested that performance equates to the academic achievement of the students, such as class performance, test performance and composite performance as an aggregated result, academic achievement is not itself a determiner of students' performance. This cannot be individually evaluated without going into the exploration of contributors to academic achievement (Madigan & Curran, 2021). For example, deep learning agility in many settings can provide new experiences (Murphy, 2021), which can be best predictor of future performance. Similarly, many researchers have shown interest in finding the relationship between intelligence and engagement leading to have a good academic achievement. Dandagal et al. (2017) studied the interrelationship between creativity, intelligence and academic achievement of 11th grade boys and found out that relationship between creativity and intelligence was low but positive and the relationship between intelligence and academic achievement was linear. Furthermore, these abilities reflect together

to form a successful intelligence that needs to be developed in a balance, help students to capitalize on their strengths, and at the same teach them that correcting or compensating for their weaknesses will lead them to achieve success. According to Purpura et al. (2017), a person's intelligence is not only measured in solving calculation questions but it is necessary to have good mathematical problem-solving skills for concrete certain problems.

2.3 Engagement and mathematics achievement

Aside from intelligence, engagement gives assurance to the student performance. This is the complex construct influenced by multiple factors (Fredericks et al., 2004). The students engage in classroom activities like talking to others around them, sharing different ideas about their performance and helping others in school involvements. It encompasses students' effort, persistence, participation, and compliance with school structures like daily/weekly grades for classroom, homework completion and task persistence. Its multifaceted constructs operate at three levels: cognitive, affective and behavioral. *Cognitive engagement* is the investment in his/her learning environment like motivation and self-regulation, *affective engagement* is the emotional reactions in the classroom and in the school, which is a sense of belongingness or connectedness to the school, and *behavioral engagement* is the students' participation in education, including the academic, social and extracurricular activities of the school.

Student engagement is a multi-faced concept and should be examined holistically, rather than in isolation. Through the course design, syllabus, activities, content, and assessment, instructors have a strong influence on how our students think, feel, and act. According to Zepke (2018), student engagement as a construct identifies what students do, think about, and feel when learning, and how teachers can improve that doing, thinking, and feeling in instructional settings. Li (2023) argues that student engagement plays an important role in the relationship between learner interaction and instructor presence in terms of both perceived student learning and student satisfaction. It includes a sense of belonging and valuing, cognitive, emotional, and behavioral engagement, peer relationships, and relationships with faculty members. Ultimately, student engagement promotes learning quality and performance.

Studies proved that engagement improves academic performance and has been repeatedly demonstrated to be a string predictor of achievement and behavior in schools. For instance, Jian (2023) found that students are more engaged in classrooms in which they have good relationships with their peers and teachers. They expect instructors promote students'

independence, provide clear and consistent feedback and give varied, daunting, fascinating and impactful tasks (Groccia, 2018). In this note, Peng (2021) suggests academic motivation and sustainable student engagement as the two of the most important examples that play a key role in students' academic achievement.

Student engagement is justified as malleable which means that through their actions, teachers can affect the engagement of the student's either positively or negatively. According to Hasanov et al. (2021), students' engagement depends on the teachers' behavior, which may produce the most fruitful outcomes on academic achievement. Studies found positive relationship between behavioral engagement and achievement. For instance, Brallier (2020) found student engagement associated with learning, academic performance, persistence, retention, and academic achievement. Similarly, Ketonen et al. (2016) found that engaged students were more certain of their career choice, while disengaged students lacked interest or had uncertainty about their career path. However, Konold et al. (2018) found no link between student academic achievement and engagement.

3. Methodology

This study used descriptive quantitative research design to measure the association between triarchic intelligence and student engagement. It measured the three indicators of triarchic intelligence such as practical, analytical and creative, and three levels of student engagement such as cognitive, affective and behavioural.

The cluster sampling method was used in selecting the participants to ensure equal representation. This technique was employed since the Division of Davao del Norte has four (4) clusters and each cluster comprised of seven (7) to ten (10) different schools with a total of 4454 Grade 10 students. Of the total sample, Cluster 1 has 353 participants included, Cluster 2 has only 160 respondents, Cluster 3 has 405 respondents and Cluster 4 has 230 respondents. Only 1148 students from the different secondary public schools were coming from the different clusters and were enrolled for the school year 2017-2018. These students also belonged to the K to 12 curricula, although most of the students were not part of top or performing students but they were considered to be active participants in both academic and school-related activities. Considering the K to 12 curricula, the division supports the implementation of the different training programs for teachers who handled the mathematics subject like Regional Mass Training for Teachers, Mathematics Teachers Association of the Philippines (MTAP),

even Science and Mathematics Enhancement Program (SMEP) created and the making of Strategic Intervention Materials (SIM) to be used by other teachers.

The mathematics achievement level of students under K to 12 programs was measured using the Division Unified Test. A Table of Specification was laid and used to identify the achievement domain being measured and to ensure that a fair representative of questions of test. The guidelines in DepEd Order No. 8 series 2015 were the basis in plotting the five favorable gradations: outstanding (90-100), very satisfactory (85-89), satisfactory (80-84), fairly satisfactory (75-79) and did not meet expectations (74 and below). All grades were based on weighted raw score of the learners. The minimum grade needed to pass a specific learning area is 60 which is transmuted to 75 to the report card. The result of the said division examination during the first quarter of the School Year 2017-2018 was utilized with 40 competency-based items.

To establish an accurate measurement of the level of triarchic intelligence as perceived by the Grade 10 students in every indicator, the study adopted and developed an instrument based on Sternberg Triarchic Intelligence Test with Cronbach's Alpha of 0.910, which has acceptable internal consistency. The ratings were based on the five (5) point scales. Moreover, engagement survey questionnaire was a researcher-made type of questionnaire with a Cronbach's Alpha of 0.880, acceptable internal consistency. The rating was based on five (5) point scales.

The weighted mean was used to determine the proficiency level of the students and Pearson Product Moment Coefficient Correlation was used to determine the relationship between the variables. Positive correlation indicates the extent to which those variables increase to which one variable increases as the other decreases. On the other hand, multiple linear regression was also used to derive the value of a criterion from several other independents or predictor variables to determine which variable predicts the mathematics achievement.

4. Findings and Discussions

Using the Division Unified Test result, the participants belong to the lowest level of proficiency, *did not meet expectation*. This means that the students do not possess the minimum knowledge, skills, and understanding and they struggle to understand the prerequisite to learn the concepts. The over-all mathematics performance of Grade 10 students falls at the 74 and

below bracket. This implies that students undergo remedial classes for learning areas and comply all the requirements set by the K to 12 Curriculum Guide. A similar result was found in the study of Capuno et al. (2019) about the performance involving Grade 9 students in Mandaue City Division, Cebu.

Table 1

Level of students' mathematics achievement

Transmuted Grade	Frequency	Percentage	Level of Proficiency
90 -100 (84.00 - 100)	0	0%	Outstanding
85 – 89 (76.00- 83.99)	0	0%	Very Satisfactory
80 – 84 (68.00-75.99)	3	0.2%	Satisfactory
75 – 79 (60.00 – 67.99)	51	4.4%	Fairly Satisfactory
74 and Below (0 – 59.99)	1115	95.4%	Did not meet Expectations

Note: Mean = 39.09; SD=10.46; Description: Did not meet expectations

Moreover, the result signifies that there is difficulty among students in mastering the content area of the topics in the first quarter of the school year. This calls for an immediate response from teachers and other stakeholders. This confirms the study of Gafoor et al. (2015) that mathematics subject causes many negative emotions and challenges mathematics teachers to develop positive attitude in students toward learning mathematics. Therefore, teachers should be aware of students' affective beliefs and inter-relations of those in learning mathematics so as to employ more effective strategies in teaching. Similarly, Alingay (2017) stressed that the observed poor performance in mathematics test has been a matter of serious concern to all well-meaning education. The schools and teachers must take steps to address such issues like implementing differentiated instructions and providing additional support to struggling students (Aguhayon et al., 2023). This could be enough for methods and approaches be considered to provide a rich, meaningful environment that would arouse their interest and challenge them to think higher levels of learning mathematics concepts.

Table 2 shows the assessment of the different aspects of the intelligence. This presents a summary of the level of triarchic intelligence. The descriptive analysis shows that the level of the students in triarchic intelligence is moderate. This means that the activities of the students in analytical, creative and practical aspects were established inside the classroom.

Table 2*Level of triarchic intelligences*

Indicators	Mean	Standard Deviation	Qualitative Description
Practical	3.36	1.14	Moderate
Analytical	3.34	1.16	Moderate
Creative	3.33	1.17	Moderate
Overall	3.34	1.16	Moderate

The result also reveals that practical intelligence got the highest mean. This signifies that the students acquire doing everyday activities through various activities like solving different logical problems, composing and creating new songs in mathematics and trying to resolve mathematical problems in ways and manners. Students help in navigating tough negotiations and embracing challenges on the fly. They are also adaptive and reflexive and they can change their approach to suit the requirements of the environment and situation echoing the idea of Flynn (2018). This further means that students should be encouraged to use their ideas gained inside the classroom. As stated by Sternberg et al. (2007), classrooms should not create a gap between real life and book learning. Lessons learned from books should find an implementation in the field, workshops, laboratories and playground. There must be a maximum opportunity given to work in stimulated settings which would provide hands-on experiences and more practical wisdom.

On the other hand, creative intelligence got the lowest mean, which means that the students hardly understand the activities, affirming the finding of Goetz et al., (2005) that the absence of enjoyment is one foundational reason for young people failing to achieve their potential. The result further supports Drebin (2014) that students should be aware of their capabilities and see how to connect the skills from one area to another. This is very evident because one of the students agreed that they experienced these kinds of activities inside the classroom especially the activities in practical intelligence like applying the formula during computation of worded problems, enjoying solving together with their friends and practicing every now and then so they will not forget the process or steps in solving mathematical problems. This also reflects the findings of Mai (2021) that the more intelligence is practiced by the learner through applying thinking skills the more thinking patterns are updated. Hence, as suggested by Hussein (2018), helping teachers to improve their performance in the education process and the possibility of adopting multiple intelligences as an input in teaching

styles will take into consideration the nature of the learners in the classroom. These would be the guide to all learners that suits their abilities and tendencies, improves students' achievement levels and raises their levels of interest towards educational content.

The level of student engagement with its three indicators is shown in the table 3. It can be gleaned from the table that the students' level of engagement is at a moderate level. This means that students have enough involvement in the classroom and extracurricular activities; they have a sense of belongingness and a general sense of liking toward school. Throughout the result, Wang and Peck (2013) emerged with the notion that students' perceptions of the school environment influence their motivation for academic achievement which can be influenced by these three types of engagement.

Table 3

Level of student engagement

Indicators	Mean	Standard Deviation	Qualitative Description
Behavioral	3.39	1.21	Moderate
Affective	3.39	1.17	Moderate
Cognitive	3.32	1.19	Moderate
Overall	3.37	1.19	Moderate

The table also shows that both behavioral and affective engagements got the same mean. This is an indication that students are attentive in learning activities and they have a sense of belongingness. As Fredricks et al. (2004) emphasized, having these engagements help correspond to the developmental needs of the students for competency, autonomy, and relatedness in school. Students have positive feelings of belongingness to school because they enjoy interacting with their peers or their teachers. Moreover, it was reflected that these engagements were referred to as participation in school activities and considered as being loyal to school rules and not getting into trouble in school. This concurs with the idea of Abila et al. (2019) that school is not merely a place where knowledge is transferred from one generation to the next but is also a place for emotional connections, which can be either negative or positive.

On the other hand, cognitive engagement got the lowest overall mean. This shows that cognitive engagement may hardly be developed. Blondal and Adalbjarnardottir (2012) stated that assessing the level of student engagement within a school is essential because school

failure and dropout are often the outcomes for these students. To minimize student failure and dropout, it is crucial to assess the engagement of the students. Wentzel (2003) stressed that engagement as a matter of student's will to feel about their works, their skills, and the strategies they employ to master their works. This means that students put into thinking about their tasks and incorporate the required thoughts to comprehend their ideas, and to master the content which is presented inside the classroom.

Although students might be disengaged, they might be succeeding academically. Such disengagement includes the feelings toward school and behaviors while at school. This is evident to the class because some of the students agreed that sometimes they were not paying attention to the teacher especially during instruction, that is why they always ask questions to the teacher on what they are going to do, and they always seek help from their classmates. This scenario is similar to the idea of Ginting (2021) that students are engaged in meaningful learning activities when they connect with other learners and complete substantial tasks. In spite of the fact that the students have different study techniques, they still find difficulty in learning mathematics. They must develop the best study techniques that will suit their capabilities to learn math. Therefore, it is desirable that the students be motivated toward developing study habits for a better attitude and understanding of the subject matter. Engagement may be aptly summed up with contention of Ali et al. (2018) that teachers play an important role in promoting positive relationships with students by understanding the students' background and building a learning environment that focuses on relevant and meaningful learning experiences to enhance student involvement in their learning process.

Table 4 shows the correlation between triarchic intelligence, engagement and mathematics achievement of the students. It is evident that there is a positive correlation between the two variables. The significant relationship shows that triarchic intelligences and engagement has a p-value results ($p < 0.05$) correlated to mathematics achievement. This implies that students' engagement contributed to their mathematics achievement as reflected in the p-value results ($p < 0.01$) while triarchic intelligences also contributed to mathematics achievement as shown in the p-value ($p < 0.05$).

The result on triarchic intelligences conforms to the findings of Parveen (2014) that there is a positive high relationship between intelligences and achievement. The data imply that teachers should balance the use of these intelligences in teaching and assessment which is

fruitful for all the students. The maximum use of different teaching aids will lead the students to understand, select, shape and even change the environment.

Table 4

Relationship between variables and mathematics achievement

Variables	Mathematics Achievement	
	r	p-value
Triarchic Intelligences	.072	.014*
Analytical	.057	.049*
Creative	.073	.012*
Practical	.063	.014*
Engagement	.139	.000**
Behavioral Engagement	.159	.000**
Affective Engagement	.094	.001**
Cognitive Engagement	.116	.000**

Legend: **Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Moreover, the findings on engagement is consistent with Lee (2014) that there is a positive relationship between student engagement and learning achievement. This indicates that a student's engagement is considered essential for learning and achievement. Similarly, it is congruent with Mysore et al. (2020) that successful intelligence was positively related to the academic engagement and Bodovski and Youn (2012) that students accepted by their peers and with social skills often do better in school. Students who demonstrate active involvement in school have high academic achievement and positive attitudes while disengaged students usually face the opposite situation demonstrating low academic achievement and negative attitudes and behaviors (Ali et al., 2018).

Table 5 shows the multiple regression analysis to identify the predictor of mathematics achievement. Among the six variables, only behavioral engagement ($B=1.401$, $t=4.051$, $p<0.001$) was found to be a meaningful, significant predictor of mathematics achievement. The R^2 value (0.034) means that at most 3.4% of the variance of the mathematics achievement is explained by behavioral engagement. It can be concluded that for increase in the engagement, there is a corresponding increase in mathematics achievement as evidenced by the beta value of 0.124. This means that the high levels of behavioral engagement resulted in

a good classroom climate for learning of the students. Meanwhile, the rest of the variables such as analytical, creative, and practical intelligences, as well as affective and cognitive engagements were not significant predictors of mathematics achievement ($p>0.05$).

Table 5*Multiple regression analysis*

Independent Variables	Unstandardized		Standardized		Sig.
	B	Std.Error	Beta	t	
Constant	29.471	1.596	18.462	.000	
Triarchic Intelligences					
Analytical	-0.2853	.235		-1.210	.226
Creative	0.2256	.234		0.960	.335
Practical	-0.1213	.231		-0.520	.601
Engagement					
Behavioral	1.4060	.347	.124	4.051	.000
Affective	0.8170	.233		3.490	.236
Cognitive	-0.1592	.223		-0.712	.476

Note: $r=0.183$, $r^2=0.034$, F-ratio=20.227, p-value=.000

Dependent: Mathematics Achievement

The result explains the findings of Böheim et al. (2020) that more engaged students may take form in raising a hand to contribute verbally, respond to a question, make suggestions, and ask a question if called by the teacher. Engagement of students is often associated with academic achievement and it can be a tool in addressing disciplinary problems in schools. Similarly, Lee (2014) concluded a positive relationship between behavioral engagement and academic performance, there is a possibility that emotional engagement influences academic performance through behavioral engagement. The findings of the study coincide with the studies of Jian (2022) that more engaged students in classrooms have good relationships with their peers and teachers, but refutes Albarico et al. (2023) on triarchic intelligences predicting mathematics achievement. For this, Chi et al. (2018) suggest students deep processing to link and organize new information with their prior knowledge and Parsons et al. (2014) for teachers to understand student engagement to understand their achievement.

5. Conclusion and Recommendation

Among the six indicators, only behavioral engagement influences mathematics achievement ($B=1.401$, $t=4.051$, $p<0.001$). It can be concluded that for an increase in engagement, there is a corresponding increase in mathematics achievement. This means that the high levels of behavioral engagement results to a good classroom climate for learning. The more they engage, they maintain positive attitudes towards learning which results to higher achievement.

The results suggest teachers to conduct a competency-based diagnostic test to increase the engagement of the students. This will help them decide on appropriate pedagogy during the teaching-learning process. They are also encouraged to spend time crafting teaching matrices with the inclusion of affective, cognitive and behavioral engagement. They may provide different activities that will let the students appreciate usefulness and significance of mathematics, extend their interest and improve positive attitude. Additionally, they need to provide instructional initiative that allows students to master, experience, persuade and express understanding in their own manner.

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Role of parental involvement in student discipline: Insights from community secondary schools in the local government authorities of Tanzania

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Abstract

Parental involvement in the management of students' discipline is crucial for the improvement of education delivery and management. This paper investigated the role of parents' involvement in managing students' discipline taking references from community secondary schools in Dodoma City of Tanzania. The study used a combination of quantitative and qualitative methods to gather information from parents, community secondary school heads, head prefects, and ward education officers. Three methods were used to collect the data: surveys, focus group discussions, and interviews. The results showed that parents' involvement in discipline management is limited and complicated by several issues, including a lack of cooperation, communication, and trust between parents and school administration. The paper identified that the strategies used by school administration to include parents in the management of discipline comprise the creation of parent committees, information sharing and favorable school environments. The study recommends that school management should involve parents in the formulation and implementation of school rules and regulations, and ensure that they are clear, consistent, and fair to all.

Keywords: *student discipline, involvement, community schools, education, local government authorities*

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1. Introduction

Student discipline is essential to the academic development, the accomplishment of studies as well as analyse and address issues around them (Sunbal & Jabeen, 2021; Kadama, 2016; Sheldon & Epstein, 2015; Tekin, 2014; Yahaya et al., 2009). Hence, student discipline management entails the rules and regulations employed by schools to foster positive behaviour among students. The common regulations and practices used to enforce students' discipline include school rules, punishment, guidance and counselling, suspension, expulsion and policing students (Kaluku et al., 2020). These normally result to acceptable behaviour of punctuality, classroom attendance, dress code, respect for the school authority and completion of school assignments (Certin & Taskin, 2016; Lukman & Hamadi, 2014). Empirical studies also stress that students discipline has potential of promoting time management, self-control and positive attitude in the life of an individual (Rafif et al., 2023; Simamora et al., 2020).

While the schools are primarily entrusted with student discipline, students are rooted in the home environment where parents are the first educators to instill discipline in their children. In fact, researchers found that parents' involvement in school affairs has effects on students' discipline in school, community and at home (Nyembeke, 2016; Charamba, 2016; Lutwa, 2014). Similarly, the Tanzanian Head of the School Guide Manual of 2009 directs the heads of schools to involve parents in overseeing student discipline (United Republic of Tanzania [URT], 2009). This makes it a requirement for both teachers, and parents to employ learners' discipline not only for the successful completion of school but also prepare them to become good citizens who can contribute to the development of society (Ouma et al., 2013). Thus, student discipline is a holistic approach that calls for cooperation between parents and school administrators.

Clinton and Hattie (2013) postulate that parental involvement means parents taking part in the learning process of their children while fulfilling their duties. The parents make sure that students are supported in the learning process as much as they possibly can (Sunbal & Jabeen, 2021). Pinantoan (2013), and Clinton and Hattie (2013) further argue that parental involvement does not just stand for parents enquiring about the performance of their children at school; they ought to participate in managing children's discipline by taking active participation in school affairs, especially those with direct disciplinary matters of students.

The significant impact of involving parents in school management has been emphasized worldwide. For instance, empirical studies of scholars such as Yahya et al. (2009), Brosio (2014), Tekin (2014), Sheldon and Epstein (2015), Bush (2016) from the United Kingdom, the United States of America, and Asia noted that the parental involvement in school affairs helped improve education delivery as well as students' discipline. With their involvement, parents impart good behaviour by directing students' attention to academic issues rather than fruitless behaviours (Sunbal & Jabeen, 2021). In addition, when they show commitment in discipline matters pertaining to students in collaboration with the school management, students become responsible for their own behaviour and therefore, develop self-discipline at school and home (Wanja, 2014). Rafif and Dafit (2023) suggest parental involvement in imparting social values, and morals, which will help students to behave well (Ali et al., 2014), and therefore achieve their educational goals.

In most African countries, Charamba (2016) and Lutwa (2014) describe that parental involvement in school affairs have been observed in activities such as tracing students' attendance, assisting in the completion of school assignments, and promoting the students' behaviour both at home and school. Similarly, their involvement in education management has been observed in matters pertaining to contributions of resources to school both monetary and materials (Cooksey & Kikula, 2005; Daba, 2010; Kisumbe et al., 2014), planning process (Seni, 2008; Masue 2014), decision making (Masue, 2014) and implementation of plans (Mkatakona, 2014; John, 2015). While parental involvement seems enforceable in most schools, community secondary in Tanzania has its unique nature (Nyembeke, 2016; Kambuga, 2017; Sunbal & Jabeen, 2021). For instance, a majority of community secondary schools also known as ward secondary schools are day schools where students go back home after school hours, and enable parents to have more time to spend with their children after school hours (Kitigwa & Onyango, 2023). Thus, parental involvement is essential in designing and monitoring discipline matters in those community secondary schools.

In the context of Tanzania, Masabo et al. (2017) argued that parents play a vital role in influencing children's learning as well as improving their discipline. Studies showed that family involvement in managing students' discipline helps schools create safe environment for the teaching and learning of students (Yaghambe, 2013; Nyembeke, 2016). In terms of school leadership, school principals who involve parents in managing students' discipline are likely to have higher students' discipline levels compared to schools where parents are not involved

(Yaghambe, 2013). Moreover, studies by Kambuga (2017), and Simuforosa and Rosemary (2014) concluded that low parents involvement in school management may result to increased indiscipline cases such as truancy, alcoholism, unacceptable sexual relationships, violation of dressing code and lack of respect for the school authority. Thus, parents' involvement is considered as an essential component in achieving school goals and student discipline (Gaba, 2010; Masue, 2014).

The call for parental involvement in education services delivery under the Local Government Authorities (LGA) in Tanzania has its foundation in the constitution of Tanzania Article 146 and the Local Government Authority Act No 7 and 8 of 1982. Similarly, it has been emphasized in the Tanzania Education and Training Policy (TETP) of 1995 and 2014 (URT, 2014). The Government of Tanzania through the Education Acts and Head of the School Guide Manual directed the schools' managements and LGAs to involve parents in the management of education at the school level (URT, 2009). The Tanzania Education Act No. 25 of 1978 and amendment made in section 353 of 2002 and current amendment made in Education Act No. 1 of 2018 provides a guideline on the active involvement of parents in school management through the formulation of the school governing Boards (SGBs). With the legal power dictated by the constitution and acts from Tanzania, parents who are members of the school board have the power to discuss and decide on issues related to the discipline of the students. In addition, the Heads of the School Guide Manual directs all heads of school to formulate school discipline committee which deals with the indiscipline matters of the students (URT, 2009) including the power to summon parents to discuss and decide on the indiscipline issues of their children. Mabula and Ligembe (2022) stress that the government efforts to include parents in the established school governing boards and school discipline committee makes them assume equal responsibility with the school management when it comes to managing discipline of the students.

Most of the previous studies in this context have generally focused on parental involvement but less on community secondary schools, which may have unique challenges and opportunities due to their proximity to parents and community (Seni & Onyango, 2021; Masabo et al., 2017; Nyembeke, 2016). Furthermore, the studies failed to examine the extent and strategies of parental involvement in discipline management, and how they affect students' discipline in Tanzania (Edward et al., 2022; Masabo et al., 2017). Research on parental involvement and students' discipline is important in creating a safe and conducive learning

environment among community schools under the LGAs in Tanzania. Therefore, this paper investigated the involvement of parents in managing students' discipline using the data generated from Dodoma City, which is one of the fastest growing urban areas and LGAs in Tanzania. Specifically, this paper examined the extent the school management involve parents in managing students' discipline in community secondary schools in Dodoma City and evaluated the strategies used n involving the parents.

2. Literature review

2.1 Theoretical framework

The study employed school-family-community partnership theory developed by Joyce L. Epstein in 1995. Epstein's theory assumes that the learner is located at the centre as the main actor whereby parents, community and school teachers should create facilitating environment for learners to do their best in education and the overall behaviour. Sheldon and Epstein (2015) argued that when children feel cared, they are encouraged to work hard in their daily school activities such as learning to read, write, calculate and maintain good behaviour. To strengthen parental involvement, Joyce L. Epstein in 1995 developed six parental involvement activities which help teachers and parents to establish strong collaboration in dealing with discipline of the students and create conducive learning environment. The first aspect of involvement is parenting, which entails taking care of children's health and safety as well as creating a home atmosphere that promotes education and well-behaved conduct both at home and at school. In the second involvement, Epstein (1995) adds that schools should establish channels of communication with families in order to tell them about the school and the academic development of their pupils. The third involvement is volunteering, which is a great way for parents to support their children's education. Schools can gain from this relationship by offering flexible scheduling that encourages more parents to work with the school. The fourth is learning at home, where parents assists their kids with school-related tasks like finishing assignments at home. Decision-making constitutes the fifth area of involvement, where schools can offer parents significant responsibilities in the school's decision-making process by providing equal opportunities to all parents, not only those who can devote the greatest time and energy to school-related matters. The final type of involvement is collaboration with the community, where schools should organise community resources and efforts to support family practices, student learning, and school programs (Salac & Florida, 2022).

Sheldon and Epstein (2015) contend that there are many rationales for developing and establishing a partnership between school, family and community. The major reason for school, family and community partnership is to give support to students in succeeding at school. Moreover, other reasons include improving school climate and school programmes such as teaching and learning, developing parental skills, and leadership for raising children with good behaviour, supporting families in linking with the school and the community, and helping schools' administrators and teachers in the midst of their jobs. All these motives call attention to the significance of parents doing a grand responsibility in their children's education and harnessing a strong and positive sustainable relationship with schools. Uzochina et al. (2015) support this view with the assertion that a school with good partnership between parents and teachers is likely to have low dropout rate, good attendance, obedience to the school rules and regulations and good academic performance. In this regard, this study intends to assess how the school administrators involve parents in managing students' discipline in community secondary schools.

2.2 Role of parental involvement in education

Studies from developed and developing countries show that involvement of parents in education activities of their children has greater impact to the academic achievement of their children, though effective involvement of parents in managing students' discipline is still questionable. For example, studies from developed countries, such as the USA, authored by McNeal (2014), Tekin (2014), Yamamoto et al. (2016) revealed that parents' involvement in their children holds little promise due to lack of specificity such as clear strategies, and specific aspect in which parents are involved in managing students' discipline which lead to the inconsistency in the expected outcome. However, studies from developing countries revealed that involvement of parents in education affairs of students is significant in achieving academic performance (Salac & Epstein, 2022; Edward et al., 2022; Seni & Onyango, 2021; Nyembeke, 2016). Likewise, some other studies from Africa such as Jinot (2018) in Mauritius, Kaluku et al. (2020) and Wanja (2014) in Kenya, Temitayo et al. (2013) in Nigeria, Mabula and Ligembe (2022) and Kadama (2016) in Tanzania found parents involvement with greater influence in managing students' discipline although there have been no sufficient involvement of parents in managing discipline. The insufficient involvement of parents in managing students' discipline has resulted to the increase of indiscipline cases such as high dropout, truancy, drug abuse, and alcoholism and sex relation among others. Most of these studies focused on parents'

involvement of students' discipline in general without specific focus to the community secondary school under jurisdiction of the LGAs. Studies on community secondary schools is important given that they have unique strategies, opportunities and challenges which are likely to be salient in improving students' discipline and parental involvement.

3. Methodology

This research employed quantitative, and qualitative approaches to better broaden the understanding of the phenomena. Traditionally, both quantitative and qualitative approaches qualify each other and provide a comprehensive ground for a better comprehension of the problem under the study (Tashakkori et al., 1998). Based on the realm of the study, pragmatism philosophy was used. Pragmatism is generally regarded as the philosophical partner of the mixed methods approach (Johnson & Onwuegbuzie, 2004; Pham, 2018). It provides a set of assumptions about knowledge and enquiry that underpins the mixed methods approach and distinguishes the approach from purely quantitative approaches that are based on a philosophy of positivism and purely qualitative approaches that are based on a philosophy of interpretivism (Denscombe, 2010). The study was conducted in Dodoma City, which is the new capital city for Tanzania. The choice of Dodoma was influenced by the transfer of the government activities and ministries, including moving the Ministry of Education from Dar Es Salaam to Dodoma City in 2016 (Msacky et al., 2017).

The study collected quantitative data from the parents while qualitative data from heads of schools, head prefects and ward education officers of the community secondary schools. The survey method was used to collect quantitative data while the data from heads of schools and students were collected using focus group discussion. Similarly, interview method collected data from the ward education officers. Quantitative data were analysed descriptively using frequency and percent while qualitative data were summarised and organised to triangulate the quantitative data.

In order to gather the required information from Dodoma City, the study considered probability, and non-probability sampling procedures in selecting the different units of the study for quantitative and qualitative data. The formula by Yamane (1967) was applied to compute for the sample size from population of parents. Then, heads of school, head prefects, and ward education officers were purposively selected. Consequently, 100 parents, 30 heads of schools, 25 students, and 5 ward education officers were selected to provide evidence based

on their experiences. Table 1 shows the demographic characteristics of the parents and teachers who participated in the study.

Table 1

Demographic characteristics

		Parents		Teachers	
		F	%	F	%
Sex	Male	30	30	10	33
	Female	70	70	20	67
Age	25-35 Years	11	11	12	40
	36- 45 Years	58	58	14	47
	46-60 Years	22	22	4	13
	60+ Years	5	5	-	-
Highest education level	Non formal education	13	13	-	-
	Primary education	41	41	-	-
	Secondary education	18	18	-	-
	Certificate	12	12	-	-
	Diploma	11	11	6	20
	Degree	6	6	23	77
	Masters	-	-	1	3
Work experience	1-5 years			6	20
	6- 10 years			10	33
	above 10			14	47
Total (N)		100	100	30	100

Source: Field Data (2023)

4. Findings and Discussion

This section is divided into two subsections, namely extent of parents' involvement in managing students' discipline and strategies to involve parents in students' discipline. The findings of the subsections were obtained from the parents, heads of community secondary schools, head prefects and wards education officers. The study findings attempt to show that parents' involvement in management of students' discipline is crucial for the improvement of education delivery and education management. Thus, the findings may help the Ministry of Education and LGAs to establish strategies and policies which would enhance the involvement of parents in managing students' discipline in community secondary schools.

4.1 The parents' involvement in managing students' discipline

Several aspects of parents' involvements were examined in relation to student discipline in the community secondary schools. The results in table 2 show that 41% of the parents disagree in discussing the acceptable behaviour of their children in the community secondary school. This is supported by the students during focus group discussions who added that their parents had never had an opportunity to discuss with the school management about the acceptable behaviour in the community secondary schools. Similarly, in the case of monitoring students' schedules in and out of the school, 40% of the parents disagreed they are being involved.

This assertion was also supported by head prefects of the community secondary schools' revelations that the students are involved in activities at schools, which parents were not aware. The prefects added that they are involved in extracurricular activities after school hours and even during weekends without informing parents. One head prefect had this to say:

“Teachers have been involving us in school activities and responsibilities without following the normal procedures that we had been using for years, including informing parents of the task/event. Lack of information makes us arrive home late. Some students use this lack of information to parents as an opportunity to do other evil things such as sex, drink alcohol or smoke cigarettes or marijuana.”

(Focus Group Discussion, April, 2023)

However, findings show that the majority of parents agreed (48%) that they are involved by school management in tracking student's attendance by making sure that students go to school every school day. This is also backed by the head prefects who added that in case of absence from school, the parents notify the class teacher. Similarly, the ward education officers added that parents are committed in encouraging school attendance. They added that sometimes the parents may visit school to make sure that their children attend school.

With regard to parents' involvement in assessing the behaviour of their children and knowing their friends, majority of the parents (40%) disagreed that they were involved. The prefects of selected schools affirmed that parents do not know their children's friends in and out of the school environment. These are concomitant with Watson and Bogotch (2015) on the low involvement of parents in knowing the friends of their children. The ward education officers insist on the need for the parents to make efforts to assess behaviours of the friends of their children.

Table 2*Descriptive statistics on the extent of parents' involvement in managing discipline*

Indicators	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Minimum (%)	Maximum (%)	Confidence Level (95.0%)	Interpretation
Discuss acceptable behavior	7.3	13.0	16.4	270.0	-2.6	0.6	5.0	41.0	20.4	Disagree
Monitor student's schedules in and out of school	6.3	16.0	14.1	197.7	1.1	0.7	2.0	40.0	17.5	Disagree
Track students' attendance and notify school management	8.4	9.0	18.9	356.5	-0.8	1.0	4.0	48.0	23.4	Agree
Asses the behaviour of children and knowing their friends	6.2	16.0	13.9	192.0	-1.0	0.8	8.0	40.0	17.2	Disagree
Attend school meetings related to discipline	11.2	6.0	24.9	622.0	2.6	1.7	4.0	62.0	31.0	Disagree
Follow-up on students' behaviour	8.1	16.0	18.2	329.5	3.6	1.7	3.0	51.0	22.5	Disagree
Support school disciplinary measures	9.7	12.0	21.7	472.0	2.2	1.5	4.0	56.0	27.0	Agree
Inspect children's room and school bags	13.2	8.0	29.4	866.0	4.5	2.1	2.0	72.0	36.5	Disagree
Punish and reward behaviour displayed by children	8.8	9.0	19.8	391.5	2.3	1.6	6.0	53.0	24.6	Agree

Source: Field Data (2023); N=100

Moreover, majority of parents (62%) disagreed that they attend various school meetings conducted to discuss and decide on various issues related to the discipline of the students. During the focus group discussions with the head prefects, it was raised that most of the school meetings conducted at the school were purposely for the development of school infrastructures such as the construction or maintenance of school buildings and academic camps for classes with national examinations such as form two or four students. Thus, parents are invited to the school meetings to be informed about the contributions in form two or four while discipline issues carry little weight in such meetings. However, majority of parents (56%) agreed that they were involved in supporting disciplinary measures used by the school management to manage the discipline of the students. They simply support school management in their disciplinary measures employed at school including corporal punishments. The findings are reinforced by the wards' education officers who added that parents do side with the school management in supporting school discipline measures. Meanwhile, teachers had almost the same responses in assessing parental involvement in managing students' discipline. A majority of heads of schools asserted that they involved parents in monitoring students' attendance although parents are reluctant to participate. During the focus group discussions, majority of heads of schools mentioned monitoring students' attendance by involving their parents in discipline issues. They assured that parents are required to get involved in managing the discipline of the students through students' attendance every day. In doing so, parents are advised to have close cooperation with teachers by having frequent communication to make sure that their students attend school every day. Parents are required to inform classroom teacher in case of students' non-attendance. A teacher in FGD added that:

"...parents were involved through monitoring student's attendance by having frequent visits to schools to see if their children's attended school as required. Also, parents had a room to call the class teachers or heads of schools and ask about their children's attendance and other academic progress. Further, parents were allowed to send information to class teachers when their children for any reason failed to attend school. Parents were instructed to do this through meetings held twice a year for the first and second semesters, including reporting the child's absence from school." (Focus Group Discussion, April, 2023)

Despite the agreement with the school discipline measures, the focus group discussions with heads of schools asserted that parents do not support disciplinary measures used by the

school management as some of them have been too negative about the teachers and resist their children being punished. They complain that punishment causes physical injuries to their children while other parents threaten sending teachers to the police station. Hence, teachers request parents' permission before punishing a student. However, most of the time students are given corporal punishment without consulting the parents. In the light of these contradicting scenarios, it can be deduced that parents' involvement in these matters is very low. These are consistent with Semali and Vumilia (2016) on the challenges facing teachers attempts to discipline secondary school students in Arusha region, Tanzania. Parents were not supporting teachers' efforts to manage students' discipline such as the use of suspension, expulsion, and corporal punishment. Some parents are against some forms of punishment and even argued that they are unfair, undeserved and lead to physical injury. However, questions have been raised on parents' involvement in the establishment of school rules and regulations.

School management involved parents in allocating time to discuss about their children's discipline issues. With the phases of students' physical development and growth, students need close monitoring and guidance to protect them from engaging in indiscipline issues such as early sex relations. These concur with Obeidat and Al-Hassan (2009) on the potential positive effects of parental involvement on behaviour and social skills. Similarly, Temitayo et al. (2013) conclude that home factor is the major element attributed to the increase in indiscipline cases; situations where parents contributed as bad role models and avoiding parental responsibility (Kabiru, 2006). For example, some parents appear drunk and use abusive language in the presence of their children.

Findings also show that a large majority of students confirmed that school management involves their parents in monitoring their attendance. During focus group discussions, majority said their parents monitor their attendance and notify school management if they do not attend school. Furthermore, parents are involved in the management of students' discipline through creating a conducive and friendlier environment, supporting disciplinary measures used by teachers such as corporal punishments, assisting to complete school assignments, and allocating time to discuss discipline issues with their children. With these, the students affirm that school management is highly involving their parents in managing students' discipline. A student in the focus group added that:

...parents are involved in monitoring our attendance by having frequent visits at schools to see if we are in the class or call the class teacher and ask for our presence at the school. (Focus Group Discussion, April, 2023)

With the contradicting arguments from parents, teachers and students, this study upholds a low level of parental involvement in the management of students' discipline in Dodoma City. With the increased cases of student misbehaviours in schools, these concur with Obeidat and Al-Hassan (2009) that involved more likely to improve student behavior and Temitayo et al. (2013) that lack of parental involvement is attributed to the increase of indiscipline cases in secondary schools. The findings infer to Coskum and Katitas (2021) that the low involvement of parent in discipline of the children may be due to the lack of mutual acquaintance and regular communication with the school management. Hence, parents and teachers in community secondary schools need to develop mutual acquaintance and regular communication to achieve better student discipline.

4.2 Strategies to involve parents in students' discipline

This subsection presents the strategies used by the school management to involve parents in managing students' discipline in Dodoma City of Tanzania. The school-family-community partnership theory postulates that the parents' involvement in the management of secondary schools plays a very crucial function in shaping discipline. The theory explains how parents' involvement can be influenced by a series of strategies, which is vital in the development of relationship between parents and school management.

While parents were involved in managing the discipline of the students through formation of committee, the results in table 3 show a significant number of parents show disagreement on notifying them before the meeting (49%) and formulation of a parent committees (42%) to monitor students' discipline. It was discussed in the focus group that parent committees were not fairly formed because some of the school heads chose parents close to them as committee members. Similarly, most schools do not have discipline committees which are solely composed of parents. While the committees are used as a strategy to attract parents' interest in monitoring and follow-up on their children's behavior, the teachers believe that parents are not really hands-on in performing their committee tasks. Hence, the results show that parents were not involved in the control of students' behaviours and no actual students' behaviour management meetings conducted.

Table 3*Descriptive statistics on strategies used to involve parents in discipline*

Indicators	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Minimum (%)	Maximum (%)	Confidence Level (95.0%)	Interpretation
Notification provided before the meetings day	7.66	12.00	17.13	293.50	2.84	1.73	8	49	21.27	Disagree
Formulation of parent committees to manage discipline	7.04	22.00	15.75	248.00	-0.66	0.35	2	42	19.55	Disagree
Involved in the establishment of school rules	7.04	14.00	15.75	248.00	4.77	2.17	10	48	19.55	Strongly Disagree
Involved in familiarization of school rules	11.12	10.00	24.86	618.00	4.59	2.12	4	64	30.87	Agree
Fined when fails to respond to the school call	12.82	10.00	28.66	821.50	4.79	2.18	3	71	35.59	Disagree
Sharing information with class teachers	5.44	22.00	12.17	148.00	0.42	0.60	6	38	15.11	Disagree
Teachers educate me on how to assist my child in completing school assignment	8.17	12.00	18.28	334.00	0.27	1.03	2	48	22.69	Strongly Disagree
Summoned only when students misbehave repeatedly	10.90	10.00	24.37	594.00	3.54	1.87	4	64	30.26	Strongly Agree
Conducive and friendly school environment	8.70	12.00	19.46	378.50	4.07	1.99	7	54	24.16	Agree

Source: Field Data (2023); N=100

While parents admitted during the focus group discussion the presence of general parents' meetings years ago, 48% have not been involved in establishing school rules and regulations. The rules are created by school management under the directives from the local government and the concerned ministries. However, there has been very low participation of parents. Furthermore, majority of parents (64%) reported that they were summoned by school management only when a student committed several repeated indiscipline cases. It was stressed that parents were called to the school as soon as the child was found guilty of serious misconduct, wherein the school administration also involves the school board in taking a serious disciplinary action including suspensions or dismissal. Although there were occurrences of lapses on school leadership and initiatives on student discipline, majority (54%) still found conducive and friendly school atmosphere that encouraged them to visit at any time. The schools are generally very welcoming to parents who need information about their children and school development, in general, although there were few instances of teachers not receiving parents to inquire on academic progress. While parents admitted during the focus group discussion that a conducive and friendly school environment is a good way to involve parents in managing students' discipline, all of them believe that their involvement in the establishment of school rules and regulations is the best strategy, which is lacking at the moment.

5. Conclusion

This study reflects a low parental involvement in managing student discipline in community secondary schools under the LGAs in Tanzania. While there were good practices in place, parental involvement is still challenged by parental as well as school leadership issues. The participants cited strategies in reinforcing student disciplinary matters such as parents' familiarisation with school rules, and engagement in the formulation of disciplinary committee. However, parents admit the lack of parental representation in the formulation of school rules and regulations. Hence, this study posits the need for parental representation both in the formulation and implementation of rules and regulations concerning student discipline to ensure clarity, consistency and fairness. Similarly, school management should empower parents to monitor and support their children's attendance, academic progress, and behaviour

at home and school. This will materialize through parents' active role in school activities and regular communication with the teachers.

Given the limits of the study in relation to the scope and gathered data, further studies are encouraged on the effects of parental involvement on students' behaviour and academic achievement in the same setting but wider scope. Similarly, further research on the challenges and opportunities of parental involvement in discipline management and identification of the best practices and models of parental involvement in discipline management are highly recommended.

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Preparing to lead schools: Leadership aspirations of Zimbabwean female teachers

Zvisinei Moyo

Abstract

Over the past two decades, the topic of women leading and managing education has increased and intensified, shifting focus to roles and performance. Hence this study was conducted to investigate the leadership aspiration trends amongst female teachers in Zimbabwe. It is also located within the global literature on social justice putting effort to foster positive social change in societies. A sample survey research design was utilized leading to the sampling of 160 female teachers from two districts - Mberengwa and Zvishavane in the Midlands province in Zimbabwe. Descriptive statistics were calculated on the survey data. Findings indicated that although the female teachers advanced their qualifications and scored positive achievement aspirations, they were not willing to take up leadership positions. To a great extent, this study lays the groundwork for policymakers, researchers and practitioners and points toward the path of knowledge generation and accumulation.

Keywords: *socio-cultural constraints, female teachers, Zimbabwe, leadership*

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1. Introduction

Over the past two decades, the topic of women leading and managing education has increased and intensified, shifting focus to roles and performance (Coleman, 2007; Grogan & Shakeshaft, 2011). This has resulted from concerns for educational effectiveness and gender parity (Hallinger, 2016; Cubillo & Brown, 2003; Mestry & Schmidt, 2012; Moyo, 2022). This trend is also evident in Africa where similar forces have driven scholars to focus on the role of women in educational leadership and management (Lumby & Azaola, 2014; Moorosi, 2010; Msila, 2012; Smit, 2013; Steyn & Parsaloi, 2014;). For example, researchers in Ethiopia, South Africa, Egypt, Ghana, Nigeria, Kenya, Tanzania, South Africa, Zimbabwe, and Botswana have documented cultural and institutional barriers that impede the access of qualified women to leadership roles in their school systems (Aladejana & Aladejana, 2005; Brown, 1996; Combat, 2014; Greyling & Steyn, 2015; Herrera, 2003; Irechukwu, 2010; Moorosi, 2010; Moyo, 2021; Netshitangani & Msila, 2014; Onyene, 2007; Panigrahi, 2013; Pheko, 2002; Msila, 2012; Sperandio & Kagoda, 2010; Steyn & Parsaloi, 2014; Uwizeyimana, & Mathevula, 2014). African scholars have also pinpointed socio-cultural constraints that bear upon female principals and teachers when they do exercise leadership in schools (Grant, 2005; Juma et al., 2011; Mestry & Schmidt, 2012; Omboko & Oyoo, 2011; Parsaloi & Steyn, 2013). Finally, this body of scholarship has both portrayed and contrasted uniquely ‘female ways of leading’ schools in different African societies including Ghana (Agezo & Hope, 2011; Kwadzo, 2010), Tanzania (Dady, 2014), Zimbabwe (Chabaya et al., 2009; Makura, 2012; Moyo et al., 2020), Kenya (Wambura, 2010), Nigeria (Ikoya, 2009), and South Africa (Lumby & Azaola, 2014; Mogadime et al., 2010; Naidoo et al., 2012; Smit, 2013).

This scholarship that has emerged over the past decade in support of widening access for and encouraging female educators to ‘lead’ schools in Africa deserves global attention. Indeed, Hallinger (2018, p. 371) concluded his recent review of African research on educational leadership and management with a pertinent recommendation, “this growing body of African research on gender and leadership/management has potentially important implications for policy and practice...”. The author took note of the relevance of this recommendation with respect to educational leadership in Zimbabwe. Zimbabwean political independence in 1980 was accompanied by the expansion of the education system. Concurrent with development of the nation’s education system, both national and international

policymakers issued declarations aimed at fostering gender equality not only for students but also educators (Gudhlanga et al., 2012). These declarations recognized that sustainable development would be impossible unless efforts were taken to address institutionalized gender inequality. Deep-seated cultural attitudes that limited access of women to leadership roles were impeding social and economic development in Zimbabwe, as in many other African societies (Aladejana & Aladejana, 2005; Brown, 1996; Combat, 2014; Onyene, 2007; Panigrahi, 2013; Pheko, 2002; Steyn & Parsaloi, 2014).

The field of women educational leadership and management is where the tension between tradition and change has been felt tremendously in Zimbabwe. Schools are not independent of the larger socio-cultural practices putting female principals on the spotlight. Therefore, female teachers in Zimbabwe prevail over institutional barriers in order to attain leadership positions and socio-cultural norms that work against their advancement (Muzvidziwa, 2012). During the past twenty years, researchers in Zimbabwe have documented both obstacles faced by women in gaining access to some leadership roles as well as their efforts to enact new ways of leadership in Zimbabwean system (e.g., Makura, 2012; Mudau & Ncube, 2017; Muzvidziwa, 2010, 2012, 2013).

The contributions of this study lie in two related domains. First, scholars have asserted that the development of a globally representative knowledge base requires research findings from a broader set of national contexts than currently exists in the field of educational leadership (Hallinger, 2018; Clarke & O'Donoghue, 2016; Oplatka & Arar, 2017). This has led to the recent publication of research reviews on educational leadership from societies that have not traditionally contributed to the global literature. These have included reviews of research from regions such as Africa (Hallinger, 2018), Arab societies (Oplatka & Arar, 2017) and Latin America (Flessa et al., 2018), as well as from individual societies such as Vietnam (Hallinger, 2016), Israel (Eyal & Berkovich, 2010), and Singapore (Ng et al., 2015). This empirical study of Zimbabwean research supports this trend of weaving research findings from under-represented societies into the fabric of global scholarship in educational leadership.

In addition, it is well documented across the world that the access of women to leadership position is often impeded despite documentation of 'female advantages' in leading selected aspects of schooling (see Hallinger, 2016; Eyal & Berkovich, 2010; Eagly et al., 1992; Krüger, 1996, 2008). As suggested, African scholars have documented how system policies

and practices institutionalise patriarchal attitudes that limit female access to leadership positions and constrain their efforts to lead in schools (Nkomo & Ngambi, 2009; Smit, 2013; Steyn & Parsaloi, 2014). The existing studies have primarily focused on obstacles and barriers to leadership positions (Hlatywayo et al., 2014; Maposa & Mugabe 2013; Moyo & Perumal 2019; Muzvidziwa, 2014) without recognizing the impact of leadership aspirations on school leadership. A void exists in this knowledge bank, in particular with regards to Zimbabwean school settings. Thus, this study seeks to investigate the leadership aspirations trends amongst female teachers in Zimbabwe. It is also located within the global literature on social justice where efforts to increase the number of women in school leadership positions represents a potentially powerful means of modelling and fostering positive social change in societies.

2. Conceptual Background

It has been widely featured in the literature that patriarchy perpetuates gender differences, and the extent varies from society to society (Coleman, 2007; Nkomo & Ngambi, 2009). This study draws from Zimbabwe, a developing Southern African country with diverse cultures engrained in traditional patriarchal values (Chabaya et al., 2009; Muzvidziwa, 2014). Hierarchical power structures still exist in the education system and they have socially, politically, economically and culturally discriminated against women (Wadesango & Karima, 2016). As a result, important institutions like family, school, and peer, friend, teacher, or mentor groups impact one's conception of identity and effective working methods (McKillop, & Moorosi, 2017). Coleman's (2002) study highlights gender-based inequalities in experiences, indicating that families had a bigger influence on women than men, while schools have a greater influence on men than women. When women take decisions to work in the schools, they obtain experience in this way, which influences their knowledge, attitudes, and abilities and helps them get ready for a promotion. While some people become school leaders by chance without following a well-defined plan, others are more likely to have been competent teachers. According to some research, female principals at schools frequently seize opportunities when they present themselves (McKillop & Moorosi, 2017). Indeed, not just at this moment but at every step thereafter, specific situations or aspects of family, social, cultural, or national needs are likely to impact their professional decisions (Richardson & Schaeffer, 2013). Nonetheless, some teachers require some time to gain confidence in their

ability to complete positions that they may not have done previously (Keter, 2013). The women either acquired the best methods from very good leaders or how not to do headship from ineffective ones. The attempt to socialise into the school is another aspect of this stage, which entails recognising the complexity of a variety of circumstances, winning the acceptance of colleagues, and adjusting to the school's culture (Earley & Weindling, 2007). Although this may be the case for both men and women, sociocultural factors are more likely to prevent women from achieving leadership roles earlier than males, and family responsibilities are frequently cited as the primary obstacle to leadership for women.

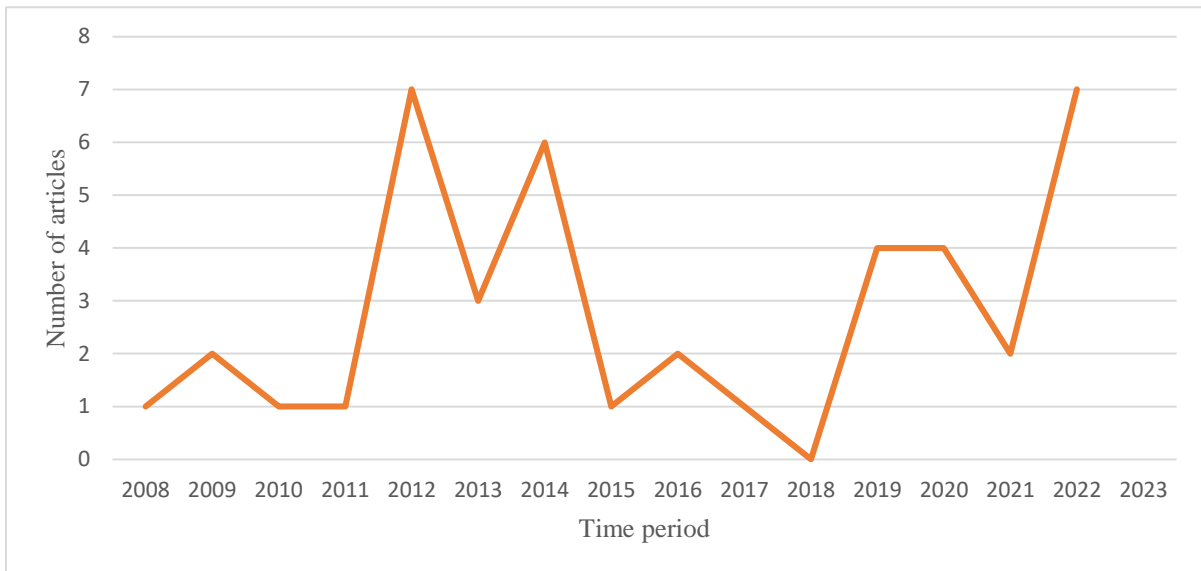
Historically, Zimbabwean education systems like other former colonial states, were plagued by racial discrimination which later diverted to gender inequalities between female and male black population in the postcolonial period (Muzvidziwa, 2014). Gender issues were not given attention as it was regarded normal for preparing girls for domestic roles, for example marriage (Chitiga, 2008). The socialization of girls has been towards domestic duties (private sphere) and boys towards the public sphere. This transmission of traditional culture begins in the family and is later reinforced by interactions in social institutions such as schools and in the community. Gender disparities in school leadership across levels are exhibited in the current statistics provided by the Ministry of Primary and Secondary Education (2022) showing that there are 7,386 primary schools and 3,131 secondary schools with a teacher establishment of 17,937 for early childhood development, 80,175 for primary schools and 48,740 for secondary schools. According to the statistics, out of 81,977 primary school teachers, 62.70% are female (51,401). While women make up 62.70% of primary school teachers, their representation is significantly lower in the most senior positions of head and deputy head, where they make up 33.39% and 37.78% of the staff, respectively. Similarly, of the 49,362 secondary school teachers, 50.09% (24,723) are female; nevertheless, females have only been appointed to 18.79% and 29.94% of head and deputy head positions, respectively. Compared to their male counterparts, female teachers are less likely to be awarded top leadership positions in both primary and secondary schools.

These practices have accelerated the privilege of men in society and limited opportunities for women. This is evidenced by the predominant male leadership throughout all sectors of society, including schools (Maposa & Mugabe, 2013). The publication trend of the

Zimbabwean women educational leadership and management body of knowledge published in English-language outlets is shown in figure 1.

Figure 1

Pattern of women leading and managing education publications in Zimbabwe



The women leading and managing education literature is largely recent. There are no publications prior to 2008. The highest number of publications was in 2012 and 2022. There were no publications in 2018. This shows a trend on how women education leadership has not been given sufficient attention. These trends are consistent with Hallinger (2018) that publications in Africa prior to 2005 represented only 11% of the African literature. A sudden boom was realised from 2012 onwards. Although it was beyond this study to investigate the causes of the sudden surge, this may be linked to financial support where Zimbabwean scholars who have migrated to other countries have been encouraged to contribute to the knowledge production of their own countries, for example, the author of this paper is a migrant living in South Africa. In addition, the gender equity policies could be the reason for the focus on women (Moyo & Perumal, 2020). The underrepresentation of women in educational leadership is not only unique to Zimbabwe, but other African societies as well (Panigrahi, 2013; Steyn & Parsaloi, 2014). Therefore, the predominant male gender relations have continued to shape biased beliefs and attitudes about who should lead educational institutions.

3. Methodology

3.1 Research design

This study utilized the sample survey research design. A sample of 160 female teachers was selected from a target population (McMillan & Schumacher, 2010). The Gregor & O'Brien (2013) career aspiration scale was adapted under the guidance of a statistician to locally design a questionnaire that suited local needs. The first part of the questionnaire asked for school profile and biographical details as follows; type of school (primary, secondary, combined), location of school (suburb, township, inner-city, rural), race (African, Coloured, Indian, White, other), age, current position (educator, head of department, deputy principal, district facilitator), experience in the education sector and highest academic qualification. The second part questioned about leadership aspiration using the career aspiration scale; 1 - Not at all true of me, 2 - Slightly true of me, 3 - Moderately true of me, 4 - Quite a bit true of me and 5 - Very true of me (Gregor & O'brien, 2015).

According to Kraemer (1991), three characteristics distinguish survey research, and these are used to, quantitatively explain the relationships within a specific population, data collected from people are subjective and that survey research selects and utilizes a portion of the population from which the findings can be generalized back to the population. This design was chosen because of its capability of obtaining data from large samples of the population, collect demographic data enough to examine the composition of the sample, ability to obtain data about attitudes that may not be measured via observational techniques (Glasow, 2005).

Two steps were followed in this survey; (1) a sampling plan was developed to sample the population as well as how the questionnaire was to be administered (2) procedures for obtaining population estimates from the sample data and for estimating the reliability of those population estimates must be established. This process includes identification of the desired response rate and the preferred level of accuracy for the survey. The participants were randomly selected from the population and all participants had the same probability of being selected. All elements of the population were identified and listed so that they could be independently and directly selected from the population list. Once this was accomplished, the

simple random sample was drawn from the sampling frame by “applying a series of random numbers that lead to certain elements being chosen and others not” (Visser et al., 2000, p. 230).

3.2 Data collection and analysis

Data were collected from a random sample of 160 female teachers from two districts - Mberengwa and Zvishavane in the Midlands province in Zimbabwe. Each participant was contacted in person via the school management to complete questionnaires. The highly structured questionnaire used to gather data for this study consisted of closed-ended questions with Likert’s format scales.

Table 1

School profile and demographic characteristics

Characteristic	Category	N	Percentage (%)
Type of school	Primary	98	61.3
	Secondary	62	38.8
Location of school	Suburb	46	28.7
	Township	66	41.3
	Inner-city	5	3.1
	Rural	43	26.9
Race	African	159	99.4
	Other	1	.6
Current position	Educator	143	89.4
	Head of Department	14	8.8
	Deputy Principal	3	1.9
Teaching experience	Less than 10 years	67	41.9
	Between 11-15 years	25	15.6
	More than 15 years	68	42.5
Highest academic qualification	Grade 12/ A ‘Level/ O’ Level	13	8.1
	Teachers’ Diploma	63	39.4
	ACE or other diploma	3	1.9
	Degree	41	25.6
	Honours Degree	29	18.1
	Master’s Degree	11	6.9

As shown in table 1, 98 (61.3%) participants were in primary schools and 62 (38.8%) were in secondary schools. Location of schools indicated that 46 (28.7%) were in suburb schools, 66 (41.3%) in township schools, 5 (3.1%) in inner city schools and 43 (26.9%) in rural schools. The racial distribution showed that 159 (99.4%) were African and only 1 (0.6%) was classified as other. The frequency counts and percentage breakdown of the participants

indicated that the highest number of participants 143 (89.4%) were educators followed by heads of departments amounting to 14 (8.8%) and deputy principals constituted 3 (1.9%) which was the least. The participants' teaching experience showed that 67 (41.9%) had less than 10 years 5 (15.6%) were between 11 and 15 years and 68 (42.5%) had more than 15 years. Lastly, in Table 1, 13 (8, 1%) had Grade 12 as their highest qualification, 63 (39.4%) had teachers' diploma, 3 (1.9%) ACE or other diploma, 41 (25, 6%) degree, 29 (18.1%) Honours degree and 11 (6.9%) had a Master's degree.

In order to minimize problems before the actual data collection began, the researcher read the instrument over and over again – checking for vague questions. After this preliminary check, pilot testing was conducted with 10 respondents to check if the questionnaire was easily understood, culturally appropriate and complete. A letter of introduction explaining the purpose of the project (why the respondent is important to the project) was attached to the questionnaire to gain cooperation. A record system was kept for purposes of follow-up. The SPSS computer program was used to analyze the survey data.

4. Results

Table 2 below presents the result of a comprehensive study that was conducted to investigate various aspirations among Zimbabwean teachers, including achievement, leadership, educational, and the influence of cultural and societal factors. Data were collected from a sample of 160 participants for each category. The mean, standard deviation, skewness, and kurtosis were calculated for each aspiration category to provide insights into the distribution and central tendency of the data. The responses were measured on Likert's 5-point scale. However, the two lower scales and two upper scales were combined to allow easy interpretation (Morgan et al., 2016).

The mean achievement aspiration score among Zimbabwean teachers was 27.54 (SD = 4.600). This indicates a relatively high level of aspiration towards achieving goals among the participants. The distribution of scores was moderately negatively skewed (-1.042), suggesting that the majority of participants scored higher on achievement aspiration, with fewer scoring lower. In comparison, the mean leadership aspiration score was 22.60 (SD = 6.219). This suggests a moderate level of aspiration towards leadership roles among Zimbabwean teachers.

The distribution of scores was slightly negatively skewed (-0.677), indicating that while there is a notable interest in leadership roles, it is not as pronounced as achievement aspirations.

Table 2

Mean differences in of various aspirations among Zimbabwean female teachers

Category	N	Mean	Std. Dev	Skewness	Kurtosis
Achievement Aspiration	160	27.54	4.600	-1.042	.637
Leadership Aspiration	160	22.60	6.219	-.677	.038
Educational Aspiration	160	24.81	5.637	-1.401	1.300
Cultural & Societal Influence	160	10.90	5.114	1.309	1.924

Similarly, the mean educational aspiration score was 24.81 (SD = 5.637), indicating a considerable level of aspiration towards educational goals among Zimbabwean teachers. The distribution of scores was negatively skewed (-1.401), suggesting that the majority of participants expressed higher levels of educational aspiration. Furthermore, the mean score for the influence of cultural and societal factors was 10.90 (SD = 5.114). This indicates a moderate level of perceived influence of cultural and societal factors on the aspirations of Zimbabwean teachers. The distribution of scores was positively skewed (1.309), suggesting that while some participants perceived a high influence of cultural and societal factors, others perceived a lower influence.

Generally, Zimbabwean teachers exhibit relatively high levels of achievement and educational aspirations compared to leadership aspirations. This suggests that while they are driven towards personal and educational goals, there may be less emphasis on pursuing leadership roles. Additionally, the perceived influence of cultural and societal factors appears to play a moderate role in shaping the aspirations of Zimbabwean teachers.

5. Discussion

The study analysed the leadership aspirations of female teachers. The results provided positive evidence for the common assumption that men are best leaders. Echoing previous studies, literature stresses that female school leaders juggle between familial roles and their professional expectations (Chabaya et al., 2009; Shava & Ndebele, 2014), a reason that could

discourage female teachers' leadership aspirations. These challenges are largely connected from traditional black cultural expectations of gender roles and heterosexual wife and daughter/ sister-in-law duties common amongst black communities in Zimbabwe. The deep-rooted sex-gender systems prescribe roles according to sex so much such that formally employed women are culturally compelled to perform domestic duties to their families (Maposa & Mugabe, 2013). Unfortunately, these cultural constructs are inherited from one generation to another through beliefs, values and practices. Meanwhile, men enjoy the privilege of dominance while women remain subordinated. The patriarchal nature of the Zimbabwean society places men at an advantage than women (Mudau & Ncube, 2017). In addition, the feminine reproductive roles add another layer to women's duties of extended families' health and well-being (Mapolisa & Madziyire, 2012) to an extent that majority of women sacrifice professional development to do important household roles (Wadesango & Karima, 2016). Given that all sample teachers work in schools where it is prestigious to acquire leadership positions, the finding may be read as a sign of underlying issues impeding teachers' leadership aspirations. This study is an early effort to present empirical evidence, future research is warranted to unearth the issues working against the advancement of women into leadership.

Combining the findings that female teachers aspire to advance their education and their achievement aspiration, the study provides affirmative evidence that female school leaders use relations-oriented strategies. The finding presents the lens through which female characteristics can be analyzed to understand how they lead. Scholarship portrays women school leaders for applying communal traits to bring stakeholders together from inside and outside schools to establish safe and welcoming environments to enhance parental involvement in school projects (Muzvidziwa, 2015). The literature reveals that women leaders experience challenges because of multiple responsibilities ingrained in the gender nature of society, family influences and culture (Moyo & Perumal, 2020). Largely future scholarship should focus on the advancement of women into leadership as a possibility to reshape cultural norms, for instance to shift mind-sets from dominance to sharing ideas (Makura, 2012).

Like preceding studies on female school leadership, this study found that although women possess potential to lead as shown in their educational qualifications and achievement aspirations but they prefer males as leaders. The outcome of this echoes the literature which

shows among others challenges, for instance role conflict, institutional constraints, socio-cultural factors, gender-role attitudes and how they serve as deterrents to women's advancement to school leadership (Chabaya et al., 2009). These factors influence organizational features such as school climate and culture. Other scholars have emphasized socio-cultural factors as major impediments to the professional experience of female school teachers and leaders. These are usually presented as myths, stereotypes and prejudices that pull women down (Mapolisa & Madziyire, 2012), hence culture subordinates' women resulting in them failing to command men at work (Mudau & Ncube, 2017).

There were somewhat surprising findings that give grounds for further research. All the participants were willing and working towards their furthering their qualifications which qualifies them to lead in schools. However, they still feel that men have the obligation to lead. According to Coleman's (2002) research, gender differences exist in the experiences that men and women have. Specifically, women are more influenced by their families than men are by schools. Women who choose to work in schools gain experience in this way, which impacts their knowledge, attitudes, and skills and prepares them for advancement. While some individuals become school leaders by accident and without adherence to a clear plan, others are more likely to have been trained teachers. It warrants further investigation, possibly qualitative, as to how school leaders are selected and inducted into their new positions. It is also important for scholarship to investigate the impact of contextual factors such as economic and political trends in Zimbabwe on women's advancement into leadership. The literature shows that although schools ascribe to different beliefs and ascribe to a myriad of cultures, they are not independent of the larger societal structures that influence power relations and the interaction patterns (Moyo & Perumal, 2019). Similarly, other studies have established that school culture is dominated by male values and masculine interaction patterns (e.g. Maposa & Mugabe, 2013; Muzvidziwa, 2013; Shava & Ndebele, 2014). These relationships shape and influence women in leadership perform their duties, that is, their leadership approaches and to a large extent what they can and cannot do (Mapolisa et al., 2013). Therefore, the contextual factors that schools take for granted reproduce a hierarchical society. This is influenced by what has been prescribed by society as acceptable behavior to which defying the set norms is unacceptable (Chabaya et al., 2009).

The outcome of this study makes institutions aware of leadership aspirations of female teachers. Therefore, it reinforces the fact that advancement of female teachers into leadership cannot be ignored. Increasing the number of women leading and managing schools will empower female teachers to aspire to be leaders. Literature shows that regardless of women outnumbering men in the teaching field, their number decreases in the management positions. A study conducted by Makura (2012) concludes that women utilize human relations, collaboration and power sharing to navigate institutional constraints and socio-cultural factors emanating from traditional conceptions of leadership. Female ways of leadership that is, caring, nurturance, power-sharing and collaboration have proved change the plight of their schools. Sharing of duties, approach of reciprocity, listening to colleagues and incorporating their ideas as opposed to command and control is empowering (Makura & Shumba, 2009) is what schools need. Hence promoting gender equity and leadership variability gives increase to sustainable leadership. The education system must ensure gender-impersonal recruitment, promotion and career management systems that empower female teachers. Women need to be empowered to transcend gender stereotypes as well as an enabling practice to balance their professional duties and familial roles. The government should institute policies and programs that expedite female teachers' career advancement. Further studies are required to examine how female teachers can be empowered. The author believes that this study lays the groundwork for policymakers, researchers and practitioners and point toward the path of knowledge generation and accumulation.

6. Implications for educational leadership and management

Understanding that Zimbabwean teachers exhibit lower levels of aspiration towards leadership roles highlights the need for educational leaders and managers to identify and nurture potential leaders within the teaching workforce. This may involve implementing targeted leadership development programmes and providing opportunities for teachers to explore and develop their leadership skills. Therefore, educational leaders can utilise the insights from this study to design leadership development initiatives that specifically target increasing leadership aspirations among teachers. By providing training, mentorship, and support, educational institutions can encourage teachers to take on leadership roles and

contribute to school improvement efforts. Similarly, educational leaders can work towards aligning the aspirations of teachers with the broader goals and objectives of the educational institution. By creating a shared vision and fostering a culture that values leadership and professional growth, educational leaders can motivate teachers to aspire towards leadership roles that contribute to the advancement of the institution.

Given the influence of cultural and societal factors on the aspirations of Zimbabwean teachers, educational leadership and management strategies need to take into account these contextual influences. Educational leaders should strive to create an inclusive and culturally responsive environment that respects and values the diverse backgrounds and perspectives of teachers. In addition, educational leaders and managers should prioritise building the capacity for educational leadership within schools and educational institutions. This involves providing ongoing support, resources, and opportunities for professional development to equip teachers with the knowledge, skills, and confidence to assume leadership roles and contribute effectively to educational leadership and management practices.

Lastly, educational leadership and management practices should foster a collaborative and collegial environment where teachers feel empowered to contribute to decision-making processes and collaborate with colleagues towards common goals. By promoting a sense of shared responsibility and collective efficacy, educational leaders can harness the aspirations of teachers towards collective success and organizational improvement.

Declaration of interest

The author reports no competing interests to declare.

Appendices

Appendix A

Achievement aspiration

Indicators		Not at all true of me/ Slightly true of me	Moderately true of me	Very true of me/ Quite a bit true
CA3 I can tell if something work related is going wrong.	Count	5	7	148
	Row N %	3.1%	4.4%	92.6%
CA8 I care about others' personal well-being.	Count	13	13	134
	Row N %	8.1%	8.1%	83.7%
CA13. I put others' best interests above my own.	Count	130	7	23
	Row N %	81.3%	4.4%	14.4%
CA17 I have a thorough understanding of the organization and its goals.	Count	17	14	129
	Row N %	10.7%	8.8%	80.7%
CA20 I sacrifice my own interests to meet others' needs.	Count	19	7	134
	Row N %	11.9%	4.4%	83.8%
CA21 I would not compromise ethical principles to meet success.	Count	46	20	104
	Row N %	22.5%	12.5%	65%
CA22 I can recognize when others are feeling down without asking them.	Count	31	5	124
	Row N %	19.4%	3.1%	77.5%

Appendix B

Educational aspiration

Indicators		Not at all true of me/ Slightly true of me	Moderately true of me	Very true of me/ Quite a bit true of me
CA6 I plan to reach the highest level of education in my field.	Count	17	14	129
	Row N %	10.6%	8.8%	88.8%
CA10 I will pursue additional training in my occupational area of interest.	Count	20	13	127
	Row N %	12.5%	8.1%	79.4%
CA14 I know I will work to remain current regarding knowledge in my field.	Count	23	19	118
	Row N %	14.4%	11.9%	73.8%
CA16 I will attend conferences annually to advance my knowledge.	Count	34	14	112
	Row N %	21.2%	8.8%	70%
CA19 I would pursue an advanced education program to gain specialized knowledge in my field.	Count	17	13	130
	Row N %	10.6%	8.1%	81.3%
CA23 Every year, I will prioritize involvement in continuing education to advance my career	Count	29	20	111
	Row N %	18.2%	12.5%	70.3%

Appendix C*Leadership aspiration*

Indicators		Not at all true of me/ Slightly true of me	Moderately true of me	Very true of me/ Quite a bit true of me
CA1 I hope to become a leader in my career field.	Count	35	11	114
	Row N %	21.9%	6.9%	71.3%
CA2 I do not plan to devote energy to getting promoted to a leadership position in the organization or business in which I am working.	Count	49	13	98
	Row N %	31.9%	8.1%	61.3%
CA4 Becoming a leader in my job is not at all important to me.	Count	48	16	96
	Row N %	38.9%	10.0%	60%
CA5 When I am established in my career, I would like to manage other employees.	Count	46	12	102
	Row N %	28.8%	7.5%	63.7%
CA12 Attaining leadership status in my career is not that important to me.	Count	39	10	111
	Row N %	24.4%	6.3%	69.4%
CA24 I plan to rise to the top leadership position of my organization or business.	Count	39	13	108
	Row N %	24.4%	8.1%	67.5%

Appendix D*Cultural and social influence on career aspiration*

Indicators		Not at all true of me/ Slightly true of me	Moderately true of me	Very true of me/ Quite a bit true of me
CA7 I agree with the cultural belief that men are in control of decision-making.	Count	116	9	25
	Row N %	72.5%	5.6%	21.9%
CA9 I believe that women shouldn't have strong opinions.	Count	123	7	30
	Row N %	76.9%	4.4%	24.1%
CA11 I believe men's domain is the workplace, women's is the household.	Count	130	5	25
	Row N %	81.3%	3.1%	15.6%
CA13 I believe that femininity is a sign of weakness.	Count	130	7	23
	Row N %	81.3%	4.4%	14.4%
CA15 I believe that women should be seen and not heard.	Count	116	5	39
	Row N %	72.5%	3.1%	24.4%
CA18 I believe men make the best leaders.	Count	120	8	16
	Row N %	75.0%	5.0%	10.0%

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Distributed leadership in government secondary schools of East Shewa Zone: Policy, practices, and challenges

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Abstract

This study explored distributed leadership in government secondary schools of the East Shewa Zone through a pragmatic worldview qualitative approach. The population of the study includes seven secondary schools chosen using purposive sampling technique. The participants include seven principals, five district education office heads, two city education office heads, and one official each from the Regional Education Bureau (REB) and the Ministry of Education (MoE), with interview as data gathering method. Data analysis follows a qualitative approach where inductive analysis under which categories, themes, and patterns are obtained from the data. Study results indicated that the opportunities and enabling conditions provided medium to high support for the secondary schools; the secondary schools under study were found working under many challenges. To hurdle the challenges, secondary school principals are recommended to provide teachers their deserved benefits. Similarly, district and city education offices need to revisit their selection and placement of principals while the Regional Education Bureau revisits its budget allocation and the Ministry works to include curriculum for fields of study that require special attention in higher learning institutions.

Keywords: *distributed leadership, principals, leadership practices, education policy, and challenges*

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1. Introduction

Empirical evidence on leadership depict that while leadership has been a topic of interest since the origin of humankind, leadership studies were taken seriously from the early 20th century onwards (Coggins, 2011). While the earlier theories of leadership focus on the character and personality of successful leaders, the recent theories concentrate on what leaders do (Hiebert & Klatt, 2001). The study of leadership, which began with the Great Man and Trait theories, reached distributed leadership theory in the 21st century. Distributed leadership has emerged as a result of the research works that different authorities (Gronn, 2002; Harris, 2003; Spillane et al., 2015) have been through to search for a solution to the challenges that organizations face while practicing other theories of leadership (Gronn, 2002). While earlier leadership theories are in different forms, distributed leadership theory came to being independently, originating in the field of organizational theory in the mid-1960s (Williams, 2011). In the late 1980s and early 1990s, it gained more emphasis as organizational development reached the level at which it requires sharing leadership practices among organizational constituents. As a result, the value given to leadership has grown in almost all sectors, and education has no exception (Harris, 2004). Since its emergence, scholars had defined distributed leadership differently before it came to take its current form (Bolden, 2011). These include shared, collective, collaborative, co-leadership, inclusive, and emergent leadership. In these definitions, it is evident that leadership is not the responsibility of a single individual and requires a more collective and systemic understanding of leadership as a social process. Like other leadership theories, distributed leadership has also been questioned for the complexities that it brings to organizations.

Following the current complexity of schools and the demand it places on principals, the idea that school principals can independently lead schools to effectiveness is questionable (Spillane, 2005). In search for a solution to this problem, distributed leadership is becoming a preferred school leadership model in the 21st century (Baiza, 2011; Harris, 2008; Moos et al., 2005); Spillane & Diamond, 2007; and Silins & Mulford, 2004). In schools, distributed leadership is preferred with the assumption that it assists school principals in at least three ways: making a school a community where the interaction and interrelationship of all members are realized, enhancing effective teaching-learning in the classroom, and improving students' outcomes. With the emergence and development of distributed leadership, school principals' attention is shifting from the former one-person leadership to shared leadership, where school

leadership is a function of the interaction between and among the principal, followers, and their situation (Asrat, 2017), and this, in turn, necessitates two conditions to be fulfilled. First, leadership must be distributed to those with the knowledge required to carry out leadership tasks. Second, leadership distribution needs to be planned (Leithwood et al., 2007; Chen, 2007).

The practice of distributed leadership in different countries is almost similar. For instance, in Sweden, it is a part of state reforms while in Ireland, it has legal ground in schools, where the involvement of all members of staff, parents, board of management, and partners in school management activities are expected (Humphreys, 2010). Like Sweden and Ireland, the implementation of distributed leadership has legal provisions in Botswana schools (Mphale, 2015). Meanwhile, the current practice in Ethiopia indicates that the philosophy behind educational leadership in general and school leadership in particular is shifting from one-man leadership to distributed form (MoE, 1994). Nevertheless, when one looks at the current practice of the government secondary schools of Ethiopia concerning distributed leadership practices, empirical evidence showed that the practice is not to the expectation (Asrat, 2017; Bayisa et al., 2020; Dejene, 2014; Mesfin, 2019; Misgana, 2017; Shimelis, 2018). In addition, the information from archival sources also supports the research outputs.

Given the gap in the distributed leadership, this study aims to assess the distributed leadership practices of secondary school principals in Ethiopia. The basis of this study is threefold. First, distributed leadership is a new leadership theory which requires conduct of further study. Second, the few researches conducted in the country in relation to distributed leadership in schools have methodological gap; majority of them were quantitative approach by considering only principals and teachers as data sources. Lastly, the current leadership practice in Ethiopia is weak at all the national, regional, and local levels of educational management (MoE, 2021). Hence, this study identifies the opportunities and enabling conditions in the practice of distributed leadership in secondary schools and the significant challenges affecting distributed leadership practices. This study is assumed to extend the current research on distributed leadership in the Ethiopian education system in general and secondary schools in particular by bringing attention to how policies, opportunities, and situations contribute to school effectiveness (Natsiopoulou & Giouroukakis, 2010; Tekleselassie, 2002).

2. Materials and Methods

2.1. Research design

The primary objective of this study is to explore stakeholders' perceptions of the opportunities and enabling conditions in place for practicing distributed leadership in government secondary schools in the East Shewa Zone. The study was guided by pragmatic worldview, which relates theory and practice; oriented to real-world practice, and problem-centered (Graff, 2016; Biesta & William, 2003; Creswell et al., 2007).

Research design refers to a plan and the procedure to be followed to conduct a research. This covers all activities that range from making decision on the broad assumptions up to the detailed methods of data collection and analysis (Creswell, 2009). Accordingly, for this research, pragmatic research paradigm underpins the methodology. Pragmatic research paradigm applies to mixed methods research under which researchers draw from both quantitative and qualitative assumptions (Creswell, 2009). In social science, until recently, there had been two mismatching research paradigms on the basis of their differences in ontological and epistemological views. These are the quantitative methodology of the post positivists' paradigm and the qualitative methodology of the constructivist and interpretive paradigm.

2.2. Sample and sampling technique

According to the data obtained from Zonal Education Department, there were ten districts and three city administrations in the study area. Accordingly, five of the ten districts were selected as a sample using purposive sampling, considering the number of secondary schools and teaching staff they have (Manion & Morrison, 2000, as cited in Rahi, 2017). Similarly, two of the three city administrations were purposively selected and included in the sample (Cohen et al., 2000). After selecting the sample districts and the city administrations, the sample secondary schools were selected following two different mechanisms: the secondary schools that are working in the sample districts were directly taken for the very reason that each sample district has only one secondary school (Grades 9-12). From those secondary schools working in the sample city administrations, the sample secondary schools were chosen using the purposive sampling technique. Accordingly, two of the five secondary schools were selected and included in the sample. Together, seven government secondary schools were taken as a sample.

2.3. Data collection

Following the research design and the qualitative approach, the interview was chosen as the data collection tool for it helps a move from seeing human subjects as manipulated to considering knowledge as generated between humans, realizing the idea that data is socially situated (Cohen et al., 2002). Accordingly, semi-structured interview guides prepared in the English Language were used to collect the data needed for the study. For this study, 16 interviews (with seven secondary school principals, five district education office heads, two city administration education department heads, one official from regional education bureau, and one from the ministry) were conducted. On average, the interviews took 50 minutes to 1 hour. During the interview, the discussions were recorded using an electronic medium with the interviewees pre-asking and gaining consent.

2.4. Data analysis technique

The phenomenological research design with a qualitative approach was used to conduct the study. Qualitative data analysis involves an inductive process through which a researcher works to answer research questions by explaining phenomena. Accordingly, the qualitative data obtained through interviews were analyzed using inductive analysis under which categories, themes, and patterns were obtained from the data. For this study, inductive analysis refers to the approaches that a researcher uses in making detailed readings to derive concepts, themes, or a model through interpretations made from the raw data. This implies the fact that a theory emerges from the data. The three major purposes of conducting inductive analysis include: condensing extensive raw text data into a brief and summary format; establishing clear links between the research objectives and the findings; and developing a theory about the structure of experiences evident in the text data (Thomas, 2006). The process to analyze the structure of lived experience (inductive analysis) is the final stage of phenomenological approach in analyzing data (Behal, 2023).

3. Results

As a result of data analysis, three major themes emerged: policy provisions support the practice of distributed leadership; school organization supports practicing distributed leadership and school culture support to practice of distributed leadership. Under each theme, responses obtained from study participants were analyzed.

Theme One: Policy Support on the Practice of Distributed Leadership

The responsible body for the selection and assignment of secondary school principals. Responses obtained from Ministerial and Regional level educational officials about the responsible body for selection and assignment of secondary school principals and whether there is a criterion in place to do so indicated that there is a responsible body for selection and assignment of secondary school principals. As to their responses, it is done by district and city education offices, and there are set criteria. One of the direct verbatim of the respondents is presented as follows to have a better understanding of the issue:

Yilikal: A criterion is used to select and assign secondary school principals. It includes having an MA degree in leadership or any one of the subjects taught at secondary schools. For those who have MA in subjects, it requires them to take short-term training like following Postgraduate Diploma in School Leadership (PGDSL) during summer time (HOI01).

According to the responses of interview participant officials (from district and city education offices) with whom the interview was conducted to collect the data needed for the study, concerning the responsible body for selection and assignment of secondary school principals and whether there is a criterion in place to do so, it is their offices that are responsible for the selection and placement. For this, all of the seven interview participant officials agreed that there are criteria for selecting and assigning secondary school principals. One of the direct verbatim of the respondents are presented hereunder to get a better understanding of the issue:

Zemedie: Yes, there is a criterion in place to be used to select and assign secondary school principals. It is processed based on an officially announced vacancy. One of its essential requirements is having an MA degree in leadership or any of those subjects taught at secondary schools (EOI01).

According to the responses of secondary school principals who were interview participants, the results of the data collected concerning the responsible body for the selection and assignment of secondary school principals and whether there exist criteria to be used in the selection of secondary school principals indicated that district and City Education Offices do the selection and placement of the secondary school principals. There are officially provided criteria jointly from the Regional Education Bureau and the Ministry for the selection. To better understand this issue, one of the direct verbatim of the respondents are presented as follows:

Yonas: The City Education Office is responsible for selecting and placing secondary school principals. It is done through competition, for which the department announces the position based on the criteria set by REB. Some of these include having an MA degree in school leadership or any subjects taught at secondary schools, sitting for the written exam, and giving an interview (PI01).

Theme Two: School Organization Supports Practice of Distributed Leadership

Secondary school organizational structure and participation of teams in decision making. The respondents were asked whether the current secondary school organizational structure allows teams to participate in decision-making. The respondents from the region and the Ministry agreed that at current secondary schools are structured in a way that teams can participate in decision-making. One of the direct verbatim of the respondents:

Yilikal: I think the current secondary school organizational structure has no problem in practicing distributed leadership. It allows teams to participate in decision-making. For example, while we are currently developing a Job Evaluation Grade (JEG) system for schools, one of the criteria we are considering is distributing decision-making (HOI01).

Responses of district and city education officials on current secondary school organizational structure indicated that secondary schools are structured in a way that they could participate teams on decision-making activities. One of the direct verbatim of the respondents is presented as follows:

Megersa: the current structure of the education system follows a decentralized leadership approach. It is structured from the Ministry up to district and even to the school level since what is planned at a higher level is implemented in schools (EOHI02).

The school principals also indicated that the structure has space for teams to participate in their secondary school decision-making. For instance, out of the seven interview participants of the sample secondary school principals, all assured that the secondary school structure has space for team participation. One of the direct verbatim of the respondents:

Yonas: Yes, the current secondary school organizational structure allows teams to participate in decision-making. At our school, almost all the work is done by participating teams. I think a school principal could not be effective without teams (PI01).

Theme three: School Culture Supports Practice of Distributed Leadership

Support provided to teachers who provide coaching to their colleagues. The respondents were asked whether there is a mechanism by which teachers who provide coaching to their colleagues are supported. Results indicated that secondary schools have a mechanism by which teachers who provide coaching are supported. They justified it with examples indicating that it is one of the requirements for continued professional development (CPD) of teachers since teachers with better performance at CPD get priority for other benefits. One of the direct verbatim of the response:

Yilikal: The current secondary school organization has a mechanism by which teachers who provide coaching to their colleagues are supported. For instance, providing induction training for newcomer teachers is one of the criteria for fulfilling what is expected from a teacher for CPD. It is also an element in teachers' performance evaluation, which is essential for their promotion. In this regard, teachers are benefitted in different ways, like getting priority for short and long-term training (HOI01).

On the other hand, the school principals indicated that secondary schools have different experiences in this regard. There are secondary schools where teachers that provide coaching and take on additional responsibilities are encouraged. However, there are also secondary schools without coaching and mentoring. Two of the responses include:

Temam: Yes, at the end of the year, at the ceremony for parents' day, at least a 'thank you' certificate is provided for those teachers with better performance (PI03).

Samson: Not at all. There is no mechanism by which teachers are supported for performing additional works. Of course, there is a request from teachers, but because the school cannot do so, we could not practice it (PI 04).

Mutual respect and trust among secondary school staff and between the staff and school administration. At some secondary schools, there is observable mutual respect and trust among teachers, the staff, and the school administration. However, there are secondary schools where mutual respect and trust is not a culture. Two of the direct responses of the secondary school principals are quoted herein.

Yonas: Our school has no problem concerning mutual respect and trust among teachers, and this is partly because most of the teachers are those who stayed long together (PI01).

Samson: There is a problem concerning mutual respect and trust among teachers. They suspect each other. Our experience with mutual respect and trust between the staff and school administration could be moderate. Few staff members have a problem in this regard (PI04).

The experience of planning to improve individual student's achievement. All seven secondary school principals confirmed that their schools have experience in planning to improve individual students' academic achievement. One of the direct verbatim of the respondents is presented here under:

Lidetu: Earlier, we had the experience of planning to improve individual students' achievements. It is done so that students plan their performance for each subject and teachers check and approve. At the end of each semester, teachers compare students' plans and actual performance. Nevertheless, the case of this year is different. Because of COVID-19, which forced us to divide each of the sections into two and multiply the number of sections, as a result of which teachers are forced to take more than their regular workloads. As a result, this year, it is not that much practiced though some students have plan (PI02).

Theme four: Major challenges affecting the practice of distributed leadership

The significant challenges to practicing distributed leadership in the secondary schools. Higher officials at the Ministry of Education and Regional Education Bureau identified significant challenges that negatively affect the distributed leadership practices in secondary schools including in-school and out-of-school factors. One of the direct verbatim of the response;

Yilikal: The significant challenges that negatively affect secondary school leadership include: the skill and knowledge gap that school principals have, lack of support provided by Woreda Education Offices, lack of cooperation from teachers and students, and lack of follow-up from the parents' side (HOI01).

The district and city education officials indicated that the challenges are system-wide, which include: hiring the needed teachers; lack of professionals like laboratory technicians,

librarian, and psychiatrist; situational factors like COVID-19 related challenges; lack of school facilities like laboratory and library; and difficulty to get the required principals following the newly issued directive concerning selection and assignment of secondary school principals. One of the participants said;

Megersa: The significant challenges include: the challenge we are facing in getting the needed teachers to the standard, both in number and in the required qualification types. According to the current experience, cities like ours (Bishoftu) get new teachers only through transfer. Most teachers who come to the city through transfer have medical problems. As a result, we face challenges in two ways: first, getting young and energetic teachers is difficult. Second, it is challenging to place new comer teachers where we want for they have difficulty teaching at our secondary schools with buildings up to 4 stairs. The other challenges include a lack of students' textbooks, a lack of budget, and a lack of administrative staff like lab technicians, librarians, and psychiatrists, all of whom are necessary for the work of secondary schools (EOHI02).

According to the secondary school principals, the challenges are much fold which includes: political interference, lack of budget, lack of educational facilities like science laboratories and library, lack of professionals like laboratory technicians and librarians, lack of interest both from teachers and students, challenge related to COVID-19 protocol, and lack of on-the-job training provided for secondary school principals. One of the participants quoted;

Yonas: different challenges could negatively affect the works of secondary schools of which political challenge is the major. Sometimes it happens when almost all parties like kebele administrators, sub-city administrators, and political organization leaders want to give the order to school principals, when a principal is expected to deal with school matters. They all lack school situation information and experience. Generally speaking, I can say what is written on government documents and what is actually implemented are totally different. Due to this, sometimes it happens when I return to the school accepting what I am not convinced myself and give orders for my staff to do accordingly, and this is one of the practices that could negatively affect the trust between my staff and me.

Recommended to overcome the challenges. To combat the challenges, the higher officials from the Ministry and REB indicated the four categories of solution: strictly selecting the secondary school principals following the criteria set; providing secondary school

principals with continuous on-the-job training; organizing a forum where the secondary school principals discuss with higher officials from WEO, ZED, and REB; and follow up and evaluation of the works of the secondary schools by different parties which include supervisor, Cluster Resource Center (CRC), and district education office, all of which provide the secondary school principals with advisory services and of course corrective measures where necessary.

According to the district and city education officials, solutions are many which include: allowing cities for 50/50 level of teachers' employment and transfer by REB; creating a system by which universities train professionals like laboratory technician, librarian, and psychiatry by the Ministry; working with stakeholders like NGOs to facilitate the income generation of the secondary schools; revisiting the budget that is provided for secondary schools; and providing educational leadership training for educational leaders. One of the participants quote;

Megersa: As a solution, it is recommended that the REB allows cities at least a 50/50 level of teachers' employment and transfer. It is also recommended that the MoE facilitates the system by which universities train professionals in fields like laboratory technician, librarian, and psychiatry, all of which are very important for the work of secondary schools. It is also good if the REB provides us with enough students' textbooks, and last but not least, it is also good if the REB provides us with enough budget (EOI02).

The school principals indicated various solutions, which include: avoiding political interference; developing community and parents' understanding on the schools as human development agents; improving the current financial support provided to secondary schools; fulfilling the secondary schools with the necessary facilities like laboratories and libraries; and providing on-the-job training for secondary school principals.

4. Discussion

In the Ethiopian education system, distributed leadership has been more emphasized since the 1990s. This was with the education and training policy, the decentralization program, and strategy documents (MoE, 1994; GebreEgziabher & Berhanu, 2007). These are confirmed by all the participants indicating that a responsible body exists for selecting and assigning secondary school principals, with criteria in place. Nevertheless, the actual situation indicated

that most of the secondary school principals (six out of seven) were working taking secondary school leadership positions with MA degrees in subjects other than educational leadership. In addition, out of those seven district and city education office heads, only two of them were found to have educational leadership backgrounds. Hence, it is possible to conclude that even though there is a policy provision that supports the practice of distributed leadership, the actual practice indicated otherwise.

Distributed leadership is a form of power sharing that extends authority and influence to groups and individuals contrary to hierarchical arrangements (Arrowsmith, 2007). In education in general and schools in particular, distributed leadership is considered to expand leadership roles beyond formal leadership positions (Harris, 2011), and this, in turn, could bring the complexity of practices resulting from working with various stakeholders and the numerous day-to-day activities that characterize educational leadership (Cunningham, 2014; Despres, 2004). In schools, distributed leadership could also be defined as a leadership role whereby a principal develops leadership skills throughout the organization (Gronn, 2002). The directive of the Ministry of Education also supposes the organization of educational leadership to follow the principle of professionalism, democratization, decentralization, working in coordination, and openness and accountability (MoE, 2009). These are emphasized in the interview indicating that the secondary schools are organized so that teams could participate in decision-making activities, which implies that school is designed to support the practice of distributed leadership. However, the reform initiatives and the apparent lack in the ability of many schools, policy makers, educators, and intellectuals tried to look for alternative strategies that could foster school-wide change. In this context, authorities have argued for reconceptualization of schools as ‘learning organizations’ (Kools et al., 2020).

In schools, staff and stakeholders move in and out of the leadership role depending on situations, implying that distributed leadership is situation-dependent (Spillane, 2015). In this regard, schools in general and secondary schools in particular, are expected to realize the culture of helping each other and respect between and among teachers and students (MoE, 2009). According to this directive, a secondary school principal is expected to facilitate a school culture under which teachers, administration workers, or students who have exemplary work performance are awarded or recognized at a meeting where parents and teacher association (PTA) members and the community take part.

Based on its purpose and mission, every organization has different characteristics. Likewise, a school has a unique culture. The school culture is perceived as a key aspect which enhances and gives meaning to various activities of the school. Thus, for the successful implementation of educational reforms, it is important to incorporate the reforms into the existing school culture (Ismail et al., 2022). Among other aspects, the political and organizational specificities of schools include the degree of political-administrative centralization, the governance model, and the organizational configuration challenge the analysis of organizational culture. This implies a consideration of several levels in the process of cultural construction of schools (Torres, 2022). For instance, the support provided to teachers who participate in coaching, secondary schools have different experiences. There are secondary schools in which teachers are supported by providing coaching and taking on additional responsibilities. Contrary to this, some secondary schools lack support for coaching and taking on additional responsibilities. With regards to mutual respect and trust, there is observable mutual respect and trust between teachers, the staff, and the school administration. However, there are secondary schools where it is difficult to find mutual respect.

Following the government change of 1991 and the analysis made concerning the practices of the earlier education system, the idea that 'schools have to be secular' got constitutional recognition in the Ethiopian education system. In this regard, the Ethiopian constitution states that education shall be provided free from any religious influence, political preconception, or cultural prejudices (MoE, 1994). Even though there is policy provision for the decentralization of education management at all levels, in the country's education system in general and in secondary schools in particular, leadership is among the significant challenges facing the system (MoE, 2018). Due to the prevalent political, social, and economic shifts in the external school environment as well as the significant changes brought in the education system, school leaders need to be well-developed to meet the challenges of the twenty first century. In addition, the increased competition, technological advancements, the global demands of a professional workforce, and the diverse needs of students are just a few indicators why school leaders need to be efficient. From this, it is possible to understand that for schools to be successful, the participation of people with different knowledge, skills, and attitudes is required (Mesfin, 2018).

Generally, within the educational context, challenges and issues of distributive leadership could be divided based on challenges in the school hierarchical structure, teacher

competencies, the willingness to assume leadership roles, and the concept of power sharing between head teachers with teachers. Another substantial challenge faced by school leaders while practicing distributed leadership is the difficulty in finding teachers that implement the delegated tasks (Ishetu et al., 2020). This study indicated that the challenges are system-wide and many-fold which encompasses in-school and out-of-school factors.

5. Conclusion

This study explored the stakeholders' perceptions of the opportunities and enabling conditions in place for the practice of distributed leadership in government secondary schools in the East Shewa Zone. Based on the study findings, the value given to educational leadership is low, school culture not entirely support the principals' distributed leadership practice, and the secondary schools work under challenging situations. Even though policy provisions support the practice of distributed leadership in the secondary schools, the actual practice indicates otherwise. Furthermore, this may negatively affect the secondary schools' goal achievement.

In the light of the study findings, the secondary school principals need to develop a culture of providing teachers with benefits. In terms of the higher officials, district and City Education Offices need to revisit their experience concerning the selection and placement of secondary school principals, district and City Administrations must consider policy directives for selection and appointment of education office heads and reduce political interference on secondary schools, the Regional Education Bureau needs to revisit its budget allocation for secondary schools and fulfills the HR that secondary schools need, and the Ministry of Education must work on the inclusion of the curriculum for school laboratory technicians, librarians, and psychiatry training in academic programs of higher learning institutions.

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Teachers' experiences of school violence: Case of three rural high schools in King Cetshwayo District

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Abstract

In South Africa, education is recognized as an inherent entitlement for every child. However, the integrity and security of educational institutions, which are intended to serve as supports of knowledge acquisition, are frequently compromised by pervasive acts of violence. This research explores the firsthand experiences of educators contending with this prevalent issue within the South African educational sphere. A qualitative method grounded in an interpretive paradigm was used to gain insights from ecological systems theory to study the multifaceted nature of school violence. The researchers conducted semi-structured interviews and reviewed pertinent documents to capture the perspectives of educators. Specifically, the study targeted three heads of departments and three educators from rural high schools situated in the King Cetshwayo District, selected purposively to ensure a diverse range of viewpoints. Through an inductive thematic analysis, the study uncovered a myriad of factors influencing the educational milieu, with various manifestations of violence emerging as a prominent theme. Educators recounted enduring physical assaults, verbal harassment, and derogatory remarks from both students and members of the community. Furthermore, the proliferation of dangerous weapons among students exacerbates the gravity of school violence. The findings underline the pressing necessity for community development initiatives and heightened parental involvement as indispensable interventions. By advocating for such measures, educators can be better equipped to effectively confront and mitigate the scourge of school violence. This, in turn, cultivates an environment conducive to optimal teaching and learning outcomes.

Keywords: *school violence, school discipline, corporal punishment, gangsterism, professionalism, experiences*

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1. Introduction

School violence stands as a pressing social concern, eliciting widespread discourse globally (Yang et al., 2021). Issue on violence at schools often remains sidelined by education and political leaders, leading to misconceptions and hindering progress (Bridgeforth, 2021). Manifesting in various forms, from property damage to verbal or physical aggression, school violence profoundly impacts the entire school community (Lester et al., 2017). Despite this, the repercussions on teachers have been largely overlooked (Khanyile & Mpuangnan, 2023), with scholarly and policy focus predominantly centered on student experiences (Cornell, 2017). Violence is defined by the World Health Organization (2019) as deliberate physical force resulting in harm, school violence can be perpetrated by any member of the school community, including teachers, students, or parents (Power, 2017).

Ncontsa and Shumba (2013) characterize school violence as the exertion of authority within educational settings through individual actions or societal influences. This definition resonates with real-world scenarios where power dynamics among teachers and students, often fraught with violence, shape school interactions. Furthermore, school violence extends beyond physical boundaries and operating hours, disrupting the learning environment (UNICEF, 2018), contributing to student apprehension about attending school (Ferrara et al., 2019). However, it is crucial to emphasize the necessity of creating a learning environment free from violence, as it is fundamental for promoting quality education (Human Science Research Council [HSRC], 2016). Incidents of violence occurring in schools in recent years have had a detrimental impact both teachers, students and on the broader community (Centre for Justice & Crime Prevention, 2017). This pervasive issue stems from a combination of internal and external factors, including the school's location and socio-economic circumstances (HSRC, 2016). Recognizing the pivotal role of school governance in ensuring safety and fostering conducive learning environments, the South African Schools Act, No. 84 of 1996 mandates school governing bodies to prioritize discipline and cultivate positive school cultures (Mabusela, 2016). Consequently, the cultivation of disciplined school environments is integral to the collective efforts of parents, teachers, and governing bodies in adhering to established codes of conduct.

An Annual Report presented by SACE (2015) sheds light on the widespread issue of violence affecting public schools. Drawing upon empirical evidence from multiple studies (Burton & Leoschut, 2013; Anderson, 2016), it shows the global prevalence of school violence.

This resonates deeply with the researcher's own observations within their school and neighbouring institutions, raising concerns about the adverse effects on learners and the broader socio-economic fabric of South Africa. Based on the interdependent relationship between education and the economy (HSRC, 2016), it becomes apparent that incidents of violence in schools can hinder economic progress. Learners exposed to violence often exhibit reduced motivation to attend school due to fear or intimidation, particularly in environments marked by unemployment and widespread violence (Kaur & Niwas, 2017). The prevalence of school violence is well-documented through various avenues, including media reports, government agencies, and academic research (DoE, 2018).

Previous research activities have extensively investigated school violence in South Africa, examining its various correlates, mechanisms, and perspectives of stakeholders (Pileggi, 2017; Herrero et al., 2019; Fitzpatrick et al., 2016; Mohapi, 2014). Despite governmental initiatives and research endeavours, challenges persist, as evidenced by the troubling trend of highly qualified educators resigning due to safety concerns (Nunan & Ntombela, 2021). This worsens issues of illiteracy and compromises teaching effectiveness, as educators are increasingly preoccupied with security matters (Felomena et al., 2021). Given this context, pertinent questions arise such as what are the experiences of teachers about school violence in the King Cetshwayo District? How does violence at the school impact teaching and learning? To address these inquiries, it is imperative to explore the firsthand narratives of school violence encountered by teachers in the King Cetshwayo District, located in the KwaZulu Natal Province of South Africa. Through this exploration, strategies for cultivating effective disciplinary measures and fostering active engagement among all school stakeholders can be identified, ultimately contributing to the maintenance of safe learning environments.

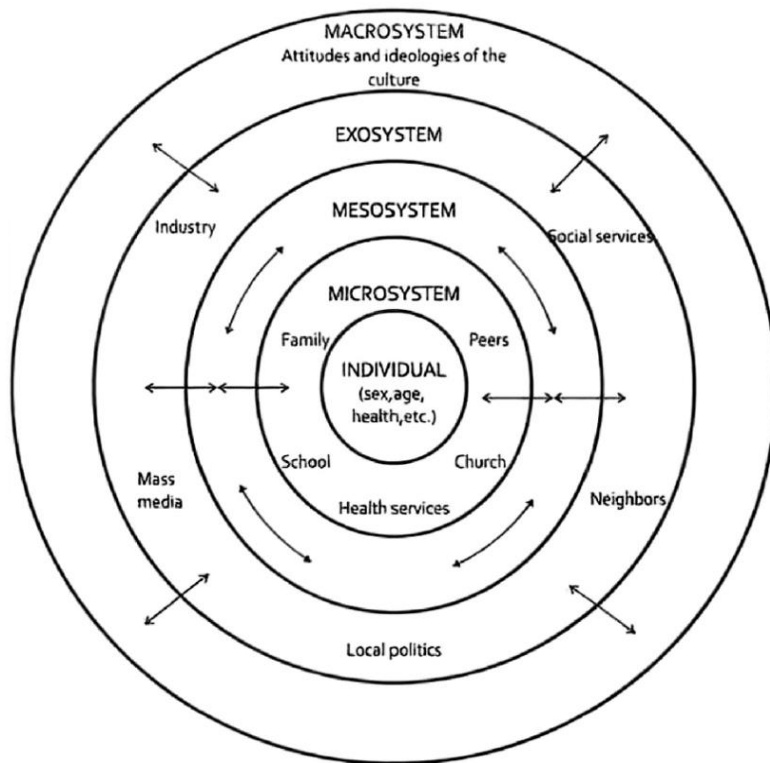
2. Theoretical Framework

The analysis of teachers' experiences concerning school violence in this paper is grounded in the theoretical framework of ecological systems theory, pioneered by Bronfenbrenner (1979). This theory posits that human experiences are shaped by multiple interrelated systems: the micro-system (individual), mesosystem (family), exo-system (school or community), macro-system (societal factors), and chrono-system (historical and developmental context). Embracing the constructivist paradigm, ecological systems theory emphasizes holism, personal meaning, subjectivity, and the intricate interplay between various

influences (Pahad & Graham, 2012). By adopting Bronfenbrenner's ecological model, this study recognizes the complex web of factors contributing to school violence, rejecting the notion of singular causality. Thus, the study recognizes that teachers may face different forms of violence, including incidents involving learners targeting each other, learners targeting educators, and even situations where educators may encounter violence from their colleagues. This comprehensive approach emphasizes the interdependence of individual experiences within larger socio-environmental contexts. It further underlines the importance of gaining a thorough understanding and implementing effective intervention strategies to tackle school violence.

Figure 1

Ecological theory (Bronfenbrenner, 1979)



Microsystem/Individual factor. The microsystems consist of various organizations and groups that hold significant influence over a child's growth and development. Such groups include family, school, religious institutions, neighbourhood, and peers. According to Gamage et al. (2021), microsystems serves as the fundamental building blocks within the broader ecological systems theory, and capture the patterns of interaction, components, and internal dynamics present in the home, educational settings, and peer relationships during individuals'

formative years. Furthermore, Ward (2007) suggests that adolescent violent behaviour stems from social interactions that occur during the process of socialization. According to this perspective, individuals learn from various sources, including observing others' actions, receiving guidance from authority figures like parents, and receiving feedback from society, all of which contribute to shaping their understanding of behaviour, its consequences, and ethical standards. In this view, the development of ethical principles occurs through direct education, as individuals reflect on their actions and experiences considering societal norms and values.

Societies typically favour behaviours that uphold their dignity and self-worth while avoiding actions that provoke feelings of shame or inadequacy (Ward, 2007). Similarly, the concept of reciprocal determinism (Holt & Shon, 2018) suggests that children's behaviours are influenced by the responses they receive from their environment, which then shape their subsequent actions. For example, children may turn to violence if they feel excluded or seek approval from peer groups that endorse aggressive behaviour, thereby perpetuating a cycle of violence (Ward, 2007). In this context, the prevalence of violence in South African schools can be attributed to exposure to such factors, which exert pressure on children resort to violent actions against their peers and educators (Hendricks, 2019). This underscores the intricate interplay between individual experiences and broader socio-environmental influences within the microsystem, highlighting the necessity for comprehensive intervention strategies to effectively address school violence.

Mesosystem/relationship factors

The family. Recent research studies have emphasized how crucial family involvement is in shaping students' educational outcomes (Mpuangnan & Ntombela, 2023; Naite, 2021; Mahuro & Hungu, 2016). It can be learned that parents play a significant role in guiding behaviour and addressing various challenges like poverty, school absenteeism, and peer pressure, all of which contribute to the risk of violence in schools (Caridade et al., 2020). Also, Marceau et al. (2020) point out the difficulties that arise when parents exhibit aggressive or illegal behaviours, as children often imitate their parents' actions. Furthermore, children from diverse backgrounds are vulnerable to domestic violence, caregiver misconduct, and insufficient family management strategies.

Peer relationships. Turanovic and Siennick (2022) propose that the quest for status and authority within peer groups can contribute to youth violence. Similarly, peer pressure has been identified as a significant factor driving violence among youth (Poonam & Rajesh, 2017). Thandi et al. (2016) support this notion that pregnant Xhosa-speaking adolescent girls perceived sex to avoid peer rejection. Consequently, they engage in undesirable activities to gain acceptance from their peers and attain group membership.

Meso-system/community factors. In communities where there is a lack of successful social authority development, local youths are more susceptible to negative influences from undesirable peer subcultures (Flynn et al., 2023). This leads to the adoption of anti-school attitudes and behaviours. Additionally, Ross and Broh (2000) discovered a reciprocal relationship between academic achievement and a learner's perception of personal control. In South Africa, numerous communities contend with elevated levels of violence involving weapons and drugs, posing substantial risks to the safety and welfare of schools in these regions (Burton, 2008).

Macro-system/social factors. South African society has been described as grappling with a culture of violence (Lamb, 2019). The lingering effects of the apartheid era, characterized by discriminatory policies and entrenched poverty, continue to reverberate throughout the country (Jefthas & Artz, 2007; Ward, 2007; Burton, 2008). Many young people were raised in locations where violence was pervasive, either as a tool of suppression by the apartheid government or as a means of resistance against it (School Based Violence Report, 2011). Numerous young individuals played an active role in the fight against the oppressive regime for liberation (Kipperberg, 2007). However, it appears that during this tumultuous period, there was a lack of adequate social support mechanisms to counsel and facilitate the integration of the youth involved in the resistance movement into mainstream society.

The lack of strong social networks within communities leads adolescents from these backgrounds to have limited opportunities to develop crucial social skills necessary for success in life (Mthiyane, 2013). This situation fosters social isolation and weakens the ability to deter various forms of antisocial behaviour (Edwards, 2008). For many South African citizens, life is characterized by persistent challenges such as poverty, illness, and violence, which inevitably spill over into incidents of school violence (Jolly, 2010). Aiteken and Seedat (2010)

argue that When the social and physical environment of a community is hostile, it's probable that the school environment will mirror these conditions.

Echoing this sentiment, Pillay and Ragpot (2010) argue that human behaviour is not shaped in isolation but is deeply embedded within socio-historical and cultural contexts. Environmental factors such as the proximity of bars or liquor shops to schools, the presence of drug dealers, lack of fencing around schools, and the absence of emergency reporting mechanisms via telephone may contribute to school violence (Mestry, 2015). Additionally, masculinity norms, perpetuated by societal acceptance of violent behaviour under the guise of "boys will be boys," are identified as significant contributors to school violence (Mills, 2001). Leoschut (2009) contends that the prevalence of violence in South African schools mirrors the broader societal trend of widespread violence.

3. Literature review

In South Africa, the legal framework guarantees every individual the right to attend school in a secure environment, as enshrined in the constitution, which upholds fundamental human rights such as dignity, equality, freedom, and security (Marishane, 2017; Republic of South Africa, Act No. 108 of 1996). However, the persistent occurrence of violence within South African schools stands in stark contrast to these principles (Sadu, 2019). Instances of violence within schools include a student attacking a teacher with a chair and a broom, a teacher being beaten unconscious for confiscating cell phones during examinations, and a principal assaulting a teacher in front of students and colleagues in Kwazulu-Natal (Xulu, 2022). Moreover, the practice of physical discipline by a teacher in Mpumalanga resulted in a student becoming paralyzed. Contrary to common belief, students exhibiting disruptive and antisocial behavior often contribute to the perpetuation of school violence. These incidents highlight that both students and teachers can be victims and perpetrators of violence, undermining the notion of schools as safe learning environments (SACE School-based Violence Report, 2018).

Violence not only impacts the quality of education but also takes a toll on the well-being of affected teachers (Aldrup et al., 2018). However, promoting teachers' well-being can be facilitated through supportive leadership and positive relationships with colleagues, students, parents, and school administrators. Such connections foster a positive work environment, enhance enthusiasm, and increase engagement levels among teachers,

encouraging them to invest in their professional development (Buonomo et al., 2017). Research indicates that a significant percentage of teachers, ranging from 41% to 90%, have encountered violence at some point in their careers, potentially leading to fatigue or post-traumatic stress disorder (People for Education, 2018; Mahaye & Ajani, 2023). Such emotional challenges can be examined through the lens of the socio-ecological theory, particularly at the individual level, which explores how victimization impacts teachers (MacMahon et al., 2017). Additionally, Ko'iv (2015) asserts that various individuals, including students, may participate in victimizing and bullying teachers within educational contexts, highlighting the relational dynamics inherent in teacher victimization, which align with the interpersonal level of the socio-ecological model (MacMahon et al., 2017).

Violence within the school context can be understood as a dynamic interplay between teachers and students, with identity serving as a central factor in both victimization and perpetration (Bound & Jenkins, 2018). High school educators are more frequently victimized compared to their primary school counterparts (Bound & Jenkins, 2018). Moreover, teachers belonging to certain demographics, particularly white, female, homosexual, or older individuals, tend to experience greater victimization, especially in urban and rural settings compared to suburban areas (Bound & Jenkins, 2018). However, many teachers across the country hesitate to disclose incidents of violence, often attributing it to various reasons such as embarrassment, concern for their students, or fear of repercussions (Ore et al., 2019; Ramsankar et al., 2018).

Furthermore, limited resources and inadequate training for teachers and staff pose significant challenges in implementing prevention programs addressing teacher violence (Ko'iv, 2015). Bound and Jenkins (2018) advocate for enhanced teacher protection as essential for maintaining a functional education system and fostering positive teacher experiences. In South African schools, violence may have political or gang-related undertones, impacting teaching and learning environments (Petrus 2015; Trucco et al., 2011). Du Plessis (2007) distinguishes between political violence and gang violence, noting that both forms can disrupt the educational process. Political violence, prevalent in the 1980s, involved conflicts between political factions and clashes between youth and the South African Defence Force (Du Plessis, 2007). Subsequently, gang violence emerged as a significant concern, with some attributing its escalation to preceding political unrest (Drosopoulos, 2008). Watts and Erevells (2004) argue

that systemic causes of school violence stem from oppressive social structures, necessitating an understanding of broader political and societal contexts.

Burton (2008) and le Roux and Mokhele (2011) highlight that the causes of violence in society, including schools, are deeply intricate and diverse. They encompass issues like the lack of discipline in schools, societal violence, poverty, and the lasting impacts of apartheid and colonialism (Edwards, 2008; Duma, 2013; Report of the Centre for the Study of Violence and Reconciliation, 2015; Leoschut & Burton, 2013). These interconnected factors emphasize the necessity for comprehensive strategies that address various layers of influence to effectively tackle school violence in South Africa.

This review uncovers the ongoing gap between South Africa's legal duty to provide safe educational environments and the prevalent violence within its schools. From conflicts between students and teachers to broader systemic issues like gang-related incidents, a variety of factors, including historical injustices like apartheid and ongoing societal tensions, play a role in this complex problem. Although the detrimental effects on teacher well-being are acknowledged, there are still gaps in understanding the dynamics of teacher victimization and the issue of underreporting. Additionally, there is a noticeable lack of research on prevention strategies tailored to the South African context.

4. Research Methodology

4.1. Research population

The research population refers to the entire group of individuals or elements that possess the characteristics of interest that the study aims to investigate (Clark et al., 2008). It represents the pool from which the sample is selected, allowing researchers to draw conclusions and apply findings to a wider context. In this study, the research population comprises all teachers working in rural high schools within the King Cetshwayo District. This includes educators from various subjects, grades, and administrative roles within the chosen schools. Understanding the unique qualities and circumstances of this research population is crucial for developing appropriate data collection methods, sampling techniques, and interpreting the study's findings effectively within a relevant framework.

4.2. Research design

This study utilized a qualitative approach to collect subjective views from the participants. It serves to explore the rich insights into individuals' experiences, perspectives, and behaviours. Qualitative methodology allows researchers to explore the complexities and nuances of a given phenomenon deeply. As outlined by Clark et al. (2008), qualitative research emphasizes subjective interpretations, sensitivity to context, and the exploration of meanings attributed by participants to their experiences. Through techniques such as interviews or focus groups, researchers can gather detailed opinion from teachers about their encounters with various forms of violence in the school environment. These methods facilitate the exploration of teachers' emotions, coping strategies, and perceptions of risk and safety within the specific context of rural high schools in the King Cetshwayo District.

4.3. Sample and sampling techniques

In line with a purposive sampling technique, the authors selected a total of six participants, three Head of Departments (HoDs) and three teachers, for inclusion. Purposive sampling allows researchers intentionally chose participants with valuable insights and experiences pertinent to the research topic (Henning et al., 2004). The participants involved one HoD and one teacher from each of the three rural high schools under investigation. This ensured a diverse representation of perspectives, encompassing both leadership and teaching roles within the selected schools. The aim was to capture a holistic understanding of teachers' encounters with school violence in the unique context of rural high schools in the King Cetshwayo District.

Table 1

Biographic information

Participant	Gender	Age	Teaching experience	School
HOD1	Female	39	18	School A
HOD2	Male	40	20	School B
HOD3	Female	50	25	School C
Educator1	Female	35	10	School A
Educator2	Male	35	12	School B
Educator3	Female	33	9	School C

Table 1 presents an overview of the demographic and professional characteristics of the individuals involved in the study. To ensure an equal representation of genders, three females and three males were selected. The data obtained offers a well-rounded perspective on the experiences of school violence. The diverse age range, spanning from early thirties to fifties, brings a mix of life experiences and career stages among participants, which can potentially influence their perceptions and responses to instances of school violence. Furthermore, the broad spectrum of teaching experience, ranging from nine to twenty-five years, fosters a rich exchange of insights and strategies for addressing school violence. Additionally, the participants come from three different schools labelled as School A, School B, and School C, showcasing the varied contexts in which they operate. This diversity provides opportunities to explore how factors such as school size, location, and community dynamics shape teachers' experiences and responses to school violence.

4.4. Instruments for data collection

To gather thorough and rich data, semi-structured interviews and document reviews were conducted. These methods provided a balance between flexibility and structure (Leedy & Ormrod, 2010), allowing the inclusion of predefined questions while also giving participants the space to share their perspectives and insights in depth. The semi-structured format of the interviews allowed for a deeper dive into teachers' experiences of school violence, capturing details and fostering a comprehensive understanding of the phenomenon within the specific context of rural high schools in the King Cetshwayo District.

To reduce potential research bias during data collection and analysis, implementation measures like peer debriefing and member checks were employed. According to Janesick (2007), peer debriefing entails having colleagues or experts review the research process and findings, offering critical insights that can identify potential biases or gaps, thus ensuring the study's validity. Member checks involve presenting the findings to the participants to confirm that the interpretations accurately reflect their experiences and perspectives (Thomas, 2017). This feedback ensures that the researcher's conclusions are aligned with the participants' realities, thereby increasing the authenticity and trustworthiness of the study. Both methods serve as triangulation techniques, used by the researchers in this study to minimize bias and strengthening the overall rigor of this qualitative study.

4.5. Validity and reliability tests

Ensuring the reliability and accuracy of the interview guide was crucial to maintain the credibility of the qualitative research findings. To achieve this, the researchers employed a validity approach to assess whether the interview questions effectively captured the intended concepts. This involved a meticulous content validation process where expert reviewers in education and qualitative research methodology carefully examined the questions for relevance, clarity, and appropriateness. The guide was refined based on their feedback to ensure alignment with the study's objectives. Additionally, reliability was addressed to ensure consistency and repeatability of the questions and their interpretation. This was achieved through a pilot study, where the clarity and flow of the interview process were tested with a separate group of participants not involved in the main study. Adjustments were made to the interview guide based on their feedback, enhancing its effectiveness in eliciting detailed and consistent responses.

4.6. Data analysis

Prior to data collection, necessary permissions were obtained from school authorities. This paved way for conducting the semi-structured interviews. The interviews were conducted over three sessions, each lasting approximately 45 minutes. In each session, participants' consent was obtained for audio recording. Subsequently, the recorded responses were transcribed into written notes for analysis. Qualitative data obtained were subjected to thematic analysis. This method of thematic analysis focuses on identifying recurrent themes and patterns in participants' experiences and perspectives (Mpuangnan, 2023; Rule & John, 2011). In analysing the data, unique codes were assigned to each participant (e.g., HOD1-HOD3; Educ1-Educ3). These codes aided in identifying and categorizing data according to emergent themes, ensuring systematic analysis and presentation. Through this method, the researchers explored the various levels and diverse viewpoints of the participants.

5. Findings

The data of this study were organized into three main sections: incidents of teachers facing verbal attacks and insults, instances of physical assault, bullying, and intimidation

directed towards teachers, and the intricate relationship between drugs, violence, drug dealers, and gangsterism.

5.1. Teachers as victims of verbal attacks and insults

The highlighted theme sheds light on situations where teachers faced verbal attacks and insults. In these instances, teachers revealed being targeted by intoxicated individuals and substance abusers while on school grounds. Additionally, they shared experiences of enduring regular verbal abuse from both students and members of the community. Additionally, participants expressed feeling exploited by their students, the very individuals entrusted to receive education from them. Consequently, these encounters left teachers feeling emotionally wounded and undermined in their confidence, ultimately impeding their ability to effectively engage in teaching and learning activities. This sentiment was articulated by EDUC 1.

Teachers who have suffered from school violence often experience feelings of hurt, victimization, and a loss of confidence due to the pain they carry. There are various forms of violence, some of which involve students using vulgar language towards teachers and showing a lack of respect. In my personal experience, students engaged in disruptive behaviour and sang songs directed toward me, falsely claiming that I was incapable of teaching them effectively.

Although the South African Act No. 84 of 1996 stipulates comprehensive Code of Conduct policies to address various forms of learner misconduct, including verbal attacks and the use of vulgar language, instances of verbal assaults against teachers remain widespread in many rural schools within the district under investigation. Moreover, a significant portion of crimes in South Africa involve assailants armed with dangerous weapons such as knives, screwdrivers, guns, and alcoholic beverages. For example, a study conducted by UNICEF and the Centre for Justice and Crime Prevention (2015) revealed that 34.5% of secondary school learners and 3.1% of primary school learners were aware of fellow students arriving at school under the influence of illegal drugs and carrying dangerous weapons.

Sharing the same sentiment **HOD 1** expressed that *"When learners are under the influence of drugs, they often become aggressive and violent. This is because drugs can elevate violent behaviour. Learners who use drugs may bring dangerous weapons like knives to school or come to school while drunk. Unfortunately, teachers may become victims of such learners."*

During the document review phase, the researcher unearthed evidence indicating that certain learners had been implicated in incidents of name-calling, targeting both teachers and fellow students. For instance, while perusing the logbook, the researcher encountered entries documenting instances of suggestive storytelling and sexual name-calling directed at specific teachers and peers. One particularly notable incident, dated 17 February 2021, involved a female learner submitting her exercise book to a male educator containing nude photographs, suggesting attempts to initiate a sexual relationship. Furthermore, when participants were prompted to elaborate on their experiences of verbal attacks and insults, they recounted instances where they felt victimized by disgruntled youth, purportedly in retaliation for perceived instances of corporal punishment. Consequently, these verbal attacks appeared to be a response to the disciplinary actions taken by teachers, with some learners refusing to accept corporal punishment and instead reporting such incidents to their parents or members of the community.

HOD 2 recounted an incident where they entered a classroom and witnessed a teacher trying to discipline a student through corporal punishment. However, the student resisted and started shouting at the teacher.

In addition, community members would often visit the school premises to confront and berate teachers for their disciplinary actions. This observation underscores the persistence of corporal punishment practices in certain communities, despite its abolition 26 years ago, particularly prevalent in rural areas (Stats SA, 2021). Moreover, interviews unveiled that partisan politics played a role in perpetuating violence against teachers. Certain members of the community were noted to incite learners to verbally assault teachers simply because these educators were affiliated with political parties other than the dominant one favoured by the majority in the community. This was revealed by **EDUC 2**:

It's clear that I am affiliated with a particular political party, and the members of the community are well aware of this. Unfortunately, they've chosen to use this knowledge against me, engaging in conflict and even enlisting learners to further their agendas.

The assertion aligns with Mbanyele's (2022) perspective, which suggests that certain political parties continue to employ overtly violent rhetoric, often targeting perceived adversaries. Additionally, November et al. (2010, p. 791) argue that the lingering impact of

apartheid casts a profound shadow over the current education system, characterized by its "ferocious" legacy.

5.2. Teachers as victims of physical assault, bullying, and intimidation

HOD1 indicated that conflicts between learners and even among peers occur frequently within the school premises. *'As responsible educators, we cannot simply stand by and allow these situations to escalate into full-blown skirmishes. We are compelled to intervene and prevent any harm from coming to our students. It is unfortunate that sometimes, our efforts to maintain order can result in us being unfairly implicated as victims. Nonetheless, we must persist in our duty to promote a safe and conducive learning environment for all'*. The same sentiments were shared by **HOD 2** who stated that violence disturbs teaching and learning. *'Teaching during chaotic times can be challenging. The teacher must navigate through the crowd to address the issue at hand. Unfortunately, sometimes the learners involved in the disruption may redirect their aggression towards the teacher, putting them at risk of physical assault.'* In addition, **HOD 3** had to say this, *'A teacher left the school after being slapped by a female learner in front of other students, despite the school's code of conduct clearly stating that such behaviour is misconduct. The learner remained at the school while the teacher moved to another school.'* Additionally, **EDUC 3's** account, supported by the Head of Departments' views, paints a grim picture of the violent challenges teachers face in their professional lives. **EDUC 3** recounted an incident where, amidst a dispute between two boys, one lifted her out of her chair and carried her to safety. This act reflects the intimidation not only from students but also from the community, as described by **EDUC 2**, who was attacked by a group of community members, leading to their decision to leave the education system altogether. This theme highlights the disturbing trend where some learners turn schools into battlegrounds, bringing with them the conflicts and disputes of their communities. It is evident that teachers bear no responsibility for these external conflicts. Their work is unduly disrupted, making them unwitting victims of conflicts not of their making. Some participants recounted feeling intimidated by community members in the vicinity of the school, leading to decisions to resign from their positions. Consequently, the exodus of highly skilled and experienced educators due to security concerns exacerbates the persistent issue of illiteracy in South Africa (Nunan & Ntombela, 2021).

Another form of violence that surfaced in the study was bullying, including incidents of cyber-bullying. During the document review, the researcher encountered a disturbing case where learners clandestinely photographed a teacher while she was engaged in teaching, and subsequently circulated the image via the WhatsApp platform. This finding resonates with Rademeyer's (2008) observation that teachers may find themselves subjected to social media exposure while attempting to enforce school regulations and address disruptive behaviour. What was particularly troubling to the researcher was that, despite teachers' dismay at the prevalence of violence in schools, some had experienced physical assaults at the hands of both learners and community members, often in the presence of other students. Consequently, the pervasive nature and impact of violence against teachers have led to the recognition of a condition termed "maltreated teacher disorder," characterized by a constellation of stress responses such as anxiety, disrupted sleep patterns, depression, headaches, hypertension, and eating disorders (Skinner, 2019).

5.3. The complex interplay of drugs, violence, drug dealers, and gangsterism

The data analysis reveals a multifaceted interplay between youth violence, gangsterism, and substance abuse, creating a complex web of challenges. It became evident that learners who were addicted to drugs often engaged in violent behaviour and were more susceptible to involvement in gang activities, which frequently entail violence. Unfortunately, teachers found themselves as the primary targets in these situations. Consequently, the narratives shared by the participants shed light on the persistence of political violence and tribal factionalism within the surveyed communities, with detrimental effects on education. **HOD 1** said that because of the fighting between tribes or towns within the same tribe (izigodi), students brought assegai, knives, and other weapons to school. The motives for doing so are supposed to protect oneself from adversaries belonging to another tribe or village.

The presence of conflicts and tension within the school environment leads to instability, fostering a sense of ungovernability among learners. In such unstable conditions, opportunistic individuals may exploit the situation for personal gain. Consequently, several participants highlighted that teachers often fall victim to the actions of youth and community members driven by jealousy, personal grudges, and hidden motives. Additionally, community troublemakers exacerbate issues by using minor grievances as a pretext, often hiding behind political affiliations.

HOD 2 expressed concerns about community dissatisfaction with the principal, citing the formation of a group called the ANC Youth League, which presented a memorandum to the district. Following this, there was a rise in violent behavior among learners.

In alignment with these sentiments, **EDUC 1** noted the involvement of certain learners in gang activities, bringing dangerous weapons like guns, knives, as well as drugs and alcohol to the school. She emphasized the challenge of dealing with these learners, who exhibit a sense of entitlement and become uncontrollable. **EDUC 2** echoed similar concerns, mentioning the use of schools as trading spots by drug dealers, with one instance involving a girl selling dagga. Although confronted, she refused to disclose the dealer's identity.

From the conversations with the participants, it is clear that a supportive environment for successful teaching and learning cannot flourish amid such unrest. This statement is consistent with Pahad's (2012) viewpoint, suggesting that socio-political changes in South Africa, alongside factors like poverty, limited resources, and the prevalence of illicit substances in communities, create societal challenges that contribute to escalating levels of school violence. Moreover, Duma (2013) argues that problems such as unemployment, overcrowding, frequent population shifts, and cultural diversity also play significant roles in fostering violence within schools.

This study is rooted in Bronfenbrenner's (1979) ecological systems theory, which emphasizes that school violence does not stem from single causes but rather emerges from a complex interplay of different influences (Krug et al., 2002). Through the study, participants shared their experiences of various forms of victimization, highlighting the intricate nature of school violence. It's evident from this discussion that community factors significantly contribute to the escalation of violence, as affirmed by Burton (2008), who points out the presence of weapons and drugs in South African communities, which in turn impact schools. Leoschut and Burton (2013) further argue that school violence reflects broader societal violence. Therefore, the ecological theory offers a robust framework for comprehending the complexity and origins of school violence, considering its multifaceted nature and the interaction of different factors.

6. Discussion

The widespread presence of violence within schools across South Africa presents significant challenges for teachers, impacting their well-being and professional effectiveness.

Research by Le Mottee and Kelly (2017) and Baruth and Mokoena (2016) sheds light on the emotional toll experienced by teachers subjected to various forms of mistreatment, such as verbal abuse and disrespect from students. This mistreatment often leaves educators feeling hurt, victimized, and lacking in confidence, as both personal stories and empirical studies attest. Moreover, systemic issues like resource constraints and a lack of administrative support worsen the prevalence of school violence in educational settings, as highlighted by Pahad and Graham (2012). These structural barriers leave educators feeling ill-prepared and unsupported in effectively managing violent incidents, amplifying the difficulties they encounter in their professional roles.

Consequently, there is an urgent need for comprehensive violence prevention strategies addressing the root causes of school violence while fostering positive school cultures and community involvement. In response, investing in teacher training programs emerges as a crucial intervention to equip educators with the necessary skills and resources to tackle violence effectively. Scholars like Duma (2013) advocate for collaborative efforts between policymakers, educators, and community stakeholders to implement evidence-based strategies empowering teachers and cultivating supportive school environments. By prioritizing educators' well-being and fostering cultures of respect and tolerance within educational institutions, South Africa can strive to mitigate the adverse effects of school violence and promote positive outcomes for all students and educators alike.

Furthermore, the data provide poignant insights into the pervasive challenges of school violence faced by teachers in South Africa. Participants acknowledged frequent conflicts among learners, emphasizing the crucial role educators play in maintaining order within schools. However, they also highlighted the unfortunate reality of educators being unfairly implicated as victims despite their efforts to intervene. This complexity in managing school violence effectively is underscored by Ugur (2016). One distressing account shared by participants involved a teacher leaving following a physical assault by a student, highlighting the urgent need for effective mechanisms to address and prevent violence within educational settings. The failure to enforce disciplinary measures in line with the school's code of conduct exacerbates the prevalence of violence within schools. Additionally, participants shared experiences of being physically lifted by students during disputes, illustrating the vulnerability of educators to physical aggression.

The data about teachers as victims of physical assault, bullying, and intimidation revealed that teachers were often attacked by community members, shedding light on the broader societal challenges educators face in their professional lives. These findings align with Qwabe et al. (2022), who found that verbal abuse and bullying are prevalent forms of school violence in selected public high schools in KwaZulu-Natal, impacting both teachers and students. This incident reflects the external pressures and risks associated with being an educator, emphasizing the urgent need for community engagement and support in addressing school violence, as noted by Sambo and Govender (2023). Collectively, these narratives paint a stark picture of the violent nature of educators' professional lives in South Africa and shows the need to prioritize teachers' safety and well-being. By implementing evidence-based interventions and fostering collaborative efforts among policymakers, school administrators, educators, and community stakeholders, South Africa can work towards creating safer and more supportive learning environments for all.

Concerning the complex interplay of drugs, violence, drug dealers, and gangsterism, the data indicated that learners bring dangerous weapons like guns and knives to school, alongside the prevalent issue of drug and alcohol abuse. Similar findings were reported by researchers like Chetty (2015) and Maphalala and Mabunda (2014), highlighting the pervasive nature of school violence affecting teachers in South Africa. These results echo the seriousness of the situation and its profound impact on the safety and well-being of both students and educators. Such incidents pose direct threats to physical safety and create an atmosphere of fear and intimidation, hindering teachers' ability to maintain order and discipline effectively. Additionally, participants described drug dealers exploiting schools as trading grounds, highlighting the infiltration of criminal activities into educational settings, which complicates efforts to establish safe learning environments.

Despite disciplinary measures being taken, Mohasoa and Mokoena (2017) emphasized that students' reluctance to disclose information about drug dealers reflects a pervasive culture of fear and intimidation, which undermines effective intervention strategies. These narratives collectively emphasize the urgent need for comprehensive approaches addressing the root causes of such issues and promoting collaboration among educators, law enforcement agencies, community stakeholders, and policymakers. Studies such as Reddy et al. (2019) and Ntuli et al. (2020) agree that prioritizing the safety and well-being of students and educators

and implementing evidence-based interventions, South Africa can strive to foster safer and more supportive learning environments for all.

Given the extent of challenges in school violence, it is essential for school leadership to prioritize the development of leadership capacity within the school management team as the initial step. They can offer specialized training and support programs for teachers to equip them with conflict resolution skills to managing violent incidents. It is recommended to revisit and update school policies on violence management to effectively address school violence; ensuring buy-in from all stakeholders in the formulation of the code of conduct for learners. Similarly, they need to encourage ongoing research and evaluation to assess the impact of interventions aimed at curbing school violence.

7. Conclusion

This study explores the personal encounters of teachers with school violence. It reveals that teachers face mistreatment from both students and community members. In addition, teachers emerge as frontline responders to violent incidents, often grappling with feelings of inadequacy in managing such situations effectively. In rural school settings, obstacles like limited resources and inadequate administrative support heighten the prevalence of violence. These findings stress the importance of holistic approaches to violence prevention, blending reactive interventions with proactive strategies to foster positive school environments and community involvement. The research underscores the importance of empowering teachers through comprehensive training programs designed to equip them with the skills and resources needed to effectively address violence. By collaborating, policymakers and stakeholders can promote supportive school climates and community cohesion, ultimately improving the well-being of both students and educators.

This study is centered on rural high schools within a particular district, which may limit the extent to which the findings can be generalized to other settings, such as urban or peri-urban environments. Similarly, the unique socio-economic, cultural, and geographical characteristics of rural areas may impact the nature and frequency of school violence in distinct ways when compared to urban contexts, emphasizing the need to avoid making sweeping generalizations.

Ethical Approval Information

Institutional Review Board Statement: The Ethical Committee of the University of KwaZulu-Natal, South Africa has granted approval for this study on 13 April 2015 (Ref. No. HSS/0314/015M).

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ChatGPT integration significantly boosts personalized learning outcomes: A Philippine study

Iris Jane G. Agbong-Coates

Abstract

This study investigated the impact of AI integration, specifically ChatGPT, on personalized learning involving 785 college students in the Philippines who took the online survey. Utilizing regression analysis and an Omnibus ANOVA test, the study examined the influence of AI Integration alongside demographic variables such as age, sex, educational level, and type of school on personalized learning. Results indicate that AI integration can explain a substantial portion of the variability in personalized learning outcomes (approximately 88.54%). Specifically, ChatGPT demonstrates a significant positive effect on personalized learning, suggesting that as ChatGPT integration increases, personalized learning experiences also increase. However, demographic variables such as age, sex, educational level, and type of school show minimal effects on personalized learning outcomes, except for a potential trend for higher scores in private universities and colleges compared to state universities and colleges. These findings underscore the pivotal role of AI technologies, like ChatGPT, in enhancing personalized learning experiences while highlighting the need for further exploration of contextual factors influencing educational outcomes. The implications extend beyond the study to offer insights for educational stakeholders and policymakers, emphasizing the potential benefits of AI-driven personalized learning initiatives. However, limitations such as sample characteristics, measurement bias, and technology accessibility should be addressed in future research endeavors to maximize the benefits of AI integration in education.

Keywords: *AI integration, ChatGPT, flow experience, learning engagement, personalized learning, quality of learning*

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1. Introduction

As higher education evolves to accommodate more adaptable and flexible career paths, personalized learning becomes increasingly vital in reflecting the diverse needs and expectations of students (Gunnoo, 2022; Hardy, 2023; Parikh, 2023). This shift towards individualized learning aligns with the growing demand for education that mirrors the personalized experiences offered by modern Artificial Intelligence (AI) technologies such as ChatGPT (Fütterer et al., 2023), there is a unique opportunity to reshape higher education by offering more adaptable, interactive, and student-centered learning experiences (Naik, 2023; Tulsiani, 2024; Estrellado & Millar, 2023). However, while the potential benefits of ChatGPT in personalized learning are vast (Mai et al., 2024; Montenegro-Rueda et al., 2023; Javaid et al., 2023; Cacicio & Riggs, 2023; Rejeb et al., 2024; Jo, 2024; Ahmed, 2023; Wu et al., 2024), challenges such as ensuring learning quality, engagement, interests, and academic integrity must be carefully considered (Tulsiani, 2024; Yu, 2024; Taani & Alabidi, 2024; Hasanein & Sobaih, 2023; Bin-Nashwan et al., 2023; Zeb et al., 2024; Michel-Villarreal et al., 2023; Zhang & Tur, 2023; Dempere et al., 2023; Kiryakova & Angelova, 2023; Jeyaraman et al., 2023; Islam & Islam, 2024; Gustilo et al., 2024; Labadze et al., 2023; Crompton & Burke, 2024; Liu et al., 2023). Despite these challenges, the integration of ChatGPT into higher education promises to fundamentally transform the learning experiences, preparing students for a future where AI plays an integral role in both work and life (Margarella, 2023; Tulsiani, 2024).

Personalized learning through AI integration has emerged as a promising approach to tailor education to the individual needs of learners (Rouhiainen, 2019; Katiyar et al., 2024; Bhutoria, 2022; Kamalov et al., 2023; Gligorea et al., 2023). Existing literature has highlighted the potential benefits of AI-driven personalized learning, emphasizing increased learner engagement (Sabzalieva & Valentini, 2023), enhanced retention rates, and improved academic performance (Jian, 2023; Ayeni et al., 2024). However, despite these advancements, there remains a critical gap in understanding the precise methodologies and mechanisms necessary to optimize the integration of AI into personalized learning frameworks (Asirit & Hua, 2023).

This study aimed to gather empirical evidence on the impact of AI integration, specifically the use of ChatGPT, on learners' personalized learning experiences. The research sought to contribute basis to the development of effective teaching strategies and interventions aimed at improving students' educational outcomes. By examining the relationship between AI

integration and indicators of personalized learning, the study aimed to determine if a significant linear relationship exists between the two variables. Additionally, the regression model employed in the study involved regressing the dependent variables representing indicators of personalized learning on the independent variables representing AI integration, while controlling for demographic variables. This approach allowed for an examination of the strength and direction of the relationships between the variables while considering the potential influence of demographic factors.

2. Literature Review

2.1. ChatGPT in Learning

The integration of ChatGPT in educational settings has sparked significant interest due to its potential to revolutionize learning experiences. Fütterer et al. (2023) delve into global reactions to ChatGPT's release, uncovering extensive discussions among educators regarding its advantages and concerns. Understanding these reactions is pivotal for identifying opportunities and challenges in integrating ChatGPT into education, underscoring the necessity for well-informed policy decisions and guidelines. For instance, Sabzalieva and Valentini (2023) demonstrate the diverse applications of ChatGPT in higher education, spanning teaching, learning experiences, research, and administration. While it enhances the learning process and streamlines administrative tasks, concerns about academic integrity, privacy, and accessibility highlight the importance of ethical regulation. However, ethically adapting ChatGPT can yield personalized learning experiences, administrative efficiency, research advancements, and community engagement, aligning with the objectives of the present study. Additionally, Margarella (2023) highlights ChatGPT's role as a virtual tutor, simplifying lesson planning and facilitating personalized interactions. Through structured prompts, educators can tailor interactions to individual needs, enriching dynamic learning environments, which resonates to explore personalized learning through AI integration in this study.

In Asirit and Hua's (2023) examination of AI awareness among college students in the Philippines, the findings underscored the importance of tailored AI education programs. These programs are seen as crucial in addressing knowledge gaps and preparing students for an AI-

driven future. These insights directly inform the development of personalized AI education programs, aligning perfectly with the focus of the present study on personalized learning through AI integration. Furthermore, Rejeb et al. (2024) delve into public sentiment regarding ChatGPT's impact on education. They highlight benefits such as improved writing abilities and the creation of interactive learning environments. This supports the hypothesis that AI integration, particularly ChatGPT, can enhance personalized learning experiences.

2.2. Personalized Learning

In higher education, personalized learning has emerged as a critical strategy to address the diverse needs of students, enhance engagement, and improve learning outcomes. For example, Parikh (2023) argues that personalized learning empowers educators to tailor experiences, utilizing responsive learning management systems and asynchronous learning arrangements to accommodate various student demographics. Similarly, Hardy (2023) underscores the importance of personalized learning in meeting evolving student expectations and fostering engagement. The systematic reviews by Yuyun and Suherdi (2023) and Zhong (2022) delve into the key components and design elements of personalized learning, laying the groundwork for understanding its implementation. Furthermore, Claned (2024) explores the transformative potential of AI in personalized education, offering adaptive learning experiences and personalized instruction to deepen engagement and improve outcomes. Several empirical studies showed the positive effects of personalized learning on learning enjoyment (Mötteli et al., 2023), motivation and engagement (Makhambetova et al., 2021; Gunawardena et al., 2024; Reber et al., 2018; Schmid et al., 2022), academic performance (Makhambetova et al. 2021; Phillips, 2023; Trevino, 2020; Onyenma et al., 2024) and achievement of learning outcomes (Abedi et al., 2021; Major et al., 2021; Thomas, 2023).

According to Ayeni et al. (2024), the integration of AI in education promises to revolutionize personalized learning. Through adaptive content delivery, intelligent tutoring systems, and other AI-driven technologies, personalized learning experiences are tailored to meet individual student needs, enhancing engagement and academic performance. The integration of AI in personalized learning presents new avenues for enhancing educational experiences. Gathering insights from empirical study, Dawes (2023) concludes that AI unlocks valuable insights into student behaviors and enhances teaching quality while Chawla (2024) suggested the transformative potential of generative AI by showcasing its ability to provide

tailored learning experiences and enhance engagement and quality. By leveraging AI, educators can offer adaptive learning pathways, personalized instruction, and instant feedback, ultimately revolutionizing traditional teaching methods and preparing students for an AI-driven future.

2.3. Theoretical and Conceptual Framework

This study is grounded in the Cognitive Load Theory (CLT) by Sweller et al. (2011), which suggests that learning is influenced by the cognitive load imposed on learners. AI integration in learning such as the use of ChatGPT, can help manage the cognitive load by providing adaptive learning experiences tailored to individual student needs, thus being viewed to optimize learning efficiency (Tulsiani, 2024). Drawing from the tenets of CLT, this study examined intrinsic cognitive load through the complexity of learning content and the cognitive effort demanded for comprehension. Furthermore, the investigation into extraneous cognitive load delves into the efficacy of instructional strategies in alleviating cognitive burden, alongside an assessment of the clarity and coherence of instructional materials to minimize distractions. Moreover, explicit teaching strategies, such as explicit instruction and structured practice activities, are explored for their role in providing clear guidance and reducing cognitive load, particularly for novice learners (Sweller et al., 2011). These indicators shed light on the influence of AI integration on learners' cognitive load management and their overall learning experiences.

On the other hand, the Flow Theory as proposed by Csikszentmihalyi (1990), describes the state of deep engagement and immersion in an activity. Personalized learning experiences tailored to students' abilities and interests through AI integration can foster flow states, leading to enhanced learning outcomes and satisfaction (Rouhiainen, 2019). This theory encompasses the dependent variables, which include the measurement of flow experiences. This involves assessing participants' self-reported experiences of being in a state of flow during learning activities. Furthermore, optimal learning engagement is evaluated by assessing participants' levels of engagement, focus, and enjoyment during learning tasks. Finally, the quality of the learning experience is examined by exploring participants' perceptions of the overall effectiveness and quality of the learning process.

The research of Naik (2023) provides crucial insights into the transformative potential of personalized learning paths facilitated by AI, aligning with the core principles of the regression analysis framework. By grounding the study in a theoretical framework integrating personalized learning principles, cognitive psychology, and AI algorithms, Naik establishes a solid foundation for understanding the positive correlation identified between AI-driven personalized learning paths and improved academic performance, engagement, and retention underscores the relevance of AI integration in optimizing personalized learning experiences.

Figure 1

Conceptual Framework

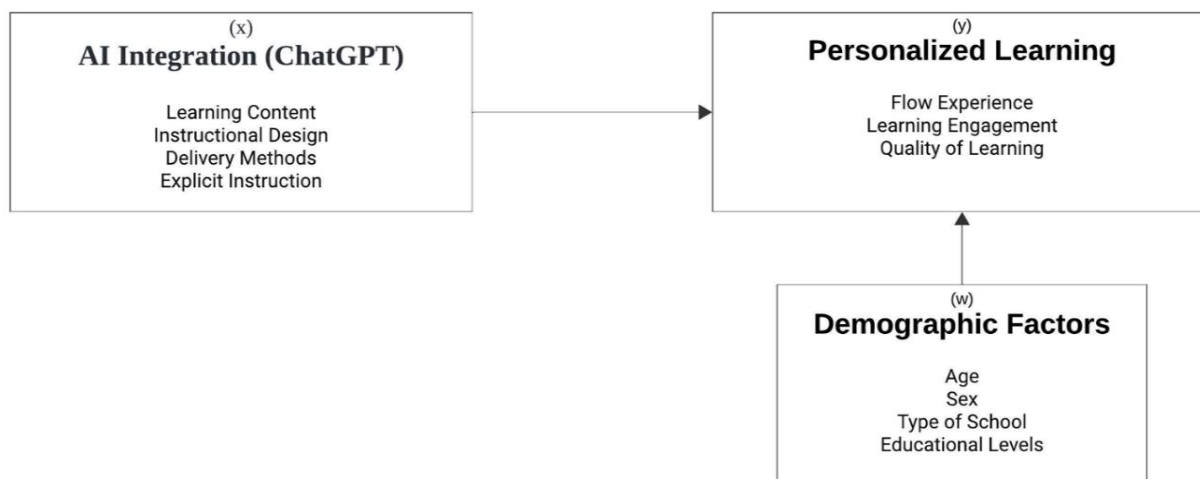


Figure 1 displays the conceptual framework of this study. This study employs a linear regression framework to examine the relationship between AI integration and personalized learning in higher education settings while considering the influence of demographic variables. The independent variables represent different aspects of AI integration, including learning content, instructional design, delivery methods, and explicit instruction facilitated by ChatGPT. These variables are hypothesized to impact personalized learning experiences, operationalized through flow experience, learning engagement, and quality of learning. By controlling for demographic factors such as age, sex, type of school, and educational levels the study aims to isolate the effects of AI integration on personalized learning outcomes.

3. Methodology

3.1. Research Design

This study employed a correlational research design (Sutradhar et al., 2023) to explore the relationship between AI integration, particularly ChatGPT, and personalized learning outcomes in higher education. Utilizing a cross-sectional approach (Wang & Cheng, 2020), data is collected at a single time point to assess how the variables are correlated. The primary variables in the linear regression analysis (Bevans, 2023) include ChatGPT utilization and personalized learning outcomes, measured by the flow of experience, learning engagement, and quality of learning. Demographic variables such as age, gender, educational level, and institution type are controlled to isolate the impact of AI integration on personalized learning outcomes. This is important because these factors can influence learning experiences, and controlling them ensures that the effects attributed to AI integration are not confounded by demographic differences (Hammer, 2011).

3.2. Respondents

The respondents for this study were college students in the Philippines through survey invitation email to participate (Lau, 2019). The selection was based on their fulfillment of the inclusion criteria; those who did not meet the criteria were excluded from data analysis (Dekkers et al., 2022). The study involved a sampling frame of 785 unduplicated students (262 State Universities and Colleges [SUCs], 260 Local Universities and Colleges [LUCs], and 263 Private Universities and Colleges [PUCs]), which exceeds the commonly accepted minimum sample size for linear regression analysis. According to de Longeaux (2021), a sample size of at least 500 is recommended to ensure robust and reliable regression estimates. The inclusion criteria encompassed students enrolled in any college courses in SUCs, LUCs, or PUCs, who have utilized ChatGPT in their learning tasks across online, hybrid, or asynchronous classes. Participants were informed as to the voluntary nature of the study.

3.3. Research Instrument

The research questionnaire utilized in this study consists of three parts: Part A focused on gathering respondents' demographic profiles, Part B assessed ChatGPT as the independent variable (IV) across all indicators including learning content, instructional design, delivery methods, and explicit instruction. This section utilizes a 5-point Likert scale ranging from "Poor" to "Excellent" for each indicator, with a total of 25 items (Mcleod, 2023). Part C

evaluated personalized learning, comprising three components: A) flow experience, adopted from the Flow Short Scale (FSS) (Rheinberg et al., 2003), with 13 items rated on a scale of 1 to 7 indicating worry score from "not at all" to "very much"; B) learning engagement, and C) quality of learning, both of which are researcher-made measures. Each of these sections employs a 5-point Likert scale ranging from "very dissatisfied" to "very satisfied" for satisfaction assessment, with 12 items each (Mcleod, 2023). The validity of the instrument was ensured through expert validation involving five experts (Elangovan & Sundaravel, 2021), while reliability was established with an internal consistency alpha of .93 (Bobbitt, 2023).

3.4. Data Collection Procedure

Data collection involved administering an online survey through college research offices, with informed consent obtained from participants. Informed consent was documented via digital signatures using JotForm, ensuring that participants understood the study's purpose, procedures, and their rights. Respondents were screened based on inclusion criteria to ensure eligibility, specifically enrollment in SUCs, LUCs, or PUCs in the Philippines and prior use of ChatGPT as instructed by their professors in their learning tasks. Reminders were sent to non-responders to boost participation rates. Eligible responses were included in the analysis based on the inclusion criteria.

3.5. Data Analysis

The data analysis procedure started with assumption checking to ensure the data meets linear regression requirements (Statisticslaerd, 2018). Upon confirmation of meeting assumptions, linear regression analysis is conducted to explore the relationship between AI integration aspects and personalized learning outcomes (Kanade, 2023). This analysis is performed using Jamovi statistical software (RCORETeam, 2021; TheJamoviProject, 2022). Finally, results are interpreted to understand the significance of AI integration on personalized learning outcomes in higher education.

3.6. Ethical Considerations

This study rigorously followed the ethical guidelines delineated by Williams (2023) to ensure the responsible and respectful gathering of data through surveys. In line with these principles, participants are provided with comprehensive information about the survey's

objectives and their involvement, thereby obtaining informed consent. Upholding the paramount importance of confidentiality and anonymity, stringent measures, including the use of JotForm with encrypted data storage, are implemented to safeguard participants' privacy and ensure that individual responses remain secure and unidentifiable. Moreover, the survey design meticulously avoided bias and leading questions, maintaining neutrality to uphold the integrity of the data collected. Inclusivity across diverse demographics and backgrounds was also prioritized, ensuring a comprehensive representation of perspectives. Through transparent communication, participants were fully informed about the survey's purpose and the intended use of the data collected, fostering trust and credibility.

4. Results and Discussion

Integrating ChatGPT into educational settings holds the promise of revolutionizing personalized learning experiences (Carr, 2023). ChatGPT, an advanced AI model developed by OpenAI, offers educators innovative tools to tailor instruction and enhance individualized learning pathways. By simulating human-like conversation and providing intelligent responses, ChatGPT facilitates personalized support, immediate feedback, and expanded access to information. This section presents the results and discussion that delves into the empirical evidence and implications of ChatGPT on personalized learning, shedding light on its effectiveness and relevance in contemporary educational practices.

Table 1 presents the model fit measures for the regression analysis examining the impact of ChatGPT on personalized learning.

Table 1

Model Fit Measures

Model	R	R ²	Adjusted R ²	RMSE	F	df1	df2	p
1	0.941	0.8854	0.8845	0.191	4.74	10	774	<.001

The high R^2 value of 0.8854 suggests that a substantial portion, approximately 88.54%, of the variability in personalized learning outcomes can be explained by the integration of

ChatGPT, along with other variables in the model. This underscores the pivotal role of AI integration in shaping personalized learning experiences, as highlighted by Zhai (2023), who emphasizes the transformative potential of AI in education. Moreover, the statistically significant F-statistic and low p-value (< 0.001) reinforce the reliability and validity of the regression model as a whole. This indicates that the model effectively captures the relationship between AI integration and personalized learning outcomes, aligning with Montenegro-Rueda et al. (2023), who assert that AI technologies, including ChatGPT, have a positive impact on teaching and learning processes. Additionally, the low root mean square error (RMSE) of 0.191 suggests that the regression model has good predictive accuracy. This means that educators can confidently utilize the model to inform decisions regarding the implementation of AI integration strategies aimed at improving personalized learning experiences for students. This echoes the findings of Albdarani and Al-Shargabi (2023), who demonstrate the potential of ChatGPT in providing personalized learning experiences, albeit with careful attention to ethical considerations. Overall, the findings underscore the significant potential of AI integration in enhancing personalized learning outcomes in educational settings. By leveraging AI technologies effectively, educators can create dynamic and tailored learning environments that cater to individual student needs, ultimately fostering improved student engagement, performance, and overall learning experiences.

The Omnibus ANOVA test in table 2 was conducted to examine the collective impact of ChatGPT, age, sex, educational level, and type of school on personalized learning. The results indicate that ChatGPT significantly influences the dependent variable, as evidenced by a high F-value of 41.305 ($p < .001$). However, age, sex, educational level, and type of school do not demonstrate significant effects, with p-values above the commonly accepted threshold of .05. This implies that, within the context of the study, demographic variables such as age, sex, educational level, and type of school do not significantly influence the dependent variable. In other words, the personalized learning outcomes or the impact of ChatGPT on the dependent variable are not substantially affected by these demographic factors. Therefore, the effectiveness of personalized learning experiences facilitated by AI integration appears to be consistent across different demographic profiles, suggesting a degree of universality in its applicability.

Table 2

Omnibus ANOVA Test

	Sum of Squares	df	Mean Square	F	p
AI Integration (ChatGPT)	1.5288	1	1.5288	41.305	< .001
Age	0.0308	2	0.0154	0.416	0.660
Sex	0.0407	2	0.0203	0.549	0.577
Educational Level	0.0722	3	0.0241	0.650	0.583
Type of School	0.1122	2	0.0561	1.516	0.220
Residuals	28.6470	774	0.0370		

Note. Type 3 sum of squares

These findings align with research by Das and Malaviya (2023) on the impact of AI-driven personalisation on learners' performance, which demonstrates the positive correlation between personalized AI-based adaptive learning and improved academic achievement, learning engagement, and quality of learning. The results emphasize the transformative potential of AI-driven personalization in education, particularly through platforms like ChatGPT, to enhance personalized learning outcomes.

The model coefficients for personalized learning are presented in table 3, to assess the impact of various predictors, including ChatGPT, age, sex, educational level, and type of school, on the dependent variable. The results indicate that ChatGPT has a significant positive effect on personalized learning, with an estimated coefficient of 0.13373 (SE = 0.0208, $p < .001$). This suggests that as ChatGPT increases by one unit, personalized learning experiences increase by approximately 0.13373 units, holding other variables constant. Regarding demographic variables, age, sex, educational level, and type of school show mixed effects on personalized learning. Age groups 20-21 years old and above 22 years old do not significantly differ from below 19 years old in their impact on personalized learning ($p > .05$). Similarly, sex (female and non-binary) and different educational levels (second, third, and fourth year compared to the first year) also do not have significant effects on personalized learning ($p > .05$). However, the type of school shows some notable differences. Specifically, being enrolled in PUCs compared to SUCs demonstrates a trend towards significance ($p = 0.082$), suggesting that students in PUCs may have slightly higher personalized learning scores.

Table 3*Model Coefficient – Personalized Learning*

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept ^a	4.2874	0.1008	42.54366	< .001	
AI Integration (ChatGPT)	0.1337	0.0208	6.42689	< .001	0.2257
Age:					
20-21 years old – Below 19 years old	-0.0031	0.0169	-0.18843	0.851	-0.0161
Above 22 years old – Below 19 years old	0.0113	0.0172	0.66099	0.509	0.0577
Sex:					
Female – Male	0.0185	0.0177	1.04619	0.296	0.0941
Non-binary – Male	0.0078	0.0164	0.47514	0.635	0.0397
Educational Level:					
Second Year – First Year	0.0189	0.0199	0.95447	0.340	0.0964
Third Year – First Year	0.0195	0.0199	0.98375	0.326	0.0992
Fourth Year – First Year	-6.47e–	0.0194	-0.00333	0.997	-3.28e–4
Type of School:					
LUCs – SUCs	0.0154	0.0170	0.91084	0.363	0.0785
PUCs – SUCs	0.02906	0.0167	1.74042	0.082	0.1476

^a Represents grand mean

In summary, while ChatGPT significantly influences personalized learning, demographic variables such as age, sex, educational level, and type of school have minimal effects, except for a potential trend for higher scores in PUCs compared to SUCs. These findings underscore the importance of AI technologies like ChatGPT in enhancing personalized learning experiences while highlighting the need for further exploration of contextual factors influencing educational outcomes. As mentioned by Igbokwe (2023), the application of artificial intelligence (AI) in educational management has immense potential to revolutionize the field of education. AI-powered tools can not only personalize the learning experience but also streamline administrative tasks, automate grading and assessments, and optimize resource allocation.

5. Conclusion

The integration of AI into educational settings holds significant potential for revolutionizing personalized learning experiences, explaining approximately 88.54% of the variability in personalized learning outcomes. The results indicated that ChatGPT has a significant positive effect on personalized learning; this suggests that as the use of ChatGPT increases by one unit, personalized learning experiences increase by approximately 0.13373 units, holding other variables constant. These findings underscore the pivotal role of AI integration in enhancing personalized learning outcomes, aligning with previous research on the transformative potential of AI in education.

Integrating AI technologies like ChatGPT into educational settings has the potential to enhance personalized learning experiences and improve student outcomes. By leveraging AI-driven personalized learning, educators can create dynamic and tailored learning environments that cater to individual student needs, fostering improved student engagement, performance, and overall learning experiences. However, it is crucial to acknowledge the limitations of the study and consider factors such as technology accessibility, measurement bias, and the need for continuous evaluation when implementing AI-driven personalized learning initiatives. Policymakers should consider these findings when designing and funding educational programs, ensuring that AI integration is equitable and accessible to all students. Given the ethical concerns associated with AI technologies, educators and policymakers create transparency measures, such as detailed documentation of how AI systems make decisions and periodic public reports on the performance and fairness of AI tools. Additionally, establish clear accountability channels where students and parents can report and address concerns regarding AI usage.

Future research should explore long-term impacts, scalability, and the effectiveness of AI tools across diverse educational settings to build a comprehensive understanding of AI's role in education. By addressing these areas, it can better harness AI's potential to transform learning and achieve more inclusive and effective educational outcomes. Future studies should delve deeper into assessing how AI can adapt to various learning styles (e.g., visual, auditory, kinesthetic) and what adjustments are necessary to make AI tools more effective for different

types of learners. Experimental studies could test the efficacy of AI customization features tailored to individual learning preferences.

Educational institutions should invest in professional development programs to equip educators with the necessary skills and knowledge to effectively leverage AI technologies in teaching and learning. Training initiatives should focus on enhancing educators' ability to evaluate AI tools, ethical decision-making, and pedagogical strategies aligned with AI integration. Implement continuous assessment frameworks that track academic performance over time, allowing educators to identify trends, measure progress, and adjust AI-driven interventions accordingly. This could involve standardized testing, formative assessments, and performance-based tasks.

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Cultivating sustainability through indigenous literacy: A SWOT analysis

Zusette Candelario-Aplaon

Abstract

Sustainability is the goal of every entity requiring a holistic approach that considers the interconnectedness of environmental, economic, and social factors. It's a dynamic process that necessitates continuous adaptation and collaboration among individuals, communities, businesses, and governments. Sustainable Development Goals of 2030 were formulated to improve people's lives regardless of race, ethnicity, and socio-economic status. Since time immemorial, the Indigenous people have been among the most vulnerable, marginalized, illiterate, and exploited sectors of society, thus, implementing intervention for their development could be a great contribution to attaining the SDGs. The Mindoro State University in collaboration with Mansalay local government unit planned to conduct a 5-year community development program. To ensure an effective and sustainable program, a SWOT analysis was conducted to determine the internal attributes (strengths and weaknesses), and external factors (opportunities and threats) that could be used in formulating a strategic plan for the development of the indigenous community in Mansalay, Oriental Mindoro in the Philippines. This study was part of the SWOT analysis and was focused on identifying the literacy level of the community. The research design utilized was ethnography through community immersion, survey, interview, and focus group discussions. The findings showed that there are professional teachers in the community, however, some elders are illiterate, and some are working instead of attending schools. The findings recommend conducting a literacy drive, especially for elders. As a way forward, the results of the study were integrated into the extension project for the College of Teacher Education.

Keywords: *literacy, sustainability, indigenous people, SWOT analysis, Hanunuo Mangyan, needs assessment*

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1. Introduction

There are approximately 370 million indigenous people in the world representing thousands of languages and cultures (Recio & Hestad, 2022). They hold unique knowledge systems and practices for sustainable management of natural resources (Senanayake, 2006; Camacho et al., 2015; Magni, 2017; Redvers et al., 2023; Berhane, 2024; Macusi, 2023; Ulluwishewa et al., 2008; Bansal et al., 2023; Brondízio et al., 2021). Indigenous people and their civilizations have contributed greatly to the world's diversity through their fundamental interdependence between the abundance of plant and animal species and culturally based resource management practices (Kalafatic, n.d.; Obiero et al., 2023; Jessen et al., 2021; Imoro et al., 2021; Dominique et al., 2018). Their culture and traditions have had to withstand the social and cultural challenges. They have practiced sustainability for centuries (Kanene, 2016; Johnson et al., 2016; Sangha, 2020) and have been an effective steward of the environment (Recio & Hestad, 2022).

The Philippines is home to many indigenous people, among them is the natives of Mindoro called Mangyan. Mangyan is comprised of eight sub-groups the Alangan, Bangon, Buhid, Hanunuo, Iraya, Ratagnon, Tadyawan, and Tau-buhid (Fansler, 2018). This study focused on one of the seven tribes of Mangyan – the Hanunuo. Hanunuo can be found in the mountainous area of the southern part of Oriental Mindoro. They have their script called Surat Mangyan and are known for their chanted poetry called Ambahan. Just like other indigenous communities, they are among the poorest of the poor, underprivileged, and illiterate. To help them improve their lives, their rights must be recognized, protected, and promoted (Republic Act No. 8371) and the state must ensure inclusivity in education, health, and other services. However, despite the efforts of the state and the Department of Education (DepEd) to provide inclusive education, various factors contributed to the high illiteracy among indigenous people, especially the elders. Among them are geographical challenges (Hossen et al., 2023), low human resources (Gigler, 2009), and diverse vernacular languages (Yawan, 2022). Thus, effective planning and teaching practices embedded with cultural awareness are crucial in addressing the issues (Nakata, 2003).

Education in general, is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues (UNCED, 1992). Literacy is essential in building a sustainable community (Santos, 2020; Correia et al., 2010).

It plays a vital role in building the environment for the sustainable acquisition of knowledge and skills (Opoku, 2018). It also helps in promoting sustainable well-being (Turkki, 2015) as it underscores the importance of scientific literacy in fostering education for sustainability (Correia et al., 2010). Sustainable development is the end goal of the United Nations' plan for the planet, and many countries have agreed to achieve the sustainable development goals (Bexell & Jönsson, 2017). Sustainable Development Goals (SDG) of 2030 aims to promote a sustainable environment for every generation (Emina, 2021), achieve a level of development that is sustainable and bring lasting socio-economic benefits to all people and the environment (Szymańska, 2021). The SDGs of 2030 hope among indigenous people communities that their priorities, concerns, and rights will be recognized (Henriksen, 2016). Thus, an inclusive program should be implemented at the grassroots to realize the goals by 2030.

Addressing the concerns of the indigenous community in line with the achievement of the SDGs, this study aims to assess the Hanunuo community within the grassroots level through SWOT analysis. The main purpose of the study is to determine key elements needed and could help in the community development of indigenous people in the highlands of Southern Luzon in the Philippines. Through the conduct of SWOT analysis, the community was allowed to assess their strengths, weaknesses, opportunities, and threats empowering them over development decisions. The collaboration between and among the Hanunuo Mangyans, the local government unit, and academe created a systematic formulation of the program for community development. The literature emphasizes the importance of participative assessment and planning and utilizing culture-sensitive and culture-responsive programs to ensure the sustainability of community development projects. The facilitator like academe was found to play a significant role in mediating among the stakeholders and facilitating capacity enhancement. Thus, the research was conducted for Mindoro State University to fulfill its mandate – instruction, research, extension, and production. Specifically, this study aims to answer the following questions:

1. What attribute/s does the community excel in and separates it from other communities about cultural identity? (Strengths)
2. What are the areas that hinder the development of the cultural identity of the community? (Weaknesses)
3. What are the favorable external factors that could help preserve the culture of the community? (Opportunities)

4. What are the external factors that have the potential to negatively affect the culture of the community? (Threats)

2. Literature Review

2.1 Indigenous People

Indigenous people are distinct from their historical, socio-cultural, and political characteristics. They possess their language, cultural tradition, land, and territory and have self-identity as indigenous (Cobo, 2004). They have their unique social organization, governance structure, institution and customary laws, and collective and historical ties to their ancestral territories (Kalafatic, n.d.). Their knowledge, beliefs, and practices were passed from their ancestors to the younger generations through the practice of oral traditions like storytelling, singing, reciting poems, and epic chants (Hoebel, 1954), rituals, and festivals (Bawagan, 2009).

Throughout history, indigenous people have faced discrimination, dominated, and marginalized (Anaya, 2009) geographically, socially, politically, and economically (Jennings, 2017). They remain among the poorest (United Nations, 2010) and most disadvantaged because they are still practicing their pre-colonial culture and practices (Bamba et al., 2021). They suffer from environmental degradation, destruction of biological and cultural diversity, militarization, and violence (Kalafatic, n.d.), and the economic effects of colonialism, industrialization, and globalization (Jennings, 2017). Despite all of these, they pursue self-determination to co-exist and determine their pathways for economic, social, and cultural development (Kalafatic, n.d.).

In the Philippines, there are 112 ethnolinguistic groups estimated to be 14-17 million which constitute 10% - 20% of the total population of 100,981,437 (Philippine Statistics Office, 2016). Like many other indigenous groups worldwide, they have preserved their traditional practices and beliefs over time (Bawagan, 2009). In the MIMAROPA Region alone, there are at least 700,000 indigenous people and 100,000 of them are Mangyan who reside on the island of Mindoro (Fajardo, 2007). The Mangyans are the indigenous ethno-linguistic group that is composed of eight sub-groups known as Alangan, Bangon, Buhid, Hanunuo, Iraya, Ratagnon, Tadyawan, and Tau-buhid (Fansler, 2018). They are mostly farmers, and their customs and traditions are linked to their agricultural activities (Valera, & Visco, 2015). They value close family ties and ethnocentrism while taking for granted formal education especially higher education (Aclan et al., 2021). Each tribe has distinct customary laws and indigenous leadership

(Sy-Luna & Diaz, 2023; Zhang et al., 2012). They observe “Batas Mangyan” (Mangyan laws) in resolving conflict among them. Martinez (1999) pointed out that they use Batas Mangyan to define proper behavior, provide protection, empower the elders to resolve conflicts and pass judgment on the guilty, and is a mechanism to maintain peace and order in the community. They all regarded their community elder locally known as “gurangon” as a major figure in decision-making, and a valuable source of indigenous knowledge, and oral histories (Sy-Luna & Diaz, 2023).

2.2 Indigenous Literacy

Literacy, ability to process and understand written and spoken information (Saigian, 2020), helps individuals grasp the deep meaning and substance of communication (Keefe & Copeland, 2011). Since it refers ability to think critically and creatively, it also helps improve a person’s cognitive ability by gaining information from what is read and heard (Rintaningrum, 2019). While it is commonly referred to being “able to read and write,” it now includes the competencies related to cultural practices, and social, and political issues (Saigian, 2020).

While literacy is fundamental to every individual, there is still a prevalence of illiteracy, especially among the indigenous people (Rheault et al., 2019; Guiberson & Vining, 2023). In the study of McGlusky et al. (2006), it was found that the lack of literacy and numeracy skills among indigenous people serve as barriers to development. Literacy is a challenging task for the teachers especially in integrating pedagogical strategies because of the diverse needs of the indigenous people (Protacio, 2021). Aside from pedagogical challenges, teachers are confronted with psycho and socio-linguistic difficulties (Hamel, 2016). To address the prevalence of illiteracy and mitigate its effects, a support system for indigenous literacy must be organized and implemented. Such support services must be culturally responsive (Balatti et al., 2004) yet still produce meaningful outcomes for the students (Robinson & Hughes, 1999).

The best practice in indigenous education involves flexible, innovative, adaptable, and supportive delivery (Marika et al., 2004). In this sense, basic or adult literacy may be conducted in indigenous communities. It should be a collaborative approach, one which encourages solutions to be around the institute, rather than marginalizing students, teachers, or support services (Balatti et al., 2004). In implementing literacy programs, there is a need for secure, ongoing funding (Govender, 2000). It is also essential to have a deeper understanding of the pedagogical gaps and struggles in literacy enhancement as well as the concept of inter-

culturality to address the needs of ethnic and marginalized groups (Bastida et al., 2022).

2.3 SWOT Analysis

Strengths, weaknesses, opportunities, and threats (SWOT) analysis is widely used in analyzing the internal and external environments of an organization (Rozmi et al., 2018). SWOT recognizes the importance of internal and external aspects in attaining the goals of any business or organization (Bull et al., 2016). The internal factors being assessed are the strengths and weaknesses. Strengths are internal elements that can help in attaining the goal, while weaknesses are internal attributes that may interfere with organizational success (Aldehayyat & Anchor, 2008). The external environments that may affect an organization are evaluated in terms of the opportunities and threats. Opportunities are external aspects that could help an organization reach its goals, while the external factors that are considered potential barriers to reaching its goals are threats (Lee & Lin, 2008).

SWOT analysis has been used in many different fields such as education, industry, and agriculture (Benzaghta et al., 2021). It is effective in organizational strategies (Chermack & Kasshanna, 2007) and found to be helpful in strategic thinking (King, 2004). Both academics and practitioners have employed SWOT as a strategic planning technique to investigate organizations' positions, and accordingly develop their strategies (Benzaghta et al., 2021). In education, SWOT analysis was used by educators to address issues related to curriculum, pedagogy, facilities, modernization, and technology among others (Akhavan-Kazemi, 2005).

3. Methodology

3.1 Research Design

This study aims to formulate strategies for the literacy development of the indigenous community in the highlands of Southern Luzon, Philippines. The SWOT analysis is the most appropriate tool to use because it is the primary element of the strategic planning process (Fuentes et al., 2020). To address the specific objectives of the study, qualitative research employing ethnography design was utilized. Ethnography is a systematic exploration of the "social and cultural life of communities, institutions, and other settings" (LeCompte & Schensul, 2010, p.1), which aims to view cultural phenomena from the local perspective (Liang, 2022). To be able to describe the cultural phenomenon in depth, the fieldwork is

required for the researcher to be fully immersed in the local context (Fetterman, 2010). Immersion with the local community is needed to systematically learn and analyze the structures and forces within the community (Mendoza, 2007); just as important is documenting what is happening in natural ways (LeCompte & Schensul, 2010). The role of the researchers is to co-create knowledge not as experts (Campbell & Lassiter, 2015). Considering the unique characteristics of ethnography, a community immersion was done by the researcher while gathering data from participatory observation, interviews, and focus group discussions.

3.2 Research Locale

The study was conducted at Panaytayan, Mansalay, Oriental Mindoro in the Philippines. The province of Oriental Mindoro is in the eastern part of the island of Mindoro. The island is known for the indigenous group collectively known as Mangyan. The Mangyan group is subdivided into eight tribes such as Alangan, Bangon, Buhid, Hanunuo, Iraya, Ratagnon, Tadyawan, and Tawbuhid (Guterrez & Aplaon, 2020) each having its language and culture. This study was conducted at Mansalay, Oriental Mindoro, a second-class municipality in the southern part of the province. Among the municipalities of the province, Mansalay has the largest population of Mangyan, most of them living in the highlands. The community where the study was conducted is inhabited by the Hanunuo community with a total population of 551.

3.3 Population and Sampling

Of the total community members, 103 of them are elders locally referred to as “gurangon”. To select the participants of the study, purposive sampling was used. The criteria for selection are as follows: agree to participate in the study, can understand and speak Filipino, are at least 50 years old, and are part of the community decision-making body. Based on the criteria, 18 were selected as the participants of the study.

3.4 Research Instrument

The data gathering tools used in the study are observation, interview guide, and guide questions for FGD. To ensure that the observation is systematic and thorough, the observation matrix adapted from Liang (2019) was used. Meanwhile, the interview guide and FGD guide questions were validated by three experts to ensure that they measure what it purports to measure.

In the presentation of the results of the SWOT analysis, the TOWS (Threats, Opportunities, Weaknesses, and Strengths) matrix or situational analysis was used. This matrix

is constituted by the concepts of strategic planning (Wehrich, 1982). This can help in determining how strengths and weaknesses be matched with opportunities and threats to come up with the most appropriate strategy for the organizational development. Based on the matrix, planners may formulate four strategies; SO (strengths – opportunities), ST (strengths – threats), WO (weaknesses – opportunities), and WT (weaknesses-threats) (David et al., 2019).

Table 1

TOWS strategic alternatives matrix

	Internal Strengths (S)	Internal Weaknesses (W)
External Opportunities (O)	SO strategies (maxi-maxi) enable an organization to use its strengths to maximize its opportunities (Aggressive Strategy)	WO strategies (mini maxi) focus on improving the organization's internal weaknesses by capitalizing on its opportunities. (Turnaround Strategy)
External Threats (T)	ST strategies (maxi-mini) utilize its internal strengths to mitigate the impact of threats in the external environment. (Diversification Strategy)	WT strategies (mini-mini) minimize the weaknesses and threats facing the organization. (Defensive Strategy)

Source: Wehrich, 1982

3.5 Data Gathering Procedures

The data collection method used in the study is participatory observation in the form of community immersion and site inspection. The researcher stayed with the community to observe their activities, practices, culture, and traditions. Through community immersion, the researcher was able to learn the issues and problems in the community by experience rather than in secondary data which helped in identifying and prioritizing community problems (Mendoza, 2007). Aside from observation, interviews were also conducted with the four sitio (barangay district) leaders. They are the primary informants because they are considered the most knowledgeable by their community members. Meanwhile, focus group discussions were conducted with the remaining 14 participants to gather comprehensive details about the community.

3.6 Data Analysis

The research design used in the study is ethnography wherein the data were gathered through participatory observation, interviews, and FGD. Ethnographic data collection involves data that comes in various forms (Lichtman, 2013) and is gathered using various methods (Suter, 2012). Thus, data collection, analysis, and reporting are interrelated (Creswell, 2007). The gathered data were analyzed using Liang's (2022) model adapted from Le Compte and Schensul (2010). This model only includes five steps instead of the six-step model. The main data analysis procedure included: chunking data into conceptual categories; defining the terms; organizing the categories into themes; and interpreting the data (Liang, 2022). The trustworthiness of the study was established using triangulation, the researcher's positioning, members' checks, and field notes. The research was also peer-reviewed by some experts during the agency's in-house review.

3.7 Ethical Considerations

In considering research ethics, the following protocols were strictly followed by the researcher: seeking permission to conduct the study from the president and vice president for research and development of Mindoro State University; permission to visit the community from the local government unit, the indigenous people affairs, and military unit; permission to conduct interviews and FGD from community leaders; and informed consent from the participants. Confidentiality, anonymity, voluntary participation, privacy, security, and safety were all taken into consideration during the conduct of the study.

4. Findings and Discussions

Based on the observations, interviews, and FGD results, the SWOT analysis results are presented using the TOWS Matrix by Weihrich (1982) as shown in table 2. In assessing the internal attributes of the community, the result shows that its strength is having professional teachers in the community. Being indigenous people themselves, they dream that their community members become literate to have a better future. There are also college graduates in the community who serve as inspiration and motivation to others. The strong cohesion among community members is observed most of the time. This positive attribute motivates the researcher to develop a program for literacy development.

Table 2*TOWS matrix*

Strengths	Weaknesses
<ul style="list-style-type: none"> ❖ There are professional teachers in the community (S1) ❖ There are college graduates in the community (S2) ❖ There is a primary school in the community (S3) ❖ There is a strong cohesion among the community members (S4) 	<ul style="list-style-type: none"> ❖ Some learners work on the farm during school days (W1) ❖ Some gurangons are illiterate (W2) ❖ Limited food source (W3) ❖ Prevalence of underweight and stunting (W4) ❖ Prevalence of early marriage and teenage pregnancy (W5)
Opportunities	Threats
<ul style="list-style-type: none"> ❖ There are NGOs, and GAs that could help the community (O1) ❖ The local government unit employed locally funded teachers (O2) ❖ MinSU College of Teacher Education could provide a literacy program (O3) ❖ The DepEd – ALS can help in providing learning materials (O4) ❖ There is an existing zero illiteracy program that can deploy teachers to far-flung areas (O5) 	<ul style="list-style-type: none"> ❖ The road to school is unpaved, far, and risky (T1) ❖ One child died while 3 others nearly drowned while crossing the river to school (T2) ❖ There is an issue of insurgency (T3) ❖ Limited access to social and health services (T4) ❖ No access to electricity (T5)

As for the weaknesses of the community, it was observed that some of the learners are working on the farm during school days. Because of poverty, the community prioritizes their livelihood over education. Some elders are illiterate which is why they cannot teach their children to read and write too. There is a limited food source which also hinders children's studies indirectly. Malnutrition is also an issue to be considered. Based on the 2022 MIMAROPA Nutritional Situation, Mansalay, Oriental Mindoro records the highest prevalence of severe underweight to underweight and severe stunting to average stunting not only in the MIMAROPA region but in the whole Philippines. There is also a prevalence of early marriage and teenage pregnancy as their culture permits child marriage (as soon as a girl has her menstrual period) which leads them to stop schooling without being able to attend even high school grades.

Aside from identifying internal attributes, external factors should also be considered in formulating a strategic plan for community development. Among the external factors are the

opportunities that may potentially help the community. The identified opportunities include the possible collaboration of national government agencies and non-government organizations. The local government unit employed locally funded teachers who could teach in the community. The Department of Education – Alternative Learning System could also help by providing instructional materials for basic literacy and assessment for accreditation and equivalency. The Mindoro State University College of Teacher Education could conduct extension programs like basic literacy among adults and young people in the community. Finally, the Zero Illiteracy Program (ZIP) of the government could deploy teachers to far-flung areas through the collaboration of the Department of Labor and Employment, and local government offices.

When it comes to external factors that could harm the community or hinder its development, among the listed are unpaved and risky roads to school which pose threats to the children. An incident occurred when one child died and three others almost drowned while crossing the river to school. Such incidents send fear to parents and learners that no students from the sitio come to school for three months. There are still some concerns regarding insurgency. Living in a mountainous and far-flung area, the community became vulnerable and became victims of extortion and exploitation by rebel groups. Because of their geographical location, there is very limited access to social and health services. There is no electricity source or communication lines which makes development a challenge.

The presented SWOT analysis provided a concrete basis for the strategies used in the proposed community development program.

Literacy drive (maxi-maxi). A literacy drive may be conducted in the primary school of the community (S3) through the help of professional teachers (S1), college graduates (S2), Mindoro State University (O3), and the Zero Illiteracy Program (O5). The literacy program will not be limited to basic literacy but will also include adult, and financial literacy as well as early pregnancy awareness, family planning, personal hygiene, and proper grooming.

Accreditation and equivalency, and livelihood programs (mini-maxi). Since the community prioritizes livelihood over education (W1), livelihood programs may be offered through the assistance of NGAs like TESDA and NGOs such as the Bayi–Women’s Weavers Association (O1). That way the parents will be provided with extra income to support their children. Because some elders are illiterate (W2), and teenage mothers stop schooling (W5),

the Accreditation and Equivalency Program of DepEd ALS may help them earn elementary, or high school diplomas that can be used in attending technical or college courses.

Basic, social, and health services (maxi-mini). The strong community cohesion (S4) could be a means for soliciting basic, social, and health services through resolutions to private and government agencies. Due to far and risky roads (T1), there is limited access to services (T4), thus, the community could help in the transport of goods and services.

Collective responsibility (mini-mini). To minimize the weaknesses such as malnutrition (W4) and prevalence of teen pregnancy (W5) and threats facing the community such as insurgency (T3), and risky road (T1), the collaboration between and among the community, LGU, Mindoro State University, and other agencies should be established for the holistic development of the Hanunuo community in Panaytayan, Mansalay, Oriental Mindoro.

5. Conclusion

Among the strengths of the Hanunuo identified from the results of community immersion, participatory observations, interviews, and focus group discussions are the presence of professional teachers, college graduates, a primary school, and the strong cohesion among the community members. Their weaknesses include prioritizing livelihood over education, illiteracy among elders, malnutrition, and early marriage. On the other hand, there are various government agencies, non-government organizations, higher education institutions, and private individuals that could help in developing the literacy rate of the Hanunuo Mangyan. Lastly, the threats that could negatively affect the literacy development of the Hanunuo are the risky unpaved roads, insurgency, and limited access to basic, social, and health services.

It is important to take into consideration the internal attributes as well as the external factors before designing policy and projects to ensure that the programs to be implemented are appropriate and relevant to the community. Through the SWOT analysis conducted, the community members became participants not only in the conduct of the research but also in assessing their community potential. Community engagement is essential for ensuring that indigenous knowledge is incorporated into action plans in a culturally sensitive and respectful manner (Browne et al., 2016). This allows responsibility for community development and organization emanates from them.

Based on the TOWS matrix, literacy may be developed through literacy drive, accreditation and equivalency, and livelihood programs, provision of basic, social, and health services, and collective responsibility. As the results show, developing indigenous communities is challenging, and cultural practices should be taken into consideration. Thus, in formulating policies it must be culture-sensitive and inclusive. The integration of innovation and technology should be done in a way that could bring about sustainability, and resilience, yet with intact cultural integrity.

This study recommends the academe, government agencies, and non-government organizations take part in developing indigenous communities for the attainment of SDG 2030. The extension department of Mindoro State University may use the results of the study to develop a comprehensive literacy drive relevant to the needs of the community. The local government unit may consider the results of the study in policy and decision-making.

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Instructors' presence and communication strategies on student engagement in asynchronous online classes

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Abstract

This study investigated the factors influencing student engagement in asynchronous online classes, focusing on the roles of instructor presence, communication strategies, and demographic profiles. Data were collected from 385 college students employing moderated mediation with parallel mediators. The results revealed significant direct effects of instructor presence and communication strategies on student engagement, highlighting the pivotal role of these factors in shaping the online learning experience. Specifically, stronger instructor presence and effective communication strategies corresponded to higher levels of student engagement, emphasizing the importance of fostering supportive interactions and facilitating meaningful communication in virtual classrooms. Mediation analyses further clear the pathways through which these factors influence student engagement. Perceived instructional support emerged as a robust mediator between instructor presence and engagement, underscoring the significance of establishing a supportive learning environment. Additionally, technology self-efficacy played a modest yet significant role in mediating the impact of instructor presence and communication strategies on student engagement, highlighting the importance of students' confidence in utilizing technology for academic purposes. While moderation analyses did not reveal significant effects of demographic profiles on the relationships between key variables, the findings underscore the universality of effective teaching practices in fostering student engagement across diverse student populations. These findings have important implications for online teaching practices and educational policies, emphasizing the need to prioritize strategies that enhance instructor support, foster effective communication, and promote technological proficiency among students. By addressing these factors, educators and institutions can optimize the online learning experience and promote meaningful engagement among students in asynchronous online classes.

Keywords: *asynchronous online classes, communication strategies, higher education, instructors presence, instructional support, student engagement*

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1. Introduction

The use of online learning in higher education has grown more widespread, especially due to the COVID-19 pandemic in 2020, which has required the implementation of alternate teaching modalities like asynchronous classes (Aristovnik et al., 2023). This modality provides teachers and students with the freedom and convenience to study at their own pace and location, without being bound by certain time constraints (Fabrizz et al., 2021; Scheiderer, 2022). Nevertheless, educators and institutions worldwide continue to face a significant problem in guaranteeing elevated levels of student engagement in asynchronous online classes even post-COVID (Yu, 2022; DeMarchi, 2023).

While online learning offers flexibility and convenience, research suggests that a strong instructor presence (Sheridan & Kelly, 2010; Singh et al., 2022; Richardson et al., 2016; Ladyshevsky, 2013; Park et al., 2020; Roque-Hernández et al., 2024; Li, 2022) and effective communication strategies (Isnawijayani et al., 2022; Kannareth, 2022; Salarvand et al., 2023; Parker, 2012; Germaine et al., 2021; Kaufmann & Vallade, 2021) are necessary to optimize student engagement and satisfaction (Hollister et al., 2022; Gamorot et al., 2022). Prior research confirms its benefits (Fang et al., 2023; Osman, 2022), but optimizing the student experience remains a challenge. According to Fang et al. (2023), there is a need for diverse learning designs in the online classrooms, which may include blended learning approaches (Osman, 2022) and student-teacher interaction (Dziuban et al., 2019). While existing research offers valuable insights on the effectiveness of asynchronous on learning (Zeng & Luo, 2023; Fabrizz et al., 2021; Hung et al., 2024; Sakkir et al., 2023; Fernandez et al., 2022; Malkin et al., 2016; Varkey et al. 2023; Abdillah, 2021), only few highlights the importance of instructor's presence and communication strategies (Watson et al. 2023; Preisman, 2014; Ratan et al., 2022; Roque-Hernández et al., 2024). There is even less study in the Philippine setting.

This study examines how instructor presence and interaction strategies can cater to diverse needs and promote deeper engagement and fulfilment, building on the importance of these aspects as highlighted in Dziuban et al. (2019). By understanding how instructors can be more present and interactive asynchronously, it can further enhance student success in online learning. Moreover, prior research by Hollister et al. (2022), Liwanag et al. (2022), and Gamorot et al. (2022) highlighted the importance of instructor involvement, communication strategies, and active support in fostering student satisfaction and engagement in online

learning environments. Hence, this study validates their findings by focusing on instructor presence and interaction strategies in asynchronous settings in the Philippines.

Understanding the role that instructors play in encouraging participation and satisfaction in asynchronous online classes can help educators and institutions develop strategies to raise the standard of online education and better meet the diverse needs of students in the modern digital age (Ong & Quek, 2023). Hence, this study aimed to evaluate whether the perceived instructional support (PIS) and technology self-efficacy (TSE) mediate the association between instructor's presence (IP) and communication strategies (CS) to student engagement (SE) and to assess whether these interactions are being moderated by the demographic profile of the respondents (*age, gender, academic program, academic level, and type of school*). Specifically, this study sought to answer the following questions;

1. Does IP have a direct effect on SE; and CS on SE? If this direct effect exists, will it change considering the demographic profile?
2. On the path from IP to SE, does PIS mediate the relationship between IP and SE? Does TSE mediate the relationship between IP and SE?
3. On the path from CS to SE, does PIS mediate the relationship between IP and SE? Does TSE mediate the relationship between IP and SE?
4. Will demographic profile moderate the indirect effect of IP on PIS? Moderate the indirect effect of IP on TSE? Moderate the indirect effect of CS on PIS? Moderate the indirect effect of CS on TSE? Moderate the indirect effect of PIS on SE? Moderate the indirect effect of TSE on SE?

2. Literature Review

2.1. Instructor's presence in asynchronous online class

Instructor presence is widely recognized as a critical factor in shaping students' experiences and outcomes in asynchronous online courses. While substantive engagement methods, such as content lectures and personalized communication, are emphasized (Watson et al., 2023; Paulson, 2023), these approaches alone may not suffice. According to Kaepffel (2020) and Li (2022), the role of teaching presence in fostering cognitive and social interactions for active engagement in discussions and synchronous communication is necessary for a balanced approach that integrates both substantive engagement and teaching presence. Addressing the negative perceptions of instructor presence (Cowan, 2023) offers

strategies for building rapport with students through proactive communication and personalized interaction. This perspective suggests that simply being present is not enough; the quality of interaction is paramount. Additionally, Wang et al. (2021) emphasize bridging disparities in perceptions of teaching presence between students and teachers, pointing out that effective course comments and instructional design are essential in aligning these perceptions. On the challenge of technology unfamiliarity affecting student engagement, Palama et al. (2023) suggest upskilling activities and training workshops to enhance teaching presence in asynchronous settings.

A strong teaching presence can create a supportive learning environment that encourages student participation and engagement (Gamorot et al., 2022). It is essential in fostering a sense of community and facilitating successful student learning outcomes through effective communication channels and interactive teaching methods. Similarly, integrating technology, institutional support, and teacher training are necessary in overcoming the challenges and enhancing online teaching effectiveness (Barrot et al., 2024; Balbuena et al., 2023). Hence, this study argues that substantive engagement methods and personalized communication must be complemented by robust technological and institutional frameworks to create meaningful learning experiences.

2.2. Communication strategies in asynchronous class

Effective communication strategies are paramount for fostering engagement, collaboration, and positive learning outcomes in asynchronous online classes. The rapid shift towards online learning environments necessitates a deeper understanding of how instructors can leverage communication to optimize the student experience (Dziuban et al., 2019). Research suggests diverse communication strategies suitable for asynchronous settings such as discussion forums and collaborative platforms that offer unique opportunities for student engagement and interaction (Bonanno et al., 2023; Ghazali, 2023). However, these tools rely on effective communication strategies for success, which Mardiana and Afkar (2020) suggest tailoring communication to diverse learners by using translation, code-switching, and comprehension checks. On the other hand, West (2021) suggests asynchronous video lectures to boost student motivation and engagement.

Encouraging interaction and active participation is another key communication strategy. In this regard, Wang et al. (2024) found that incorporating role assignments and dedicated discussion time significantly improved learning experiences and social

communication in asynchronous settings. In addition, instructors can also personalize communication approaches to cater to student preferences. Medina et al. (2024) and Eugenio et al. (2024) recommend aligning teaching methods and communication styles with student preferences, particularly in remote learning environments. Customized communication approaches in scientific education must focus on engaging diverse learners and promoting self-regulation (Briones et al., 2023). Building emotional connection through communication is also a crucial aspect of fostering engagement. Garcia and Yousef (2022) expect the emotional connection and instructor support in increasing engagement. This requires diverse communication strategies for fostering engagement and positive learning outcomes in asynchronous classrooms. Effective communication requires tailoring approaches to student needs, using technology to facilitate interaction, and building emotional connections with students.

2.3. Student engagement in asynchronous online class

The shift to online learning during the pandemic has prompted a deeper examination of student engagement in asynchronous online classrooms. Understanding the factors that impact student engagement is crucial for developing effective teaching methods and meaningful educational experiences in digital settings. Several studies highlighted the student experience and satisfaction in online class. For example, Hollister et al. (2022) highlighted the challenges in maintaining engagement, particularly in live lectures during the pandemic. Chatterjee and Correia (2019) stressed the importance of collaborative activities in fostering supportive virtual communities while Hussein et al. (2020) identified beneficial aspects and challenges of asynchronous courses that can inform course design and delivery. While there is empirical evidence, Bond et al. (2020) still suggest the necessity of robust theoretical frameworks and comprehensive perspectives on student engagement and educational technology.

In terms of student engagement, numerous scholars suggest different approaches. For instance, Gopez and Gopez (2023) examined the relationship between teacher scaffolding and self-regulation and suggested supportive relationships and the development of self-regulatory skills. On the other hand, Briones et al. (2023) recommended tailored approaches to address diverse learner needs, focusing on online engagement, self-regulation, and self-efficacy while Garcia and Yousef (2022) concluded the importance of emotional connections and instructor support in boosting engagement. In terms of emotional well-being in influencing student

engagement, Sandoval (2023) found that the higher levels of happiness correlate with greater engagement in both synchronous and asynchronous online classes.

These studies illustrate that effective student engagement in asynchronous online classes is multifaceted, involving theoretical understanding, collaborative activities, emotional well-being, and tailored instructional strategies. Addressing these factors can enhance the design and delivery of online courses, ultimately fostering a more engaging and supportive learning environment.

2.4. Perceived instructional support and technology self-efficacy

Understanding the factors shaping students' learning experiences in the shift to online education is crucial for effective instructional design and support. Key among these factors are perceived instructional support and students' confidence in technology use, both pivotal for active engagement and academic success in virtual classrooms. Empirical evidence showed differing levels of instructional support and technology self-efficacy although majority of the studies provide evidence of its effects on student engagement. For example, Lange (2024) found no significant disparity in situational interest across asynchronous and synchronous video lectures overall but noted variations among students with differing self-efficacy levels, highlighting the importance of instructional support, especially for those with lower self-efficacy. Meanwhile, García-Martín et al. (2023) revealed divergent perceptions of teachers' digital tool use efficacy influenced by geographical and socio-demographic factors.

According to Xie and Correia (2023), instructor engagement in asynchronous online discussions have positive implications on student participation and learning outcomes. For this, Kumar et al. (2021) suggest instructional support and technological accessibility while Göbel et al. (2023) stress the significance of prior experiences and institutional support. On the other hand, Fabia (2024) identified essential factors conducive to student success in online learning scenarios, including self-efficacy, and academic achievement. While Briones et al. (2023) advocated for customized pedagogical approaches and support mechanisms to boost student engagement and self-efficacy, Karakaya et al. (2023) reiterated the role of technology self-efficacy and self-regulated learning.

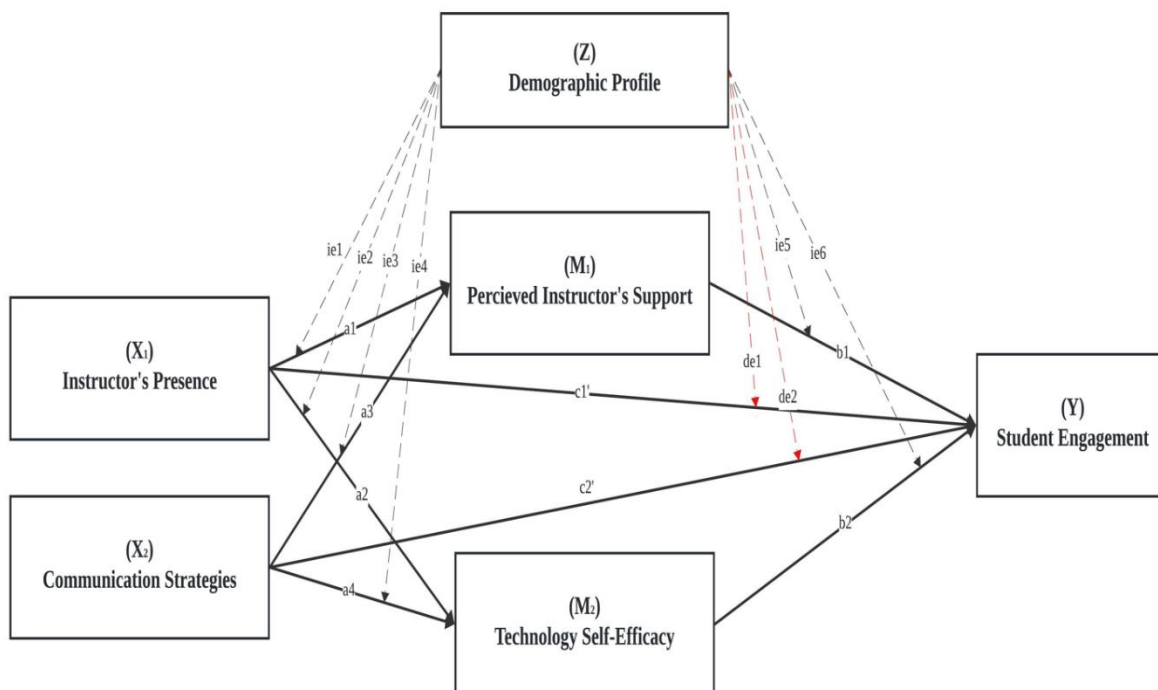
2.5. Theoretical and Conceptual framework

At the forefront of the theoretical framework is the Community of Inquiry (CoI) Framework as proposed by Garrison, Anderson, and Archer (2000), which underscores the pivotal role of teaching presence, encompassing instructional support and communication

strategies, in shaping online learning environments (Garrison et al., 2000). This theoretical viewpoint, which functions as the independent variable in the study, clarifies how communication strategies and teacher assistance affect student engagement. Mediating these relationships are two prominent theories: the Social Cognitive Theory (SCT) by Bandura in 1987 and the Technology Acceptance Model (TAM) by Davis in 1989. SCT emphasizes the significance of self-efficacy in learning processes, particularly in online education where students' technology self-efficacy, influenced by their beliefs in navigating technological tools, mediates the relationship between instructional support, communication strategies, and student engagement (Bandura, 1995). TAM further delves into students' perceptions of technology-mediated instructional support and communication strategies, proposing that perceived usefulness and ease of use mediate the relationship between these variables and students' technology self-efficacy (Davis & Granić, 2024). Finally, the dependent variable, student engagement, is framed within the lens of Expectancy-Value Theory by Wigfield and Eccles (2000). This theory posits that individuals' expectation of success and their value on a task influence their motivation and engagement. Together, these theories provide a holistic view of the mechanisms underlying student engagement in online learning.

Figure 1

Conceptual framework (Hayes Process Model 14)



The conceptual framework illustrated in figure 1 was drawn from Hayes' (2022) Process Model 14 moderated mediation with parallel mediators. The framework begins by examining the direct effects of IP and CS on SE, considering potential moderation by DP. Subsequently, the framework delves into the mediating roles of PIS and TSE, investigating whether they serve as pathways through which IP and CS influence SE. Additionally, it explores parallel mediation, wherein IP/CS may be influenced by PIS, and TSE, impacting SE. Furthermore, the framework scrutinized the moderating influence of DP on the indirect effects of IP/CS on SE through IS and TSE pathways, providing a comprehensive understanding of the factors driving student engagement in asynchronous online classes, while considering the diverse demographic backgrounds of learners.

3. Methodology

3.1. Research design

The study employed a quantitative research approach to examine the relationships among key variables in asynchronous online classes, namely instructor's presence (IP), communication strategies (CS), perceived instructional support (PIS), technology self-efficacy (TSE), demographic profile (DP), and student engagement (SE) (Bhandari, 2023). Utilizing a cross-sectional non-experimental design (Wang & Cheng, 2020) and the causal step approach (David & Sava, 2015) delineated in Process Model 14 of Hayes (2013), the research aimed to analyze moderated mediation with parallel mediators. This methodological framework enables the investigation of potential mediating mechanisms between IP, CS, and SE while considering the moderating role of DP. Additionally, the Generalized Linear Model (GLM) tool, as referenced in Asirit (2023), facilitates the exploration of how moderating factors influence different aspects of the mediation process. Despite inherent limitations of cross-sectional non-experimental designs, efforts were made to mitigate potential validity issues through a Monte Carlo Power Analysis for Indirect Effect (Schoemann, 2023).

3.2. Sample and procedures

The respondents of this study were undergraduate students enrolled in various colleges in the Philippines, specifically in State Universities and Colleges (SUCs), Local Universities and Colleges (LUCs), and Private Universities and Colleges (PUCs), who had experienced asynchronous online classes. Convenience sampling was employed to mitigate common method variance (Wang & Cheng, 2020). Initially, data were collected from no more than 150

students per type of college to minimize the likelihood of intergroup comparisons and enhance data quality. Before data collection, participants were assured of anonymity and informed consent, emphasizing that their responses would be used solely for this research purpose. Additionally, measures were implemented to restrict multiple submissions by restricting internet protocol access. The survey data was collected through the online survey website "Jotform" with encryption.

The survey garnered 450 responses, of which 385 were deemed valid after excluding incomplete or ineligible submissions, resulting in a validity rate of 85.6%. A Monte Carlo Power Analysis for Indirect Effect (Schoemann, 2023) was conducted to assess the power of the mediation model involving parallel mediators. Utilizing 1000 bootstrapped replications with a 95% confidence level, the power analysis for the indirect effects revealed promising outcomes. The analysis indicated significant power for paths related to (IP) and (CS), in (X₁), the power values of 0.84 for path a1b1, 1.00 for path a2b2, 0.74 for path a1c1b1, 0.98, and 0.86 for path a2c2b2; while in (X₂), 0.85 for a3b1, 1.00 for path a4b2, 1.00 for path a3c2b1, and 0.98 for path a4c2b2 were generated. These results signify robust conditions for hypothesis testing, providing confidence in the validity and reliability of the study findings (Schoemann et al., 2017).

The demographics revealed a diverse distribution across various categories. Notably, a significant proportion of respondents were aged 20 to 21 years old (31%), with a substantial representation of individuals above 22 years old (34%). In terms of gender, males constituted the largest group (39%), followed by females (32%) and non-binary individuals (29%). Across different college programs, respondents were fairly evenly distributed, with the College of Business, Entrepreneurship, and Accounting and the College of Teacher Education having the highest representation at 21% and 20%, respectively. Year-level distribution showed a balanced spread, with the highest percentage of respondents in the 3rd year (26%) and the 2nd year (26%). Finally, respondents attended various types of schools, with State Universities and Colleges (SUCs) being the most common (36%), followed by Local Universities and Colleges (LUCs) (30%) and Private Universities and Colleges (PUCs) (34%).

3.3. Measures

The research instrument of this study comprises several sections tailored to capture vital elements of the variables. Firstly, Part 1 collects demographic data, including age, gender, academic program, academic level, and type of school. Subsequent sections focused on

measuring specific constructs: Part 2A assesses IP adapted from Watson et al., (2023), while Part 2B evaluates CS adapted from Wang (2003). Parts 3A and 3B gauge PIS adapted from DeCamp et al. (2022) and TSE adapted from Yavuzalp and Bahcivan (2020), respectively. Lastly, Part 4 captures SE adapted from Álvarez and Montes (2021) and Dixon (2015). Each section comprises 10 items rated on a 5-point Likert scale, ranging from “strongly disagree” to “strongly agree,” with corresponding engagement descriptions. Content validity was ensured through the Delphi Technique as suggested in Asirit (2024), resulting in a Content Validity Index (CVI) of .92, deemed acceptable (Dixon & Lazenby, 2023). Modifications were made to tailor the instruments to the study's context. Furthermore, an inter-rater reliability test yielded a kappa score of .96, indicative of almost perfect agreement (Ranganathan et al., 2024). These rigorous measures were implemented to guarantee the reliability and validity of the research instrument, thereby establishing a robust foundation for data collection and analysis.

3.4. Data analysis

The data analysis commenced with an assessment of assumptions via multiple regression analyses to ensure their validity (Clement & Bradley-Garcia, 2022). Based on the statistical tests conducted to assess these assumptions, the following observations were made. Firstly, the normality tests, including the Shapiro-Wilk ($p = 0.987$), Kolmogorov-Smirnov ($p = 0.977$), and Anderson-Darling ($p = 0.960$) tests, yielded p -values greater than 0.05, suggesting that the data may follow a normal distribution, thereby not violating the assumption of normality. Secondly, the heteroskedasticity tests, comprising the Breusch-Pagan ($p = 0.987$), Goldfeld-Quandt ($p = 1.00$), and Harrison-McCabe ($p = 1.00$) tests, also returned p -values exceeding 0.05, indicating homoscedasticity in the data and thus not violating the assumption of homoscedasticity. Lastly, the multicollinearity assessment based on the variance inflation factor (VIF) and tolerance values revealed VIF values of 1.76 for PIS, 1.99 for TSE, 2.93 for IP, and 2.42 for CS, all below the threshold of 10, and tolerance values above 0.2, indicating low multicollinearity among the predictor variables. Overall, the statistical tests suggest that the assumptions of normality, homoscedasticity, and multicollinearity are not violated, with autocorrelation requiring confirmation with the Durbin-Watson statistic (Soetaert, 2019; Fox & Weisberg, 2020).

Since the data adhered to the assumptions of multiple regression analysis, the study advanced to moderated-mediation analysis, enhancing robustness and accuracy by employing bootstrapping to assess indirect effects and their significance levels. This methodology ensured

thorough examination, particularly in moderated mediation with parallel mediators analysis using the GLM mediation model in Jamovi version 2.3 software (Gallucci, 2020; RCoreTeam, 2021; Rosseel, 2019; Thejamoviproject, 2022).

3.6. Ethical considerations

This study adhered to the ethical guidelines outlined by Williams (2023) for data collection via surveys. Participants were provided with comprehensive information about the survey's objectives and their involvement, ensuring informed consent. Measures like encrypted data storage with JotForm were employed to uphold confidentiality. The survey design avoided bias and leading questions, ensuring data integrity. Inclusivity across diverse demographics was prioritized, fostering trust through transparent communication about the survey's purpose and data usage.

4. Results and Discussion

Mediation analysis. Table 1 presents the direct effects of IP and CS on SE, exploring potential variations based on demographic profiles. Results found a significant positive direct effect of IP on SE (estimate = 1.03499, $p < .001$), indicating that a stronger presence of instructors in asynchronous online classes corresponds to higher levels of student engagement. This underscores the pivotal role instructors play in creating an interactive and supportive learning environment, which positively influences students' motivation and participation. Additionally, the analysis revealed a marginally significant positive direct effect of communication strategies on student engagement (estimate = 0.10945, $p = 0.039$), suggesting that effective communication strategies contribute to increased student engagement, albeit to a lesser extent compared to the instructor's presence.

Moreover, the study explored the influence of demographic factors on the relationship between the variables. Results indicated that age demonstrated a significant direct effect on student engagement, with older students (20 and above) exhibiting higher levels of engagement compared to their younger counterparts. However, gender, college program, year level, and type of school did not show consistently significant direct effects on student engagement. This suggests that while certain demographic factors may impact engagement levels, their influence is relatively minimal compared to the effects of IP and CS.

Table 1*Direct effect of IP, CS to SE*

Effect	Estimate	SE	95% C.I. (a)		β	z	p
IP \Rightarrow SE	1.03499	0.04553	0.94787	1.12679	1.01664	22.73277	< .001
CS \Rightarrow SE	0.10945	0.05887	0.06929	0.22090	0.09423	2.93680	0.039
age1 \Rightarrow SE	0.10909	0.05328	0.00999	0.21987	0.04521	2.04764	0.041
age2 \Rightarrow SE	0.05034	0.05249	0.05926	0.14373	0.02048	0.95920	0.337
gender1 \Rightarrow SE	0.00500	0.05432	0.11555	0.10548	0.00199	0.09209	0.927
gender2 \Rightarrow SE	0.03054	0.05027	0.06107	0.13751	0.01307	0.60764	0.543
college program1 \Rightarrow SE	0.04560	0.06065	0.07275	0.17326	0.01621	0.75173	0.452
college program2 \Rightarrow SE	0.05176	0.06293	0.06442	0.18394	0.01823	0.82251	0.411
college program3 \Rightarrow SE	0.02903	0.07084	0.17485	0.10367	0.01042	0.40978	0.682
college program4 \Rightarrow SE	0.02401	0.06418	0.09362	0.15280	0.00838	0.37414	0.708
year level1 \Rightarrow SE	0.04350	0.06186	0.06802	0.18246	0.01666	0.70323	0.482
year level2 \Rightarrow SE	0.07618	0.06333	0.04448	0.21015	0.02955	1.20293	0.229
year level3 \Rightarrow SE	0.04025	0.06289	0.07857	0.17430	0.01451	0.64001	0.522
type of school1 \Rightarrow SE	0.01766	0.05288	0.14292	0.07647	0.00726	0.33397	0.738
type of school2 \Rightarrow SE	0.02414	0.04475	0.06453	0.11313	0.00973	0.53935	0.590

Overall, these findings align closely with Watson et al. (2023) that instructor's presence and employing effective communication strategies enhance student engagement in asynchronous online classes. Clear, organized classes and timely feedback from instructors are highlighted as crucial elements for fostering student engagement, which directly corresponds to employing effective communication strategies. Educators should prioritize establishing a strong presence in virtual classrooms and implementing communication techniques that facilitate interaction and collaboration among students.

Table 2 presents the mediating roles played by TSE and PIS in the link between IP and SE in asynchronous online classrooms. Examining the path from IP to SE, the mediation

analysis reveals significant findings. Firstly, PIS mediates the relationship between IP and SE ($\beta = 0.52653$, $p < .001$). This suggests that as the instructor's presence increases, students' perception of instructor support positively influences their engagement. Secondly, TSE also demonstrates a mediating effect between IP and SE, albeit marginally significant ($\beta = 0.08025$, $p = 0.054$). This indicates that technology self-efficacy plays a modest role in mediating the impact of the instructor's presence on student engagement.

Table 2

Mediation of PIS and TSE on IP and SE

Effect	Estimate	SE	95% C.I. (a)		β	z	p
IP \Rightarrow PIS \Rightarrow SE	0.52653	0.05449	0.42084	0.63445	0.40851	9.66247	< .001
IP \Rightarrow TSE \Rightarrow SE	0.08025	0.02170	0.08380	0.10128	0.13122	1.85441	0.054

The results underscore the importance of both perceived instructional support and technology self-efficacy in shaping students' engagement in asynchronous online classes. The mediation of PIS suggests that instructional support can effectively foster student engagement, emphasizing the significance of establishing a supportive learning environment. Additionally, while the mediating role of TSE is less pronounced, it still highlights the relevance of students' confidence in utilizing technology to enhance their engagement levels. These findings carry several implications for online teaching practices and educational policies. Educators should prioritize strategies that enhance instructor support and foster students' technological self-efficacy to promote engagement in asynchronous online learning environments (Nardi & Hamilton, 2020). Furthermore, institutions may consider incorporating interventions aimed at bolstering both instructor support and students' technology-related skills to optimize the learning experience in online settings.

Table 3 shows the mediation roles of PIS and TSE in the connection between CS and SE in asynchronous online classrooms. Results revealed that PIS mediates the link between CS and SE ($\beta = 0.60702$, $p < .001$). This implies that effective communication strategies used by the instructors have a beneficial impact on students' perceptions of instructional support, increasing their engagement. TSE has a marginal mediating effect between CS and SE ($\beta =$

0.05722, $p = 0.042$), suggesting a minor involvement in the influence of communication strategies on student engagement.

Table 3

Mediation of PIS and TSE on CS and SE

Effect	Estimate	SE	95% C.I. (a)		β	z	p
$CS \Rightarrow PIS \Rightarrow SE$	0.60702	0.04140	0.52593	0.68820	0.57148	14.66365	<.001
$CS \Rightarrow TSE \Rightarrow SE$	0.05722	0.02813	0.00305	0.11333	0.05387	0.033922	0.042

Effective communication strategies coupled with perceived instructor support contribute significantly to students' active participation and involvement in learning activities. Moreover, students' confidence in utilizing technology further enhances their engagement levels, complementing the impact of communication strategies (Birney & McNamara, 2024). The results highlight the critical role of instructional support and technology self-efficacy in promoting student engagement in online learning environments. Educators should focus on cultivating supportive interactions with students and providing opportunities for them to develop confidence in utilizing technology. Additionally, instructional designs should integrate effective communication strategies and provide accessible resources to enhance students' technology-related skills, thereby fostering a conducive learning environment.

Upon examining the moderation effects in table 4, it is evident that none of the p-values are below the conventional significance level of 0.05. This indicates that none of the moderation effects are statistically significant. The non-significant moderation effects mean that demographic profiles do not moderate the indirect effects observed in this study. This suggests that regardless of age, gender, college program, year level, or type of college, none of these demographic variables significantly influence the relationships between instructor support, technology self-efficacy, communication strategies, and student engagement. These findings underscore the robustness of the relationships between these key variables, indicating that they may operate similarly across various demographic groups. Educators can take away that strategies aimed at enhancing instructor support, technology self-efficacy, and effective communication in online learning environments may benefit students regardless of their demographic characteristics.

Table 4*Moderation analysis of demographic profile to the indirect effects*

Effect	Estimate	SE	95% C.I. (a)	β	z	p	
Age1 \Rightarrow PIS \Rightarrow SE	0.07553	0.06904	-0.05505	0.21559	0.03130	1.09393	0.274
Age1 \Rightarrow TSE \Rightarrow SE	-0.00544	0.00821	-0.02202	0.01017	-0.00225	-0.66190	0.508
Age2 \Rightarrow PIS \Rightarrow SE	0.06017	0.06662	-0.06702	0.19413	0.02448	0.90317	0.366
Age2 \Rightarrow TSE \Rightarrow SE	1.19e-4	0.00827	-0.01584	0.01658	4.83e-5	0.01435	0.989
Gender1 \Rightarrow PIS \Rightarrow SE	0.00997	0.07058	-0.12678	0.14989	0.00397	0.14123	0.888
Gender1 \Rightarrow TSE \Rightarrow SE	0.00277	0.00801	-0.01286	0.01854	0.00110	0.34613	0.729
Gender2 \Rightarrow PIS \Rightarrow SE	0.05246	0.06390	-0.06886	0.18164	0.02244	0.82085	0.412
Gender2 \Rightarrow TSE \Rightarrow SE	8.20e-4	0.00821	-0.01571	0.01647	3.51e-4	0.09983	0.920
College Program1 \Rightarrow PIS \Rightarrow SE	0.01870	0.09013	-0.15859	0.19472	0.00665	0.20753	0.836
College Program1 \Rightarrow TSE \Rightarrow SE	-0.02201	0.01583	-0.05295	0.00909	-0.00783	-1.39069	0.164
College Program2 \Rightarrow PIS \Rightarrow SE	0.07470	0.09436	-0.11031	0.25956	0.02631	0.79166	0.429
College Program2 \Rightarrow TSE \Rightarrow SE	-0.02261	0.01627	-0.05452	0.00927	-0.00796	-1.38962	0.165
College Program3 \Rightarrow PIS \Rightarrow SE	-0.01178	0.08880	-0.18444	0.16366	-0.00423	-0.13262	0.894
College Program3 \Rightarrow TSE \Rightarrow SE	-0.01024	0.01278	-0.03540	0.01471	-0.00367	-0.80057	0.423
College Program4 \Rightarrow PIS \Rightarrow SE	0.11538	0.09106	-0.06323	0.29373	0.04025	1.26709	0.205
College Program4 \Rightarrow TSE \Rightarrow SE	-0.02511	0.01692	-0.05836	0.00795	-0.00876	-1.48446	0.138
Year Level1 \Rightarrow PIS \Rightarrow SE	-0.15555	0.07031	-0.28998	-0.01438	-0.05958	-2.21241	0.127
Year Level1 \Rightarrow TSE \Rightarrow SE	0.00297	0.00945	-0.01591	0.02115	0.00114	0.31448	0.753
Year Level2 \Rightarrow PIS \Rightarrow SE	-0.08951	0.07786	-0.24036	0.06483	-0.03472	-1.14966	0.250
Year Level2 \Rightarrow TSE \Rightarrow SE	0.00349	0.00998	-0.01630	0.02283	0.00136	0.34992	0.726
Year Level3 \Rightarrow PIS \Rightarrow SE	0.02290	0.08511	-0.14434	0.18930	0.00825	0.26902	0.788
Year Level3 \Rightarrow TSE \Rightarrow SE	1.03e-4	0.01040	-0.02012	0.02065	3.72e-5	0.00993	0.992
Type of College1 \Rightarrow PIS \Rightarrow SE	-0.04523	0.06569	-0.18046	0.07705	-0.01860	-0.68850	0.491
Type of College1 \Rightarrow TSE \Rightarrow SE	-6.75e-4	0.00803	-0.01602	0.01544	-2.78e-4	-0.08410	0.933
Type of College2 \Rightarrow PIS \Rightarrow SE	-0.00437	0.06645	-0.13947	0.12102	-0.00176	-0.06576	0.948
Type of College2 \Rightarrow TSE \Rightarrow SE	-0.00314	0.00825	-0.01898	0.01335	-0.00127	-0.38082	0.703

5. Conclusion

The immediate impacts of instructor's presence and communication strategies on student engagement emphasize the crucial significance of these aspects in defining the asynchronous online learning experiences. Mediation analyses revealed the mediating roles of perceived instructional support and technology self-efficacy, highlighting the pathways through which these factors impact student engagement. While perceived instructional support emerged as a robust mediator between instructor presence and engagement, technology self-efficacy played a more modest role, yet remained significant in influencing engagement levels. Despite the absence of significant moderation effects by demographic variables, the study's findings emphasize the universality of effective teaching practices in fostering student engagement. Regardless of age, gender, college program, year level, or type of school, the relationships between instructor support, technology self-efficacy, communication strategies, and student engagement remain steadfast, emphasizing the resilience of these dynamics across diverse student populations.

Moving forward, educators and institutions should leverage these insights to enhance online learning experiences and promote student engagement effectively. Strategies aimed at strengthening instructor presence, fostering supportive interactions, and promoting effective communication should be prioritized in online course design and delivery. Moreover, efforts to bolster students' technology self-efficacy and provide adequate technological resources should be intensified to empower students in their online learning journey. This includes offering training programs, workshops, and accessible support systems to enhance students' confidence and proficiency in utilizing technology for academic purposes. Furthermore, the findings underscore the importance of inclusive teaching practices that cater to the diverse needs of students. Educators should strive to create learning environments that are welcoming, accessible, and responsive to the unique backgrounds and characteristics of all students, ensuring equitable opportunities for engagement and success.

To further advance the understanding of student engagement in online learning environments, future research could explore additional factors that may influence engagement, such as course design features, instructor characteristics, and student motivations. Additionally, investigating the impact of interventions aimed at enhancing instructor support

and technology self-efficacy on student engagement could provide valuable insights into effective strategies for online teaching and learning.

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Factors affecting school dropout: Comparative study of rural and urban settings

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Abstract

Education remains the key to development in all countries. Thus, every country is making efforts to promote education for all. However, despite these efforts, the school dropout rate continues to rise. With this in mind, this research is carried out with the aim of analyzing the factors underlying the phenomenon of school dropout in rural and urban areas. Mixed research method was carried out on one hundred and six (106) participants identified using purposive and accidental sampling techniques. Due to the similar characteristics of the population and its unknown size (exact number of students who dropped out in the two municipalities being unknown), it was logical, for statistical reasons, to determine the size of this sample accordingly. Data processing was based on an analytical model inspired by Viau's (1999) theory of motivational dynamics and Ryan and Deci's (1985) theory of self-determination. The results research show that a student's environment necessarily influences his or her school life. School dropout in rural areas, unlike in urban areas, is more influenced by economic factors and those linked to the family circle. The identified specific factors imply policy decisions and interventions tailored to the needs of students in urban and rural communities.

Keywords: *school dropout, dropout rate, pupil, rural environment, urban environment*

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1. Introduction

Education is the foundation of individual fulfillment for every person and societal transformations. It occupies a very important place in the economic and social development of nations (UNESCO, 2017, as cited in Siabanni, nd). Indeed, international development policies (SDG No. 4), which mainly aim at the development of primary and secondary education, as well as national policies, largely promote Education for All (EFA). Education proves to be an indispensable necessity for every human being. School education plays an important role in the development of societies, and it would be utopian to envisage sustainable development without it. Basic education has become one of the great priorities of development (Raïma, 2022). Voices are raised and efforts are made to promote EFA and to keep children within the educational system. Education in Africa is a major priority for UNESCO and the UNESCO Institute for Statistics (UIS). In response, the UIS develops indicators to assist governments, donors, and United Nations partners in better addressing education challenges (UNESCO and UIS, 2019).

Despite the multiple efforts made by national and international institutions to promote the retention of children within the educational system, it is clear that the phenomenon of school dropout continues to persist (Flavier & Méard, 2016 ; Doll et al., 2013 ; Roman et al., 2022 ; Ozdemir et al., 2024 ; Desai et al., 2024; Reese, 2007 ; Muchenje & Goronga, 2020). While many children leave primary school prematurely, with few skills necessary for successful integration into society, others drop out of school before completing the cycle in which they are enrolled (Gbahoui, 2014).

According to Sawadogo (2013), dropout among girls is more concerning due to the high rate observed within their ranks every year. School is often viewed negatively for girls, especially as they transition into adolescence. For parents, school emancipates the young girl, exposes her to sexual risks, and relieves her of domestic chores, it is an identity and reproductive reflex. Keeping girls in school also takes a back seat when the family's daily survival, as is often the case, is at stake. In this regard, UNESCO and UIS (2019) found girls' education as a major priority. Indeed, according to UNESCO and UIS data (2019), 9 million girls aged approximately 6 to 11 years will never go to school, compared to 6 million boys. Their disadvantage starts early; 23% of girls are not enrolled in primary school, compared to 19% of boys. In adolescence, the exclusion rate for girls rises to 36% compared to 32% for

boys. Dropping out of school prevents developing countries from making the most of their resources and mainly affects the most vulnerable groups in society (Yin, 2005). While the governments are making significant efforts to improve their educational system, many obstacles remain, including school dropout, which is among the ills plaguing these systems. This phenomenon is all the more insidious as, by ejecting a significant portion of childrens from the education system prematurely, it causes a huge waste of time and resources, thus drastically reducing the expected performance (Mendiboure, 2010).

Benin is not spared from the phenomenon of school dropout. Indeed, it is a country that has always witnessed this phenomenon despite the colossal efforts made by the State solely to promote schooling and the retention of children within the educational system. At the national level in public education over the past five years (from 2014-2015 to 2018-2019), the dropout rate for girls has been higher every year than for boys. For 2018-2019, it was 22.27% for girls and 20.80% for boys (Statistical Yearbooks, 2014 as cited in Social Watch Benin & RIFONGA Benin, 2020). According to a research report conducted in Benin in 2017, communes classified as rural have the lowest levels of children's schooling life expectancy. These analyses highlight the particularity of the communes of Abomey-Calavi and Cotonou (both urban), where children can expect to spend approximately ten years (10.2 and 10.1 years, respectively) in school, compared to only two years for children in the commune of Kérou (rural commune). In other words, a child from Cotonou or Abomey-Calavi can expect to reach the tenth year of schooling (3rd level of the first cycle of secondary education in case of no repetition), whereas a child from Kérou can only hope to reach the second year of schooling (CP class: preparatory course, primary cycle) (Dansou, 2017). It is therefore undeniable that the risk for children to drop out is higher in rural areas compared to children living in urban areas.

There are multiple factors causing increased school dropout rate, which may vary from one country to another or from one community to another due to the realities that students may experience. For instance, a child's environment significantly influences their retention in the educational system (Yahia et al., 2018; Mackatiani et al., 2022; Farah et al., 2017; Karabo & Natal, 2013; Paul et al., 2021; Buop et al., 2018; Huisman & Smits, 2015; Baalman et al., 2022). As a result, children living in rural areas are the most vulnerable to the phenomenon of school dropout, and there are several factors underlying this situation, such as distance (Zeragaber et al., 2024; De Saro, 2022; Sharma & Levinson, 2019). In a report by UNESCO -

IPE Dakar Pole in 2014, Benin reveals that the situation appears relatively more pronounced in rural areas. The number of children aged 6 to 15 years with a school more than 30 minutes away from home is estimated at 31% in rural areas, compared to 21% in urban areas. However, school attendance decreases significantly when the school is more than 30 minutes away from home, especially in rural areas. Indeed, the dropout rate amounts to nearly 13% when the school is more than 30 minutes away from home, compared to 7% when the school is less than 30 minutes from home. In rural areas, there is a transition from a dropout rate of 9% to 16% when the school is located more than 30 minutes away from home (UNESCO, 2014). Thus, depending on whether students are in rural or urban areas, the manifestation of the phenomenon of school dropout differs, and the factors favoring it are more dominant in rural areas.

The two municipalities under study, namely Athiémé and Porto-Novo, are rural and urban communes, respectively. It goes without saying that these municipalities do not experience the same realities regarding school dropout. They all experience the phenomenon of school dropout, but in different forms. It would be useful to study the factors of school dropout in Athiémé and Porto-Novo to understand their impact in both rural and urban municipalities. The choice of this study is based on the principle of inclusive education that is accessible to all without distinction of sex, race, religion, and social status, among others. The outcome of this research could therefore contribute to selecting relevant and precise strategies that can promote the retention of children in school according to the socio-economic characteristics of their living environments.

2. Literature review

1.1. Risk factors for school dropout

Several studies agree that the phenomenon of school dropout is not a one-dimensional problem but a combination of personal, school-related, familial, and environmental risk factors that require a more systemic approach (Blaya, 2010).

Personal/Individual factors. According to Kpoholo (2013), school dropout is related to the perception that students themselves have of school. Indeed, for many students, school is seen as a place with few future prospects. Given that the end of the academic trajectory, although marked by obtaining a title (diploma, certificate), does not guarantee employment

and a better life systematically. It thus appears that school dropout is likely to occur when students begin to show a certain disinterest in school on the pretext that it does not necessarily guarantee a better and successful future. In addition to students' perception of school, absenteeism also proves to be one of the factors that can lead to dropping out. On this subject, Bâ et al. (2020) explain that dropping out is a terminal process whose seeds date back to absenteeism. The absentee student, inevitably, if the trend does not reverse, is doomed to academic failure. This can take two major forms: either the student drops out, or they are excluded (for lack of attendance, poor performance, etc.). The factors that justify chronic absenteeism are practically the same as those that explain school dropout. Because an absentee student, even if present occasionally, drops out. The second level of the process, towards dropping out, is indeed academic failure. Some students accumulate significant delays (sometimes since primary school) associated with repeated failures (repeating grades). This situation is not unrelated to the fact that these students say they like school less, are more likely to be absent from it, and are less involved in their educational journey (they study less, attach little importance to their success, etc.) (Lacroix & Potvin, 2021). It is indeed evident that all these factors combined (delays and repeating grades) inevitably favor school dropout.

Moreover, Anton (2016) also emphasizes personal difficulties (internalized and externalized behavioral disorders, low self-esteem) and unhealthy lifestyle habits (substance abuse) as personal factors. According to a study conducted by Laurier and Yvon (1999), assertiveness more often leads to school dropout. More delinquent youth have difficulties respecting school structures and rules. Even if this training program is a way to make school more acceptable to a clientele of young people who are very unreceptive to academic learning, school remains too restrictive for many of them. The most offensive towards the environment and who have assertiveness skills leave school.

Family factors. The low level of education of parents also emerges as one of the determining factors in children's school dropout. Indeed, the less educated parents are, the more likely children are to drop out quickly. In this regard, Blaya (2010) argues that the level of education of parents, despite attempts to democratize public education and the measures of positive discrimination that may be taken, still influences the academic success of children. This reflects the influence that children receive from their parents. It is also natural for children to tend to follow in the footsteps of their ancestors. Thus, social factors are even more

numerous and complex. In this regard, two of them are often advanced: the cultural capital of the child, generally evaluated by the level of education of the parent(s) (a distinction between educated parents and non-educated parents is established), and the socio-professional category to which the parent(s) belongs (Bâ et al., 2020).

Anton (2016) emphasizes the precariousness of the socio-economic context, the fragility of the family fabric (single-parent families, blended families, large families), and the inadequacy of the relationship with schooling (lack of parental involvement with low support, little encouragement with low academic expectations or, conversely, inadequate investment). In the same vein, Bâ et al. (2020) argue that social factors go beyond the socio-professional category of the parent(s). Corollary effects such as the type of housing, available means of information, family structure, are often put forward to justify school dropout. Likewise, factors related to illness, marriage (especially for girls), difficulty for some to obtain a birth certificate, are also factors in academic failure. According to the report by INSAE conducted in 2014, the reasons for the school dropout of young people in Benin essentially boil down to economic reasons and the absence of schools near the place of residence. The reasons that lead students to leave the educational system without obtaining the end-of-cycle diploma thus vary according to the students and/or according to the environments, and sometimes this can be independent of the student's will. Furthermore, the economic situation of families also triggers school dropout. In this regard, Bâ et al. (2020) explain that children from low-income families, even if this can be a source of motivation, are more exposed to school dropout.

Lacroix and Potvin (2021) highlight the material realities and those related to the level of education of families as factors associated with the phenomenon of school dropout. The experience of a precarious socio-economic situation in the family and the associated conditions (poor housing, risky behaviors, inequalities in health, etc.), represent risk factors strongly linked to school dropout. Parents whose socio-economic status is precarious are more likely to have low education, and this latter variable also has a relationship with dropout. Low-educated parents may be less able to support and help their child academically (homework and lessons), especially as the child progresses in their educational journey or encounters obstacles within it. Furthermore, these parents are sometimes less demanding in terms of schooling. For example, they may exercise less academic supervision and have low expectations regarding learning tasks. The quality of the family atmosphere and relationships between members is

also associated with school dropout. Low levels of cohesion and support among family members, as well as a lack of parental supervision over the child's activities, are components of the risk or experience of dropout. At-risk students perceive less support from family members and report difficulties in communicating with their parents. Furthermore, the level of education of parents also impacts children's school life. Thus, according to Kouassi (2016), some parents with a secondary level of education may adopt a form of indifference towards the school institution and neglect towards the children or at least their learning.

School factors. School factors primarily involve the quality of the school climate (the atmosphere within the institution and/or classroom), the quality of teacher-student relationships (perception of teachers as unresponsive, unhelpful, lacking clarity in rules and ethics), tracking into specialized classes resulting in student stigmatization, marginalization, and feeling abnormal, forced tracking (a choice imposed on the child), and boredom at school (Anton, 2016). Similarly, Vaillancourt (1998) emphasizes that the main reasons for school dropout are related to the school itself: it is the perceived dissatisfaction with school that encourages dropout. The school environment plays a crucial role in academic failure. Indeed, the size of the institution, the type of institution, the student-teacher ratio, the supervision exercised by the school, the types of pedagogical activities conducted, the path followed, the pedagogical resignation of teachers, the negative classroom climate, and poor student-teacher relationships, are all factors highlighted to justify the role of the school in school dropout (Bâ et al., 2020).

According to Lacroix and Potvin (2021), classroom climate, teacher-student relationships, and school climate are three factors closely related to the phenomenon of school dropout. Indeed, the atmosphere in a classroom is a factor in whether students drop out or not. The socio-educational climate of the school refers to the school climate (relational, educational, safety, justice, and belonging), the problems present at the school (violence, discipline issues, drug accessibility), and educational practices (supervision and recognition systems, teaching quality). The quality of this climate, dependent on interactions between school staff and students, positively or negatively influences students' adaptation. It is recognized that a good socio-educational climate promotes educational success, while a poor climate contributes to increased difficulties experienced by students (Lacroix & Potvin, 2021). Guigue (2003) argues that children primarily attribute the reasons for their dropout to school-

related issues such as boredom, failure, lack of interest and motivation in studies, and a lack of future prospects, even if there are concomitant difficulties such as family, personal, and social problems.

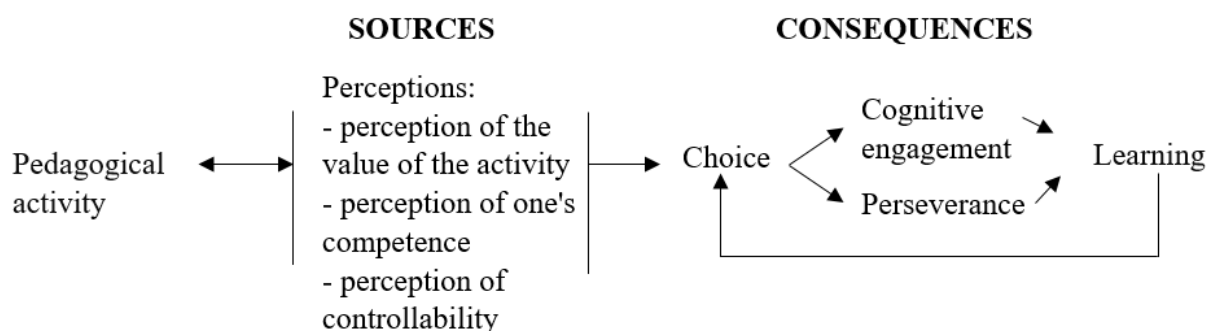
1.2. Theoretical framework

The present research builds upon two different theories: Viau's Motivational Dynamics Theory (1999) and Ryan and Deci's Self-Determination Theory (2000). The aim is to first present each of these theories and then to construct the modeling of this research.

Viau's Motivational Dynamics Theory (1999). Viau's theory (1999) posits that the student's perception of the value of the activity, as well as the perception of their competence and the controllability of the task, influence their motivation and thus their engagement or disengagement in the pedagogical activity. According to Viau (1994), the perception of the value of an activity is defined as the judgment that a student makes about the interest and usefulness of the activity based on the goals they pursue. The student's motivation is a dynamic phenomenon driven by the interaction between their perceptions and factors related to their school, family, and societal environment. He initially correlated the main determinants and indicators that were most relevant to consider, as illustrated in figure 1.

Figure 1

The motivational dynamics regarding an activity according to Viau (2014)



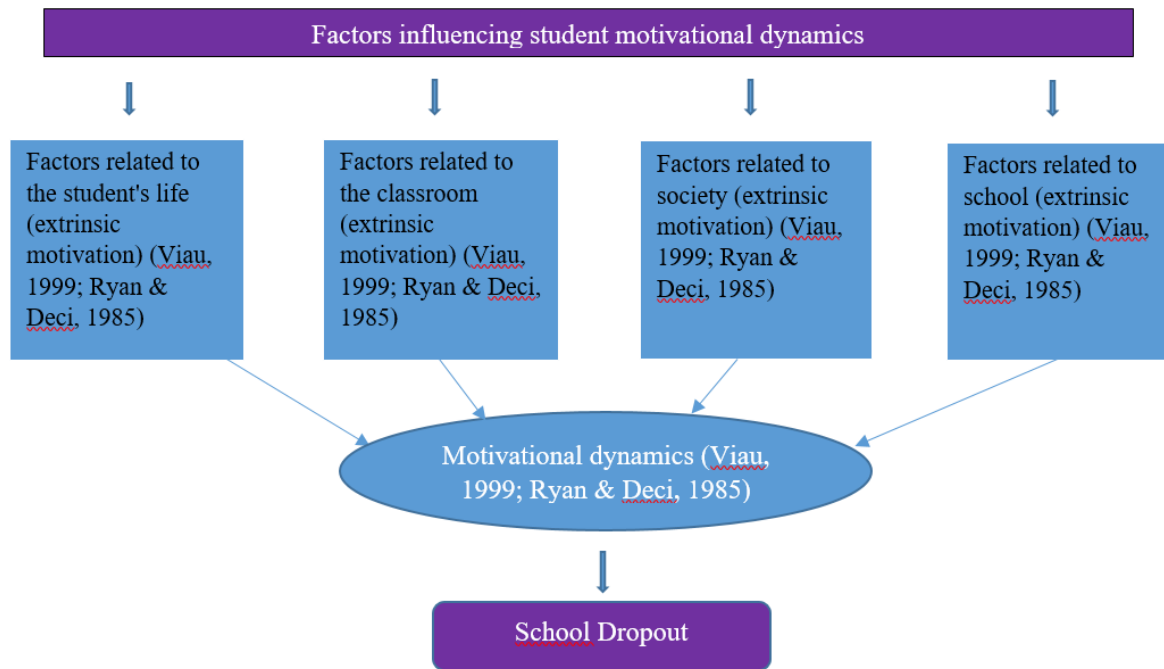
This model seeks to describe the motivational dynamics that drive a student when engaging in a pedagogical activity. This dynamic primarily originates from the perceptions that a student has of the pedagogical activity proposed to them. Three perceptions are mainly considered: the perception that the student has of the value of this pedagogical activity, the perception of their competence to accomplish it, and the perception of the control they have

over its progression. The perception of the value of an activity is the judgment that a student makes about its usefulness and interest in achieving the goals they pursue (Eccles et al., 1998, as cited in Viau, 2002). The perception of competence is a self-perception by which a student, before undertaking an activity with a high degree of uncertainty regarding its success, evaluates their abilities to perform it adequately (Pajares, 1996, as cited in Viau, 2002). The perception of controllability is defined as the perception that a student has of the degree of control they can exert over the progress and consequences of a pedagogical activity (Deci et al., 1991, as cited in Viau, 2002).

Ryan and Deci's Self-Determination Theory (2000). The self-determination theory by Ryan and Deci (1985) relates to personality development and self-motivated behavior change. The theory aims to identify and explain the types of motivations that drive an individual to engage in a particular activity; it refers to autonomous motivation and regulated motivation. According to Deci and Ryan (1985), motivation is considered self-determined if it reflects the actor's ability to feel responsible for their choices rather than being determined by internal or external constraints. This theory also suggests that each person is viewed as an active organism who continuously and naturally seeks to enhance their human potential through the discovery of new thoughts, mastery of new skills, and fulfillment of their needs (Deci & Ryan, 2000 as cited in Rebah & Dabove, 2017).

Deci and Ryan (2002) conceptualize three major types of motivation organized along a continuum: intrinsic motivation, extrinsic motivation, and amotivation. Each form of motivation is associated with a varying degree of self-determination (Dupont, 2010). Intrinsic motivation is characterized by a perceived locus of internal causality. This type of motivation implies that the individual engages in an activity because they find pleasure and satisfaction in it (Deci & Ryan, 2000, 2002 as cited in Dupont, 2010). Extrinsic motivation, on the other hand, refers to engaging in an activity not because of the pleasure it brings, but often for external reasons or instrumental motives (e.g., punishment, reward, social pressure, obtaining approval from a third party). According to Deci and Ryan (2002) as cited in Information Network for Educational Success (RIRE, 2019), amotivation is defined as the absence of motivation. It represents the lowest level of self-determination.

From these theoretical foundations, the reference system is developed as shown in figure 2.

Figure 2*Research modeling*

2. Methodology

This study is based on mixed surveys conducted in two municipalities of Benin, one rural (Athiémé) and the other urban (Porto-Novo). Each of these municipalities has both enrolled students and others who have dropped out of school due to socio-economic reasons. Considering the environment, most parents of these students are illiterate in the village as well as in the city. Data collection took place between March and May 2023. The target of this study is heterogeneous, consisting of three target groups: dropout students (at the secondary level), parents of students (at least one child dropped out), and administrative staff.

Due to the impossibility of surveying the entire target population, sampling was conducted. Two techniques were used for sampling: reasoned choice and accidental choice. The reasoned choice technique, used for dropout students, only considered those who had dropped out of secondary school within the past five years. It was assumed that students who had dropped out more than five years ago might not have recent information about the dropout phenomenon and that their circumstances may have changed significantly, potentially

providing outdated information. The reasoned choice technique was also used for parents of students, considering only those with at least one child who had dropped out. The accidental choice technique was used for administrative staff, selecting only those who belonged to the mentioned categories and were available during data collection.

The sample of this research comprised 106 individuals, specifically 48 students per municipality, 3 parents of students, and 2 administrative staff in each of the two municipalities. Due to the similar characteristics and unknown size of the population (exact number of dropout students in the two municipalities being unknown), it was judicious, for statistical logic reasons, to determine the sample size to be 106 individuals in total. The summary of the sample is presented in table 1.

Table 1

Sample size of the research

Target categories	Source	Sampling technique	Size
Students	Athiémé	Purposive sampling	48
	Porto-Novo		48
Parents of students	Athiémé	Purposive sampling	3
	Porto-Novo		3
Administrative staff	Athiémé	Random sampling	2
	Porto-Novo		2
Total			106

Since the collected data are of different natures, the methods for their processing have rightly been different. Students who have experienced school dropout and meet the criteria to be part of the sample were targeted and each received a paper survey questionnaire which they completed. Those who had difficulties in French were assisted by the interviewer. Since the research was conducted in two different municipalities, the survey was conducted municipality by municipality, starting with Athiémé. Due to the similar characteristics of the population and its unknown size (exact number of students who dropped out in the two municipalities being unknown), it was logical, for statistical reasons, to determine the size of this sample to be ninety-six (96) students in total. The survey questionnaire contained questions related to the research objectives. The collected data were entered into IBM SPSS version 26 software where they were subsequently processed.

The semi-structured interviews conducted in the context of this research allowed, through semi-open questions, to gather information on the manifestation of the phenomenon of secondary school student dropout from parents of students and administrative staff. The interview guide addressed to parents of students was not the same as that addressed to administrative staff. The questions addressed to parents of students, on one hand, relate to family realities that may contribute to secondary school student dropout. On the other hand, it elicited the opinions of the interviewed parents on the strategies implemented to keep students in school. As for the interview questions addressed to administrative staff, it essentially allowed gathering information from them about their opinions on strategies to keep students in school and the responsibilities of parents and the government in the dropout of these students. The recordings made using the TECNO SPARK 8C version 11 phone were transcribed using Word 2016 software. They were transcribed following the themes that composed the different interview guides. It was agreed with the respondents that complete anonymity would be respected in the use of their statements for presenting the research results. Moreover, their identification would not provide any additional information for the research. Therefore, instead of their names, their initials (e.g., Vital Gbaguidi = V.G.) were used.

3. Findings and Discussion

For the collection of quantitative data, a total of ninety-six (96) individuals were surveyed with their demographic characteristics presented in table 2.

Table 2

Characteristics of the sample dropout students

Variables	Frequencies (n)	Percentages (%)
Municipalities		
Athiémé	48	50
Porto-Novo	48	50
Sex		
Male	47	49
Female	49	51
Age		
10-14	04	4,2
15-19	65	67,7
20-24	19	19,8
25-29	08	8,3
Total	96	100

Ninety-six (96) participants, 48 from each of the two municipalities, comprise the sample of this research. Additionally, it is noteworthy that the majority (51%) of the sample is female, compared to 49% who are male. The age group experiencing the phenomenon of school dropout the most in the two municipalities under study is between 15-19 years old (67.7%). It then becomes apparent that the most vulnerable group to school dropout is the youth, a group often considered the future of the nation. This observation underscores the significance of the school dropout phenomenon.

4.1. Factors affecting school dropout in the municipalities

Table 3 shows the cost of breakfast in FCFA received by the surveyed students in the two municipalities of the study.

Table 3

Cost of breakfast of the surveyed students in the two municipalities

Cost/ Residence	Nothing	25f-50f	75f-100f	125f-150f	175f-200f	200f and more	Total
Athiémé	1	22	14	10	0	1	48
Porto-Novo	0	1	22	16	7	2	48
Total	1	23	36	26	7	3	96

According to table 3, there is a disparity observed in the breakfast of the surveyed students from the rural (Athiémé) and urban (Porto-Novo) areas. Results show that 22 out of the 48 students from the rural area have a breakfast costing between 25f-50f, compared to only 1 student in the urban area. This observation may be due to the cost of living, which is not the same in both areas.

Table 4

Number of times the students ate on daily average in rural and urban areas

Frequency/ Residence	Once	Two to three times	Four times and more	Total
Athiémé	7	27	14	48

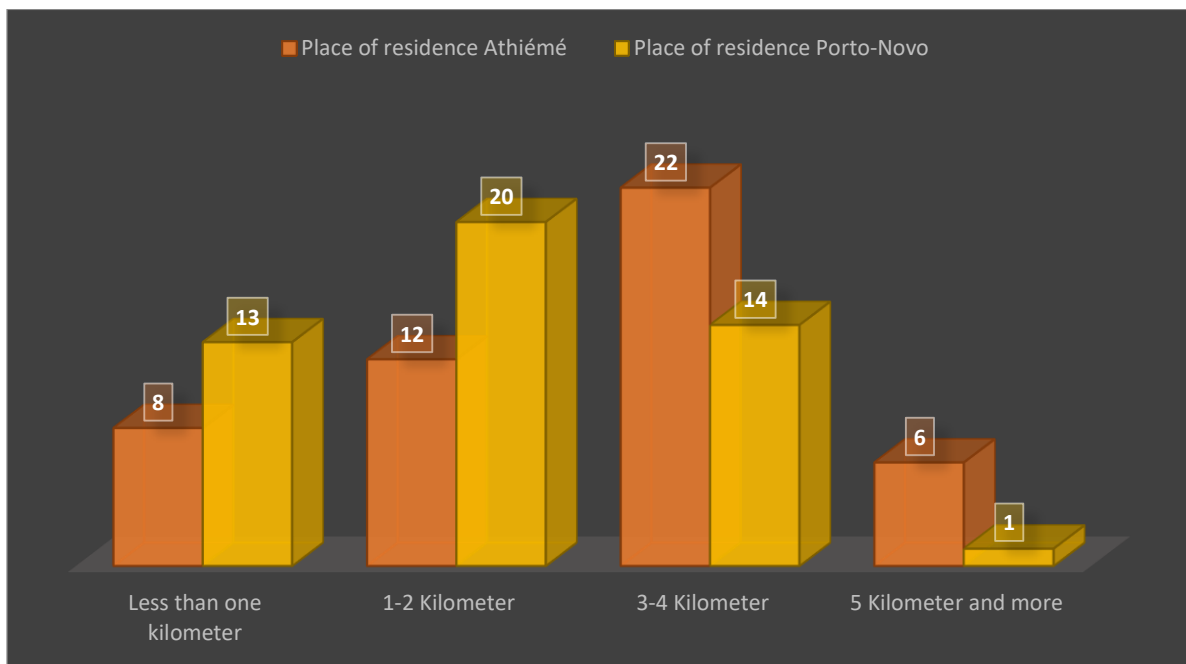
Porto-Novo	2	46	0	48
Total	9	73	14	96

Results presented in table 4 show that 46 out of 48 students, which is 95.84%, surveyed residing in the urban municipality of Porto-Novo ate on average two to three times a day when they were still in the educational system, while only 27 out of 48 students, which is 56.25%, residing in the rural municipality of Athiémé ate on average two to three times a day. An individual's living environment influences their living conditions, particularly those related to their food survival.

Figure 3 describes the distance from the place of residence to the school in kilometers.

Figure 3

Distance in kilometers from home to school

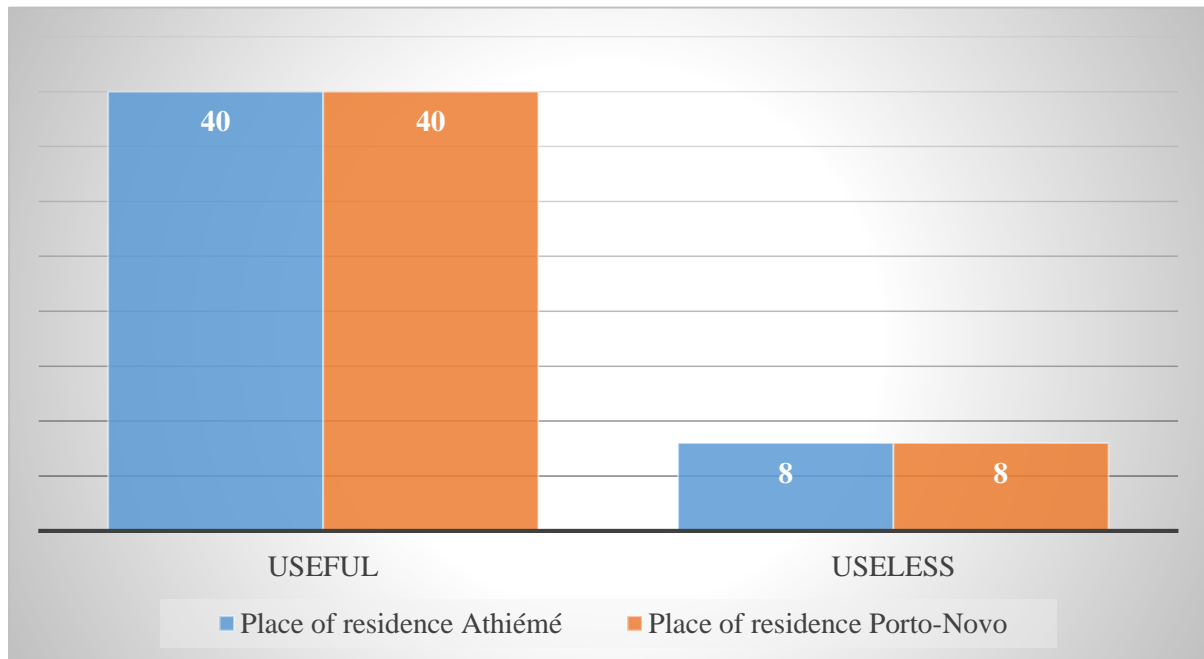


The number of kilometers traveled by students to reach their respective schools varies depending on the environment. In summary, 22 out of 48 students from the rural area (Athiémé) cover a distance between 3-4 kilometers before reaching school. In contrast, only 14 out of 48 students from the urban area (Porto-Novo) travel this distance. The urban environment therefore has the advantage over the rural environment of having schools closer to students' homes. These results corroborate the UNESCO (2014) report that school attendance decreases significantly when the school is more than 30 minutes away from home,

especially in rural areas. The dropout rate reaches nearly 13% when the school is more than a 30-minute walk from home, compared to 7% when the school is less than 30 minutes away. In rural areas, the dropout rate increases from 9% to 16% when the school is located more than 30 minutes away from home.

Figure 4

Perceptions of surveyed individuals on the usefulness or otherwise of school



According to figure 4, 40 out of 48 students from both rural and urban areas find school useful. This perception they have of school therefore influences their motivation. It is in this very sense that Viau (2002) explained through the theory of motivational dynamics that the perception of the value of an activity is the judgment that a student makes about its usefulness and interest in achieving the goals he or she pursues (Eccles et al., 1998 as cited in Viau, 2002). This perception influences the student's intrinsic motivation in that he or she derives a certain satisfaction and/or pleasure from it. This observation is supported by Deci and Ryan's (1985) self-determination theory. Accordingly, intrinsic motivation is inherent in activities that are performed for the interest they present in themselves and for the satisfaction and pleasure that result from them. Thus, the better a student perceives school, the more motivated he or she will be to stay there. On the other hand, when a student begins to have a certain representation of

school, a representation according to which school does not necessarily guarantee a better future, the risk for him or her to leave the educational system becomes greater.

Furthermore, so-called family factors are not to be neglected in the phenomenon of school dropout. The family circle plays a major role in the academic follow-up of children. The way in which it plays a role in their academic follow-up is also the way in which it has a great responsibility in keeping students in the educational system. These family factors include the type of family (monogamous or polygamous) from which the student comes (table 5), and the profession of the parents (figure 5).

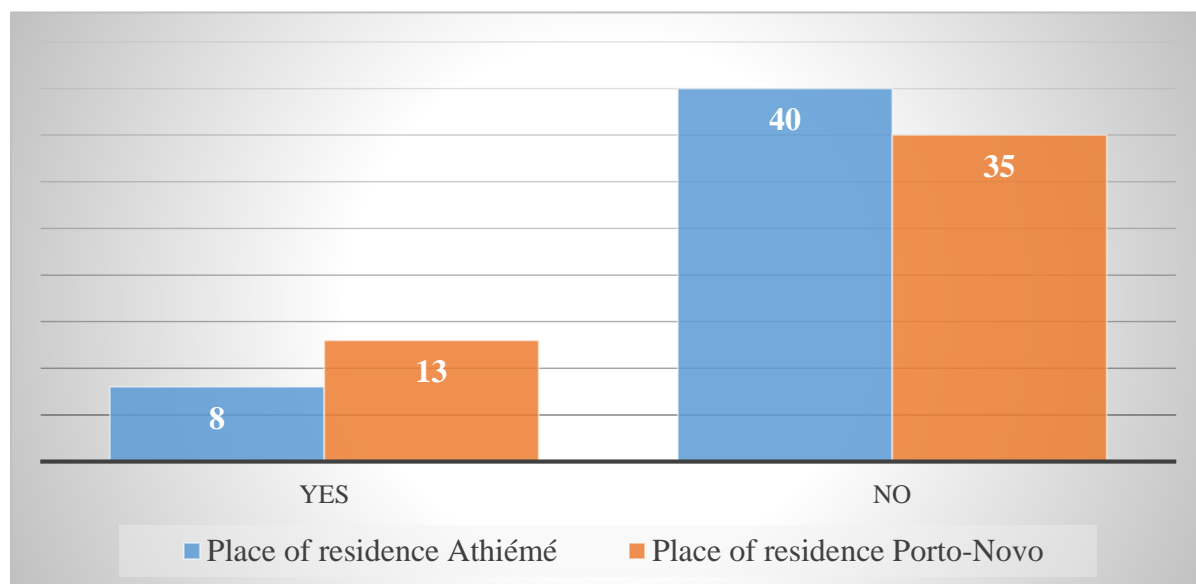
Table 5

Type of family from which the surveyed students come

Type of family/ Residence	Monogamous	Polygamous	Total
Athiémé	20	28	48
Porto-Novo	30	18	48
Total	50	46	96

Figure 5

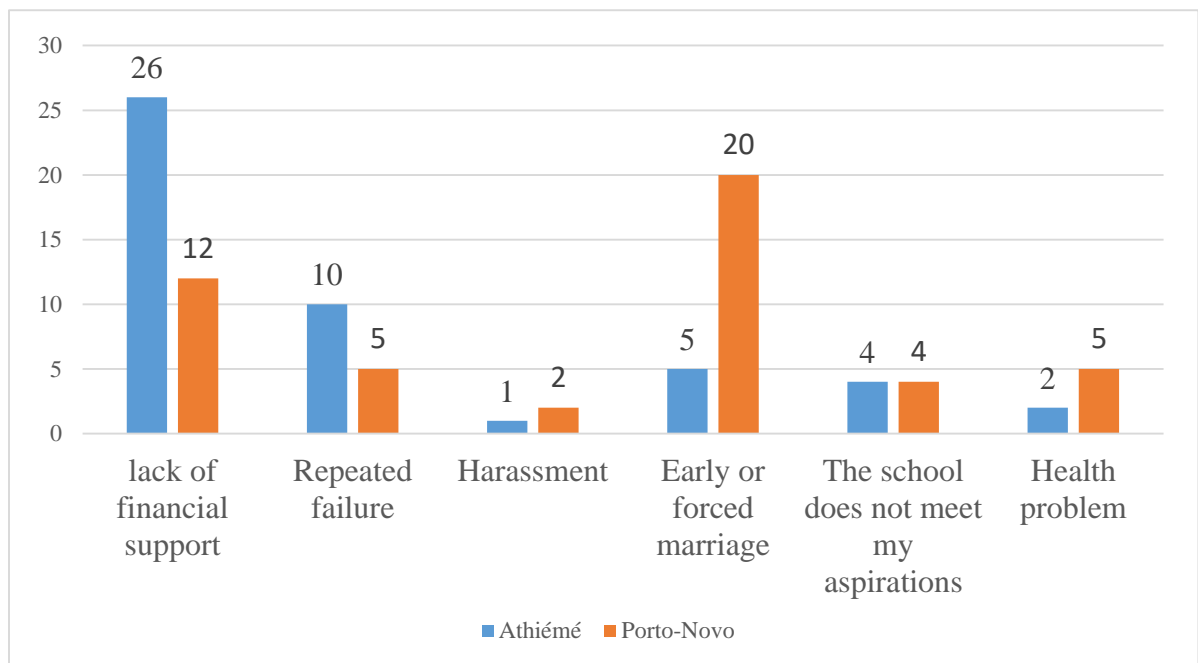
Parents' profession of surveyed students



As shown in table 5, 58.33% of the 48 students from the rural area come from a polygamous family, while 62.5% of the 48 students from the urban area come from a monogamous family. Additionally, according to figure 5, it is observed that 83.33% of students in rural areas and 72.91% in urban areas report that they do not have parents with a salaried profession. This indicates the low economic condition of these families inevitably influencing the students' school life. This observation is congruent with Bâ et al. (2020) that children from low-income families, although this may be a source of motivation, are more exposed to school dropout, and Anton (2016) that the precariousness of the socioeconomic context, the fragility of the family structure (single-parent families, blended families, large families), and the inadequacy of the relationship with schooling (lack of parental involvement with weak support, little encouragement, low academic expectations, or on the contrary, inadequate investment) affect students' academic outcome. All these factors combined lead many students to drop out of the educational system prematurely. However, it should be noted that these factors vary from one environment to another, as indicated by the reasons in figure 6.

Figure 6

Reasons for dropping out



Based on the results, 26 out of 48 respondents from the rural area dropped out of school due to lack of financial support. However, early marriage is revealed as the determinant

associated with school dropout for 20 out of 48 respondents in the urban area. In the same vein, one of the parents interviewed confided:

"Today there are several reasons. The first reason is that the education system is not a good system. We can say specifically in Benin, there is laziness that disturbs the children. They can no longer bear school as students. They can no longer learn as they should. So it happens that they want to leave the classes to go into apprenticeship. Now, there are also some who drop out because they don't have support. They don't have support from their parents, and they have to manage on their own first before getting any support. All of this causes others to leave the classes" (J. S., Athiémé, Field data, June 2023).

This is also explained by Bâ et al. (2020) that corollary effects such as the type of housing, available information resources, family structure, and marriage (especially for girls) are often cited to justify school dropout.

4.2. Strategies for maintaining student retention

It is no longer to be demonstrated that the Beninese government is increasingly interested in keeping students in school. Apart from the free schooling for girls in recent years, projects are being implemented to promote the retention of children in the educational system. For example, the Deputy Secretary-General of the Government, Hougbedji (2022), highlights in the minutes of the council of ministers that school kits were distributed to adolescent girls through the Sahel Women's Empowerment and Demographic Dividend Project (SWEDD). The objective of this initiative was to increase the school retention rate of girls. This project aims to reach thirty thousand adolescent girls in the seventy-seven communes of Benin and will help alleviate the burden of parents who, at the beginning of the school year, struggle to fulfill this duty, often detrimental to the academic progress of children. Continuing to support that the government is truly working for the retention of children in school, an administrative official confides:

"The State comes to the aid of girls for their breakfast through the SWEDD project. Thus, it provides what seems to be 450f for primary school girls and 600f for secondary school girls. This is effective in certain communes, the urban communes" (B. G., Field data, Porto-Novo, June 2023).

It is therefore clearly noticeable that commendable efforts are being made by the government to maintain students in the educational system. However, it is noticeable through the observations and statements from the participants that weaknesses are associated with the strategies implemented by the government for student retention in school. It is observed that only girls and adolescents benefit from these strategies. While the situation suggests that the phenomenon of school dropout concerns mainly girls, the cases of school boys are not given proper emphasis. It is also noticed that some areas are left behind, particularly the rural areas. This is reflected in the statement of an administrative official who says:

"This is effective in certain communes, the urban communes" (C. E., Athiémé, Field data, June 2023).

These observations reveal that there is still much effort to be made to promote better and equitable retention of students in the educational system in Benin.

4. Conclusion

This mixed method research, focusing on students who have already left the educational system, has shed light on the true determinants associated with school dropout phenomenon in the municipalities of Athiémé and Porto-Novo in Benin. It became evident that the school dropout phenomenon manifests differently depending on whether it occurs in rural or urban environments. Similarly, the student's living environment, including societal and familial factors, significantly influences academic life. Furthermore, the analysis of both quantitative and qualitative data revealed a link between the perception of the value of educational activities and students' intrinsic motivation (Viau, 2002; Ryan & Deci, 1985). It was observed that students with a positive perception of school are more motivated to remain enrolled and are less likely to leave the educational system without completing their academic cycle.

The gathered data indicated commendable efforts by the government to retain students in school. Acknowledging the prevalence of school dropout each year, the government has implemented measures to curb the phenomenon. However, the results of this research also highlight weaknesses in the strategies employed, suggesting a need for improvement to ensure fair and effective support, regardless of gender or socioeconomic background. This research entails identifying specific factors contributing to school dropout rates in each context

(urban/rural), facilitating the informing of policy decisions aimed at addressing these factors, and designing targeted interventions tailored to the needs of students in urban and rural communities. Furthermore, this research highlights disparities in educational opportunities between urban and rural areas, thereby leading to efforts to improve access to quality education for all students, regardless of their geographical location.

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Challenges and strategies for effective online examinations in higher education institutions: Insights from lecturers and students

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Abstract

Paper-based examinations are gradually being replaced as a reasonable number of Eswatini Higher Education Institutions (HEIs) have adopted online examinations. As a new phenomenon, the perspectives of both academic staff and learners had to be assessed. Hence, this study sought to assess the use of online examinations in the Kingdom of Eswatini HEIs. The research was qualitative in nature utilizing the Participatory Action Learning and Action Research (PALAR) design to unravel the impact of the pedagogical innovation as well as factors such as security and practicality to effect best action in the advancement of HEI in the country. Similarly, the Cultural Historical Activity Theory (CHAT) gave insight to the study. For comprehensive data collection, 15 learners and 10 academic staff from HEIs who use e-exams were purposively selected and interviewed. Generated data were analysed thematically; data were transcribed, coded, and categorised to come up with major patterns and perceptions as themes. Major findings revealed that online exams were easy to administer and mark, secured, flexible, promotes lifelong learning, and reduce risk associated with student travel. However, online examinations promoted malpractice among students. Other challenges on the administration of online examinations include: students and lecturers lack technological skills and poor internet connectivity. The results suggest training of lecturers and students on the use of online examinations, and investing in powerful technologies to support online examinations. With the emerging adoption of digital technology in the HEIs, it is necessary for policymakers to address academic misconduct by drafting relevant policies and procedures.

Keywords: *online examination, pedagogy, PALAR, higher education institution*

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1. Introduction

The education system experienced a paradigm shift during the period of the impetuous Covid-19 pandemic. Online teaching became an inevitable trend as higher education institutions (HEIs) were banned from holding traditional face to face classes (Liao et al., 2022; Babbar & Gupta, 2022; Coman et al., 2020; Mishra et al., 2020; Ndibalema, 2022) due to health and mobility restrictions. The traditional teaching and learning platform was replaced overnight by e-learning, where the students started taking part in the lectures, seated at their homes solely with the help of their mobile phones or laptops/desktops via internet connection (Gupta et al., 2023). As the learning became virtual, the introduction of e-examinations was embraced (Eltahir et al., 2022; Tan et al., 2021; Khan et al., 2021; Turnbull et al., 2021; Bashir et al., 2021; Dhawan, 2020) though with some reservations. With much convenience for the learners, Makgaka (2023) describes online examinations also known as take-home examinations (THE) as conducted at any place be it office, home, or the examination centre using technological devices such as computers and mobile phones.

A few years after Covid-19, paper-based examinations were gradually being replaced by e-exams in HEIs across the Kingdom of Eswatini. The widespread adoption of digital techniques was attributed to its time-saving nature, relative cost efficiency and the e-learning mantra, one can learn 'anywhere anytime' (Thambusamya & Singh, 2021; Waheeda et al., 2023). While Waheeda et al. (2023) argue that assessment is a vital component of the educational process and Bhebhe and Maphosa (2020) assert that it allows educators gauge the level of students' knowledge, several scholars were not convinced with the effectiveness of e-examinations (Itani et al., 2022; Thatrsarani et al., 2023; Cai, 2022; Montenegro-Rueda et al., 2021; Awad Ahmed et al., 2021; Khan & Khan, 2019; French et al., 2023; Lee et al., 2022). Several studies highlighted the effectiveness of online assessments during the Covid-19 pandemic (Mate & Weidenhofer, 2021; Butler-Henderson & Crawford, 2020) and years after the pandemic. However, there were several notable loopholes in the conduct of online assessments. Studies highlighted significant difficulties faced by developing countries including weak internet connectivity (Gupta et al., 2023; Mahlangu & Makwasha, 2023; Gul et al., 2022; Ndibalema, 2022; Zarei & Mohammadi, 2022), limited knowledge on ICT usage (Gupta et al., 2023; Mahlangu & Makwasha, 2023; Ndibalema, 2022; Zarei & Mohammadi, 2022), and cheating and plagiarism (Mahlangu & Makwasha, 2023). While the positive and

negative aspects of online education and assessments were presented and remained debated, the fact remains that online assessment is now part of any HEI. Hence, it is imperative for them to develop strategies and techniques on the effective implementation of online assessments.

This study assessed the use of online examinations in the Kingdom of Eswatini HEIs. Specifically, it evaluated the experiences of lecturers and students on the use of online examinations and identified the strategies adopted for the effective implementation of online examinations.

2. Literature review

2.1. Theoretical framework

The Cultural Historical Activity Theory (CHAT) theory gave insight to the study. CHAT is a social theory which is useful as a methodological framework for the vital task of studying practice-based learning in complex learning environments. It is an apparatus considering learning as occurring through practice, through collective activity, and mediated by culturally specific instruments (Qureshi, 2021).

The CHAT theory was adopted as it enables researchers to analyse complex and evolving professional practices and practitioners to engage in reflective research (Foot, 2014). This theory allows a subject (or actor), an object (a focal entity and/or a desired outcome), and the tools employed by the subject to act on the focal object or pursue a desired outcome. In this study, the CHAT helps identify the perceptions of students and educators as they might both face challenges with online examination. For example, the teachers have been used to the traditional way of running examinations that is, the paper-system as a tool, while a paradigm shift to online system has been introduced in HEIs. Invigilators have been used as tools to curb cheating and academic unfair practice by learners, however with the advent of online examinations new tools need to be put in place to reduce malpractice by learners. On the other hand, amidst the applauding of online exams for efficiency, the students have unraveled issues that need further exploration.

2.2. Teacher and student expectations of online examination

The traditional face-to-face teacher-student interaction got replaced overnight by e-learning, where the students started taking part in the lectures, seated at their homes solely with

the help of their mobile phones or laptops/desktops via internet connection (Gupta et al. 2023). The education system had no choice but to migrate to e-learning platforms without readiness and preparedness posing challenges for both students and lecturers. The study of Garga and Goel (2022) on the perceptions of lecturers and students on online examinations highlighted that online assessments had several benefits over traditional classroom exams, such as the ease of evaluation, reduced cost, time and instant feedback. Similarly, Boitshwarelo et al. (2017) provided evidence that online tests could be used to counteract high workloads of academics and particularly in the assessment and marking of large student groups, while providing students with immediate and quality feedback that contributes to their learning. On the student perspectives, Bhebhe and Maphosa (2020) posits that online assessments offer a chance for students to work effectively without considering distance, disability, or illnesses, though most vulnerable learners are also among those with poor digital skills. Furthermore, Makgakga (2023) found positive student perceptions that made online examinations pleasurable i.e. cost saving, saving on travel time, writing at one's own pace, and space, submitting answer sheets online, and offline.

While online education is expanding due to flexibility and accessibility, it also poses challenges as well. According to Makgakga (2023), difficulty using the invigilator App, noise pollution, network connectivity, and load shedding were the negative perceptions on the usefulness of online examinations. Similarly, Waheeda et al. (2023) disclosed that Maldivian HEIs faced technical difficulties, internet connections and students' lack of basic technological skills as observed by both the students and lectures. On the other hand, Mahlangu and Makwasha (2023) found that lack of internet access, computing devices and the digital skills to access and navigate online assessment platforms being the challenges of online assessments. While most of these studies focused on the challenges brought about by online learning and examination, the current research assessed the use of online examinations in HEIs in the Kingdom of Eswatini. Since the literature is dearth, this research seeks to add literature on online examinations as well as draw strategies that could improve the use of online examinations to enhance quality and credibility of online studies.

2.3. Effective implementation of online examinations

Previous research studies highlight strategies that could be adopted for the effective implementation of online examinations in the face of challenges such as cheating, accessibility

and technical issues. While the strategies adopted by teachers and schools to prevent academic misconduct are different (Liao et al., 2022), Garga and Goel (2022) advocated that schools should start from the design of examination methods. For example, methods such as randomization of questions, progressive assignments, immediate responses or oral presentations, and strategies for integrity (such as integrity policies, which promote a code of honour for students), emphasis on the nature of education, and de-emphasis on grades, will naturally reduce cheating. On the other hand, Bhebhe and Maphosa (2022) argued that the minimized amount of time to take exams, short answer or essay questions, shuffling of test questions, and plagiarism detection software are powerful strategies to curb cheating during online examinations. Meccawy et al. (2021) in their cross-sectional study to examine the perceptions of students and faculty of online assessment practices in HEI during Covid-19 pandemic found that there is a need for a multilevel approach to the problems of cheating and plagiarism, including raising student awareness and ethics, training teachers to detect cheating methods, and institutions activating their code of practice and applying severe sanctions on those who engage in such practices. In view of the previous literature, the current research assessed the strategies that could be adopted for the effective implementation of online examinations in HEIs.

3. Methodology

This study utilised the qualitative approach which allowed the researchers to get insight and access the feelings of the lecturers and students on the use of online examinations. According to Creswell and Creswell (2018), qualitative research can help one comprehend the participants' subjective interpretations of their experiences under circumstances. Participatory Action Learning and Action Research (PALAR) was used in this study, which Wood and Zuber-Skerritt (2013) denotes with 7Cs and 3Rs, as principles namely communication, commitment, compromise, collaboration, competence, critical self-reflection, and coaching operationalized by the concepts of relationship, reflection, and recognition. Hence, the study applied PALAR with students and academic staff to collaboratively produce transformative knowledge through research and learning.

3.1. Population, sample, and sampling procedure

According to Kumar (2019), the study population is a group of distinct species, such as humans, animals, or plants that have similar, shared traits. In this study the population comprised of lecturers and students in four Eswatini institutions of Higher Learning. The study used purposive sampling technique, a collection of various non-probability sampling methods. Rai and Thapa (2015) describe purposive sampling as judgemental, selective, or subjective sampling and dependent on the researcher's judgement in choosing the participants. Similarly, Robinson (2014) asserts that purposive sampling is an intentional selection of informants based on their ability to elucidate a specific theme, concept, or phenomenon. In this study, 15 students and 10 academic staff were selected with purpose since they were information-rich, available and had the ability to articulate opinions from a lived experience. Participants were selected from HEIs that are implementing online assessments in Eswatini.

3.2. Data collection methods

Semi-structured interviews were used to collect data from the academic staff. According to Smith (2014), semi-structured interviews attempt as much as possible to delve into the participants' social and psychological milieu. Kakilla (2021) adds that semi-structured interview can examine the discussions closely and confirm the participants' initial, superficial answers. The researchers tried to gather as much data as they could about the participants' perceptions on the use of online examinations. On the other hand, a focus group discussion, frequently seen as a time and money-effective means of gathering data from a variety of individuals (Scheelbeek et al., 2020), was used for the students. This focus group was made up of students from the four selected institutions. The researchers collaborated whereby one facilitated focus groups as well as the interviews with the other transcribing notes and recording the processes.

3.3. Data analysis

Qualitative data was generated; hence data was analysed thematically; transcribed, coded manually, and categorised to come up with major patterns and perceptions. Through this scrupulous procedure, overarching themes within the data patterns and trends were identified. Thematic analysis streamlined the data as recurring ideas were fused hence allowing for

comprehensible insightful narrative accounts. Common issues were identified as well as main themes summarising all the perceptions that were collected.

3.4. Ethical considerations

The study was carried out strictly in accordance with the ethical guidelines necessary for carrying out research. The researchers informed the participants about the study, what participation entailed, their autonomy as well as reassurance on how they could quit at any time. Confidentiality was ensured in that the participants' information and identity were protected as well as ensuring that the recording and documents kept not accessible to third parties. Another ethical consideration that governed the research is respect for participants. The researchers ensured that there was no awkward power dynamics in that they did not impose their perceptions and beliefs on the participants but treated them with dignity and fairness.

4. Results

The main purpose of this research was to assess the use of online examinations in Eswatini HEIs. The findings of the study are presented using code names to protect the identity of the participants. [L] represents perceptions expressed by lecturers whereas [S] represents perceptions by students. The results of the study questions were presented using thematic analysis.

4.1. Insights of lecturers and students on the use of online examinations

The study sought to find the perceptions of the lecturers and students on the use of online examinations. The themes that emerged are (a) easy to administer and mark, (b) security of examinations is improved, (c) online examinations are flexible, (d) online examinations can promote lifelong learning, (e) it reduces risk associated with traveling, (f) online examinations can promote malpractice among students (examination dishonest), (g) some students and lecturers lack technological skills and (h) poor internet connectivity emerged as a limitation.

Online examinations are easy to administer and mark. The lecturers and students felt that online examinations were easy to administer and mark. This is special so for the objective type of examinations.

Online examinations have reduced our workload as lecturers. All you must do, is setting the examination and giving it to a technician to upload it into the system. The system marks the examination as it is being written. [L3]

Online exams are quicker to administer as there is no preparing of the room and invigilation. [L1]

I think online exams are good because there is no printing of papers thereby promoting a green environment that is advocated by environmentalists. [L7]

From these excerpts, online exams have less work as one does not print papers or arrange venues as in traditional examinations, which presumes that online examinations are useful in this era.

Security of examinations is improved. The participants felt that online examinations improve the security of examinations. This happens only if the technicians can be trusted. Online examinations minimise the number of people handling the examinations. If it leaks, a few number of people are held accountable.

Security is not compromised as there is no need to secure the exams, for example, last year here in Eswatini examination papers for high schools leaked. The source for online exam is one unlike the physical exams which has many sources as papers are distributed to and from centres. [L4]

Secure platforms help in improving the security of examinations and using randomized question papers for each student. [L6]

From these excerpts participants felt that the use of online examinations can help reduce leakage of examinations. This is only possible if those few involved exercise a highly level of professionalism.

Online examinations are flexible. Both students and lecturers liked the flexibility of online examinations. They felt, they are user-friendly than the physical examinations. Some of the participants noted the following.

Online examinations are appreciated for their flexibility and convenience. Students can take exams from any location with internet access, saving time and resources on commuting time to exam centres. Lecturers also have the flexibility to design and schedule exams according to their conveniences. [S5] [S3]

Students find it convenient and beneficial for students to write examinations online because it accommodates everyone especially the working class as they will be able to write exams anywhere in the country without travelling or having to come to the institution. It is also true that online examinations promote diversity because we have students from across Africa to write exams. [L6]

Online examinations can promote lifelong learning. Online examinations help to promote lifelong learning among the working class and everyone.

Online examinations give everyone an opportunity to learn. Some employers can be impossible. Getting off to write physical examinations can be a problem to some students. However online examinations due to their flexibility can be taken anytime and anywhere. [L7]

Online examinations became a great option to everyone who wants to further his or her studies since there is no need to take a study leave from work.

Online examinations reduce risks and costs associated with traveling. Physical examinations need one to travel from home to examination centre putting one at unnecessary costs and risks of being involved in accidents.

Online examinations save us cost of traveling, accommodation, and risks of being involved in accidents while traveling to write physical examinations. [S8]

Though students need to buy data for the examination if they are not on Wi-Fi data cost is better than paying for transport and accommodation. [L9]

Both students and lecturers feel online examinations reduces costs incurred by the students.

Online examinations can promote malpractice among students. Both students and lecturers complained about students' dishonesty in online examinations. They cited that some students may hire another person to write the examination on their behalf while some students may use artificial intelligence. There is also evidence of copying from various sources even in questions that need application.

Online examinations is vulnerable to cheating and copying hence more people can easily acquire too many qualifications which they don't deserve or even receiving qualifications without basic knowledge needed in the industry. [S2]

I think lecturers would feel like online examinations are not effective enough to assess students academically since some students may even research during the examination using certain websites such as Artificial Intelligence. [S4]

With those examinations you might not be sure whether it is indeed the student writing or an imposter. [L8] [L4]

Though both students and lecturers cited some advantages that come with online examinations, they also pointed challenges of producing poor graduates due to various academic misconduct and dishonesty as well as using other people and AI to write the exam for them.

Some students and lecturers lack technological skills. The other challenge cited on the use of online examinations is the lack of technological skills on the part of the students and lecturers.

Students and lecturers may encounter technical challenges when conducting online examinations. Issues like internet connectivity problems and computer glitches can negatively impact the exam experience. [S5]

We both as lecturers and students encounter technical challenges when conducting online examinations. We sometimes face internet connectivity problems as well as computer glitches during examinations which is disturbing and cause panics, anxiety, and stress. [L6]

Technology can embarrass you. Sometimes we submit work that is not complete due to technophobia. [S11]

The participants clearly identified the need for lecturers and students to enhance their digital literacy specially on online learning and examinations.

Technical glitches, poor internet connectivity and load shedding. Most countries including Eswatini experience serious challenges in terms of internet connectivity and load shedding. This can jeopardise the smooth progress of online examinations. Internet connectivity is a serious issue in most rural areas.

There is untimely load shedding in our communities, such that you might find yourself without power in the middle of an exam which will disturb Wi-Fi connections which in turn hinders completion of examinations on time. [S12]

Some of us we stay in rural areas where there is serious internet connectivity. Sometimes I am forced to travel to town when there is an examination to be written. [S10]

Each student has a portal created for them but at times these portals are not updated and in some instances the system can be down and it's a big challenge for us, it is also frustrating. [S7]

The participants described online examinations as associated with unforeseen challenges that can disturb or hinder its successful completion, which are mostly technical in characteristics.

4.2. Strategies for effective implementation of online examinations

The second research question sought to find strategies that can be adopted for effective implementation of online examinations. The following themes emerged: (a) investing on powerful software to prevent malpractice, (b) setting application type of questions, (c) training both lecturers and students online learning, (d) institutions should use reliable internet service providers like star link, (e) open book examinations, (f) improving internet access in all parts of the country, and (g) investing alternative sources of electricity.

Investing on powerful software to prevent malpractice. With the challenges cited by both lecturers and students on the use of online examinations, buying powerful software was suggested. The software will minimise the probability of students copying or using impostors to write for them. Some of the participants had this to say:

Investing on specialised invigilation software with a camera system can help prevent students from copying or using other people to write for them. [L2]

We need more security on online examinations and applications that will continuously inspect the exam room where the student is writing. It will be advantageous to have software that guarantees examiners that students open the exam browser only. I believe it will promote effective assessment. [L1]

They should implement a strong authentication system to verify the identity of the exam takers. This can include multi- factor authentication methods like email verification, SMS verification or biometric authentication. In addition, access control should be enforced to prevent unauthorised access to the examination. [S5]

The participants emphasise the importance of beefing up security using software so that students find it difficult to cheat when writing online examinations.

Setting application type of questions and setting objective examinations. Most of the lecturers who participated in the study felt that setting application type of questions for subjective exams and giving jumbled objective exams will help minimise malpractice.

To deter students from colluding, randomized question banks have worked for us as an institution. You simply create a pool of questions and set the system to randomly select a set number of questions for each different which means that each student will get their own set in a different order meaning that number one for student A might appear as number ten for student B. [L5, L9]

It is also wise to set objective questions for the examinations to avoid students from consulting their browsers as they try to get sources and references for their essays. Objective questions will also be an advantage for me as they will be marked automatically hence give immediate feedback to the student. [L3]

Another effective way is setting application types of essay questions that will make it difficult for students to copy and paste. [L10]

The participants suggest that the examination structure can be enhanced to minimise copying in online examinations.

Training both lecturers and students online learning. Students and lecturers cited technical challenges when using online examinations. They suggested that institutions should first train students and lecturers online teaching and learning so that they can be fluid users of online facilities. This will minimise challenges when writing and marking online examinations.

We really need to move with the times but then the system was just introduced to us without orientation on how we operate the systems, we need coaching so that we can gain confidence. This will help reduce mistakes of sending incomplete work or deleting information before saving it. [S14]

I feel that the college just assumed that we are digitally oriented, yet not all of us can manoeuvre through the exam servers, at first, I panicked as there was no one to help me out with the logging in that I was failing, and the school tech-person's phone seemed engaged as I tried to reach out to him for help. I think if we get to be trained beforehand on the necessary technical skill required. [S9]

We need training on online platforms, I still face challenges with the marking of the essays, and you find that sometimes we might take longer before giving feedback. [L6]

Institutions should use reliable internet service providers like Star Link. One challenge noted from participants is the disruptions of examinations due to poor connectivity. They suggested that institutions should endeavour to use reliable internet service providers like Star Link in Eswatini.

It is disturbing to be cut in the middle of an examination because internet has failed at the server. I suggest institutions must choose reliable internet service providers. [S6]

I find it disturbing that I am forced to set a new examination because the system failed while students writing the examinations. Sometimes students are made to rewrite the same examination. This will promote copying. Investing on a powerful network service provider is ideal. [L7]

With the pressing issues on internet connectivity, the participants urged the need to use a reliable service provider. Examinations need not to be disrupted because of failed network.

Open book examinations. Some participants suggested the use of open book examinations. They felt book examinations are not prone to academic misconduct.

In our institution we use book examinations and objectives type of examinations to reduce the probability of students copying the examination. [L4]

Improving internet access in all parts of the country. Participants complained about poor internet connectivity in some parts of the country. This made it difficult for the online examinations to be administered smoothly. They suggested the Ministry of Information Communication and Technology ensure that all parts of the country are well connected.

They should ensure that the online examination platforms are built on a stable and reliable technology infrastructure which includes having sufficient server capacity, scalable resources, and measures to prevent technical glitches or system failures during the exams. [S9]

Internet service providers like MTN, SPTC should work with the ministry of information communication technology to install boosters in all parts of the country. [L10]

The government in partnership with relevant stakeholders is encouraged to install boosters all over the country to improve internet access.

Investing alternative sources of electricity. The other challenge that was raised was power cuts due to load shedding. Participants suggested alternative sources of electricity like solar systems and generators.

With continued power cuts due to load shedding I suggest institutions, government and individuals must invest into alternative sources of electricity like solar and using generators. [L1, L5]

5. Discussion

This study revealed that administration and marking of online examinations was easier, similar with the research findings of McGee (2013) on the concomitant decrease in resources, increased student to staff ratios and teaching assessment workloads, and Howe (2020) on the reduced workloads of marking and moderation. The use of online examinations reduced time spent on routine work as compared to the traditional paper and pen system. It also emerged from this study that the security of exams was improved, which was also noted by Qpercom (2021) that database encryption is used as a standard with online exams, and Alsalmi et al. (2022) that data could be stored in a single server. Unlike traditional examinations, Nkambule (2023) notes that in Eswatini, The Exams Council preliminary findings showed that the magnitude and extent of the leakage of examinations was not contained or confined to a particular centre or region, with several country-wide candidates suspected to have received contents of some question papers before the examination was written. This study argues that online assessment has higher and tighter security with only one person accountable if leakage occurs.

This study also indicated that online examinations were flexible, finding that resonates with Bhebhe and Maphosa (2020) who assert that online assessments provided an added flexibility in terms of timings, and offers a chance for students to work effectively without considering distance, disability, or illnesses. As it incorporates diversity, online exams are inclusive, non-discriminatory, efficient, and flexible. It was also revealed in this study that online examinations promoted long-life learning. As Satam (2023) noted, online learning has revolutionized education by breaking down barriers as it empowers learners to take control of

their education, promotes life-long learning and ensures that education is accessible to all regardless of their circumstances. It also emanated from this study that there is reduced risk associate with travelling, congruent with Al Rawashdeh et al. (2021) that e-learning allows to observe much flexible learning ways to go for classes with much reduced need for travel.

This study highlights that online examinations promoted malpractice among students. According to Garga and Goel (2022), there are five categories of cheating which include, impersonation, prohibited aids, collusion, plagiarism, and game systems. Bhebhe and Maphosa (2020) argue that a student provided password does not assure them answering their own examination at a remote site. For instance, Liao et al. (2022) highlights impersonation, pretending to be someone else's identity or taking the exam on someone else's behalf. In as much as it essential to find ways in which students cheat, it is paramount to delve into the root causes of this challenge to improve credibility, reliability and validity of online examinations. To address the challenge of malpractice, investing in powerful software and setting application type of questions emanated from this study. These are the similar recommendations of Garga and Goel (2022), who illuminated seven strategies that could be employed to tackle cheating on online exams, namely, examination method, integrity strategy, computer lock, identity verification tool, author identification, proctoring, and data analysis. Investing in powerful software to prevent malpractice emanated as a strategy that could be adopted for the effective implementation of online examinations. For example, students can participate in online exams at home using software such as Blackboard Learn and Lockdown Browser. All these solutions allow more reasonable and valid examinations because these have inbuilt features to prevent students from cheating during online assessments by using third party software (Ali & Dmour, 2021). Similarly, a number of proctoring solutions, including LMS add-ons (e.g., Respondus within Blackboard, Waevaer within Moodle), and other services (e.g., ProctorU), use video, keystrokes, fingerprints, and the like to identify the user during the test. Some of these software solutions provide algorithms that monitor eye movement and other motion to determine if the user is potentially utilizing "off screen" notes, while others track activity arising from the device such as use of internet browsers (McGee, 2013).

The results of the study showed that security of online exams is guaranteed as cases of leaking and malpractice are minimal as compared to traditional examinations. Setting application type of questions emerged as a strategy that could be adopted. Similar to Cheung

(2020), the use of long questions that require application of knowledge or reflection on personal experience for the assessment to avoid setting factual recall questions. Bhebhe and Maphosa (2020) also suggested ways of curbing cheating was the type of assessments that could be administered as well as setup of exams that is, algorithmic test banks, use of higher order questions and well as short answered or essay questions.

Some students and lecturers lacked technological skills, emerged as a negative perception from this study. This is the exact findings of Mahlangu and Makwasha (2023) highlighting that the adoption of online assessment is constrained by a lack of digital skills. These “digital natives” often lack capacity to trouble shoot or cope when technology fails to work as anticipated, or something varies slightly from expected. It is these students who appear to fare worse in these circumstances, possibly due to a lack of having to work out technology on their own and becoming over reliant on what they are “taught” at school (Mate & Weidenhofer, 2021). Similarly, Waheeda et al. (2023) found that some students lacked the required technological skills such as navigating through the systems used for assessments indicating that they needed training to familiarise themselves with online assessment platforms, test formats and the digital tool used. Hence, there is need to bridge the digital skills gap since there is no equity in terms of access and expertise on online exam tools.

The challenges on online examinations that emerged from this study including technical glitches, poor internet connectivity and load shedding emanated are congruent with Mate and Weidenhofer (2021). Waheeda et al. (2023) also reported technical difficulties such as compatibility of students’ computers/laptops with assessment software, and assessment design formats, electricity power failure, bandwidth issues when images and videos are embedded, inherent distrust for technology, and background noise. Hence, this study argues that lack of sustainable infrastructure impedes on the successful use of online examinations. It becomes a disadvantage, unfair and unequal for students from low socioeconomic backgrounds, with slow internet connectivity for timed examinations. Suggestion such as use of reliable internet service providers like Star Link, improving internet access in all parts of the country and investing in alternative sources of electricity emerged from this research. These were already raised in the study of Bashitialshaaer et al. (2021) that obstacles in the effective adoption of electronic examinations include power outages, unreliable internet access and the digital divide. For this, Mahlangu and Makwasha (2023) suggested that adoption and use of

online assessment consider technological factors (internet access, computing devices, and ICT infrastructure), organisational factors (institutional support), environmental factors (academic integrity), and individual factors (digital skills and user perceptions). Therefore, it is vital to prepare contingency plans in case of any hiccups, such as redundant server setups, backup power supply and alternative communication channels to address any disruption during the online examination.

6. Conclusion

The use of online examinations in HEIs has positive and negative implications. While online learning and examinations are becoming popular, HEIs need to embrace the revolution to move with the education 4.0 mantra. Based on the findings, this study concludes that the implementation of online examination requires institutional readiness and capacity. Hence, lecturers and students should be trained and oriented to equip them with the necessary skills to manoeuvre through online learning and assessments platforms. Similarly, HEIs need upgrade on infrastructure to meet required standards and partner with local telecommunication companies to enhance broadband access at reduced rates. With the emerging adoption of digital technology in the HEIs, it is necessary for policymakers to address academic misconduct by drafting relevant policies and procedures.

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