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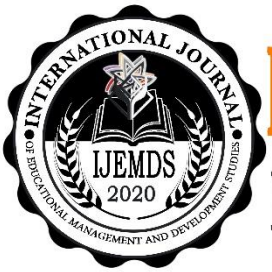

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Exploring the support needs of newly appointed departmental heads: A South African perspective

[1]Michael Moreti Mahome & [2]Lydia Kgomotso Mphahlele

Abstract

Numerous middle leadership researchers in education worldwide have conceded the value and the contribution of Departmental Heads (DHs) in enhancing the achievement of the learners. Yet researches generate insufficient insights on this topic work and on how middle leaders can be supported. Hence, this study deals with the exploration of support needs of newly appointed DHs in three South African secondary schools in District No. 10 (D10) in the province of Gauteng. There is a dearth in literature worldwide on the support needs of newly appointed DHs, more especially in the South African milieu. Lodged within Schlossberg's theory of transition, this phenomenological qualitative study intends to support newly appointed DHs as a point of focus to close the existing gap in knowledge of their support needs. A case study design was chosen where in-depth one-on-one interviews were conducted with nine purposively selected DHs from three schools. Wellington's seven-stage thematic analysis data model was used to analyse data, with the support of Quirkos. The findings indicated that DHs need suitable support in a form of induction that incorporates orientation and mentoring to perform their role. For this, this study suggests that the ministry of basic education take all the newly appointed DHs thorough an induction programme before assuming their role to enable them to effectively lead and manage teaching staff and educational processes. The findings will reshape how the Department of Basic Education view the professional development of DHs.

Keywords: *support-needs, departmental heads, leadership, management, teachers, South Africa*

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About the authors:

[1]Corresponding author. Post-Doctoral Fellow, Department of Primary Education; School of Education, Faculty of Humanities, Tshwane University of Technology, South Africa. Corresponding email: mahomemike15@gmail.com

[2]Senior Lecturer. Associate Professor. Department of Primary Education; School of Education, Faculty of Humanities, Tshwane University of Technology, South Africa.

1. Introduction

Numerous middle leadership researchers in education worldwide have conceded the value and the contribution of Departmental Heads (DHs) in enhancing the achievement of the learners. Some of the DHs key tasks include leading and managing teaching staff, and curriculum management. While researchers (Lipscombe et al., 2023; Lipscombe & Tindall-Ford, 2021; Bassett & Shaw, 2017) maintain that DHs play a significant role in the education sector, primarily as teachers and secondly as leaders, Bryant (2018) emphasizes the enormous prospective for DHs to contribute to their schools more than just subject administration, yet the research base generates insufficient insights on such work and on how middle leaders can be supported to accomplish it. Similarly, Harris and Jones (2017) argue that research attention focused on middle level leadership has faded a little because available literature covered mainly middle leadership roles and responsibilities. While this stance is aligned with, this study argues that there is still a dearth in literature worldwide on the support needs of the newly appointed DHs, more especially in the South African milieu.

Several scholars (Lipscombe & Tindall-Ford, 2021; Jaca, 2021; Cardno & Bassett, 2015; Thorpe & Bennett-Powell, 2014) are in accord, and highlighted that further research is needed to explore the support needs of the DHs. In unison, Harris et al. (2019) call for more empirical work to be commenced to give rise to a critical perspective on middle leadership in schools. Leadership researchers (Chabalala & Naidoo, 2021; Gurr, 2019; Ogina, 2017; Dinham, 2016) further sustain that the paucity in research may as well be attributed to the extensive attention accorded to the principals when it comes to investigating the school management team members. Hence, in expanding the knowledge-base of middle leadership, the current study aimed to delve on the exploration of the support needs of newly appointed DHs to help them overcome the challenges they may face when appointed on the new roles, to mainly capacitate them to effectively lead and manage teaching staff and educational processes. A recent study by Jaca (2021) revealed that DHs also struggled to balance their own teaching and management duties; failure to strike the balance may result in the non-completion of the syllabus, which in turn affect learners' progress and achievement.

According to Madonsela and Proches (2022), Malloy (2017) and Malinga (2016), there is lack of relevant expertise in the subject by the DHs, partially attributed to the nature of the South African system, which does not consider knowledge of all the subjects a teacher will

supervise once promoted to the DH position (Jaca, 2021). This has presented an area where newly appointed DHs may be supported, so that subject knowledge gaps are addressed before reflecting on learners' performance. On that account, the current study aimed to examine strategies DHs employ to cope with the responsibility of managing multiple subjects. Accordingly, Madonsela and Proches (2022) stress that DHs are confronted with diverse challenges such as absenteeism of teachers and lack of resources that render their job difficult. Ali and Botha (2006) suggest professional training according to their observed needs to make them more effective. Therefore, this study posits that support provided to the DHs should not be cascaded from different settings, but instead context-specific to address the uncovered individual challenges of the DHs. Middle leaders are best understood in context (Lipscombe et al., 2023) and school middle leadership is diverse, contextually driven, and important for advancing teaching and learning (Lipscombe et al., 2023).

According to De Nobile (2018) and De Nobile and Lipscombe (2024), contributing to a greater conceptual and theoretical understanding of this topic would seem both urgent and imperative. A view supported by Cranston (2006) and Dinham (2016) who established that the phenomenon under study is being under-researched and under-theorised compared to senior leadership. Furthermore, several researchers worldwide purport a scarcity of research on the support needs of the DHs (Bassett & Shaw, 2017; Bryant, 2018). Hence, this study aimed to address the lacuna by first establishing the nature and the extent of the training received by the DHs. Lodged within Schlossberg (1995) transition theory, this phenomenological qualitative study seeks to support the newly appointed DHs as a point of focus to close the existing gap in knowledge of their support needs. While South Africa is lagging when it comes to development of the knowledge base on middle leadership in schools, countries like the United Kingdom, Hong Kong and Singapore are in the lead (Harris et al., 2019), DHs play an important role in school improvement (Lipscombe & Tindall-Ford, 2021) and understanding their support needs remains imperative. Hence, this study explores support needs of newly appointed departmental heads to effectively lead and manage teaching staff and educational processes in three South African secondary schools in District No. 10 (D10) in the province of Gauteng. The DHs remain the fulcrum within which teaching, learning and management in schools revolve. It is a unique position within the school structure in that DHs act as 'translators' to connect the various elements to the school hierarchy (Nehez & Blossing, 2022). Therefore, failure to

address their support needs may jeopardise educational processes and outcomes. To effectively explore the support needs of newly appointed DHs, the current study was guided by the following research questions.

1) What is the nature and extent of the training received by departmental heads before assuming their roles?
2) What specific forms of support are identified as essential for departmental heads to effectively lead and manage teaching staff and educational processes?
3) How do departmental heads navigate the challenges associated with managing multiple subjects, and what strategies do they employ to cope with this responsibility?

2. Literature review

Newly appointed DHs encompasses those who are still under probation, meaning that they have not completed a 12-month period in those positions as stipulated within the South African Employment of Educators Act 76 of 1998 and the Personnel Administrative Measures (PAM, 2016), as modified. Middle leadership is complex to explain (Gurr & Drysdale, 2013; Lipscombe et al., 2023), hence, the current study adopted the terms departmental head and middle leader to refer to the teachers leading other teachers, and the two terms are used interchangeably.

The vast amount of literature on middle leadership has mainly focused on the roles and responsibilities of middle leaders (Mthethwa, 2016; Gurr & Drysdale, 2013; Bassett, 2016; Buthelezi et al., 2020), and other studies have expanded on the expectations and challenges experienced by first-time middle leaders (Simpson et al., 2016; Mulaudzi, 2019; Kalane & Ramabuda, 2022). There is, however, a burgeoning number of studies that have dwelled on the support needs of DHs, though happening at leisurely pace, and with most emerging from the international front (e.g. Lipscombe & Tindall-Ford, 2021; Nobile & Lipscombe, 2024; Bryant & Walker, 2022; Lipscombe et al., 2023). Due to the limited literature on the subject, the current study also referred to reports that incorporated some elements of DHs support needs even though the current topic was not their focus (e.g. Lipscombe et al., 2023).

2.1. A need for adequate training for new departmental heads

In their seminal study on the development needs of middle leaders in the United Kingdom, Adey and Jones (1998) complained about the training needs of the DHs, indicating

that they are still not being addressed satisfactorily. However, the study expressed the viewpoints of the senior managers with the exclusion of DHs voices. The current study aimed to incorporate the voices of the DHs to unearth their lived experiences, because middle leadership is often the first promotion from teacher to leader (Alexeeff et al., 2024). Another study in the United Kingdom by Thorpe and Bennett-Powell (2014) noted a lack of formal support, induction and mentoring to support DHs in their role, and called for an instant and suitable response by the individual, the school, and the system to provide for the needs of DHs. Similarly, Madonsela and Proches (2022), Gurr and Drysdale (2013), Murphy (2019) and Adey and Jones (1998) contend on induction course for DHs to become familiarised with the position they are in, as they may encounter challenges during the transition. This is aligned with the aim of the current study, to assuage the transition of newly appointed DHs to effectively lead and manage teaching staff and educational processes.

The study of Bryant (2018) delved on the conditions that support middle leaders work, using Hong Kong case studies of secondary schools, and confirmed that middle leaders are not adequately supported to achieve their desired goals. For this, Kavanagh et al. (2021), using exploratory sequential study, suggest the professional development needs of middle leaders in Irish, Education and Training Board (ETB) post primary schools. Similarly, scholars identified managing conflict as an area with the greatest need, followed by time management, self-management and working with other middle leaders. As these issues cannot be addressed by professional development, middle leaders require the support of senior leaders, skills development, and a supportive school culture. In the same vein, and to contribute to a greater theoretical understanding of middle leadership, De Nobile (2018) developed the first Middle Leadership in Schools (MLiS) model, to accomplish a better understanding of the role and to steer further research in this field. The overwhelming source of his literature was the United Kingdom, followed by Australia and the United States of America, from the period 1990 to 2017. The findings from the project further emphasise the organisational factors of principal support and school culture. A view advanced by Nobile and Lipscombe (2024) who called on the New South Wales Department of Education to proactively support the professional development of departmental heads across NSW public schools. Undesirably, an enquiry by Gurr (2019) corroborated that too often DHs did not receive sufficient support from senior leaders, and worked in school structures that hindered their work.

The findings from the literature provide empirical evidence on the need to close the gap on DHs support needs. According to Bush and Jackson (2002), summarising their findings from visiting education leadership centres worldwide in 2001, the Waikato centre in New Zealand regards middle and senior leaders as 'key client groups' but it is not clear how their needs are met, except through voluntary participation in the centre's programmes. Hence, in a thematic review of research of middle leadership in Ireland from 2008-2018, Murphy (2019) contends a necessity to advance and develop the delivery of leadership preparation and development. For that reason, it remains significant to first identify DHs support needs before implementing any intervention and any suggested programme should be informed by DHs lived experiences.

2.2. South African studies on the forms of support for departmental heads

When dealing with a case of natural sciences' DHs in the Gauteng Province of South Africa, Malinga (2016) established that DHs are under immense pressure because they receive inadequate support from subject advisors and principals. Correspondingly, Kalane and Ramabuda (2022), using a mixed-method approach on factors impacting DHs management of teaching and learning at primary schools in South Africa, concluded that DHs should also be trained in instructional supervision to support both learners and teachers in enhancing the quality of teaching and learning. Similarly, Buthelezi et al. (2020), highlighting the quantitative profile on management role of DHs at female-dominated primary schools in South Africa, recommended the need for capacity building programmes so that they could understand their management roles in schools. Buthelezi et al. (2020) suggested the DHs need to attend workshops, in-service training conferences and seminars as a way of keeping themselves abreast of new developments in their subject and teaching methodology.

According to Ogina (2017), the lack of standardised management training in South Africa has led DHs to use different leadership strategies, which is supported by other local studies (Tapala et al., 2020; Mthiyane et al., 2019). On the other hand, Jaca (2021) identified challenges related to the transitioning period from being a teacher to a DH. The strategy-factor of the model embraced for the current study aimed to address newly appointed DHs' coping strategies when they undertake their new roles, to among others, how they navigate the challenges associated with managing multiple subjects.

2.3. International studies on the forms of support for newly appointed departmental heads

Bassett and Shaw (2017) conducted a study in New Zealand schools with the purpose of identifying the expectations and leadership development and support the first-time middle leaders in primary schools were provided with. The results suggest that further development and support of new middle leaders was vital. On a more positive outcome based on DHs support, Gurr (2019) described cases from Singapore, Chile and Australia and suggested that middle leaders are being better supported to adopt genuine leadership roles that impact teaching and learning. The study has brought to light the notion that when DHs are adequately supported to effectively lead and manage teaching staff and educational processes, this will translate to excellent academic accomplishment. However, Gurr (2019) also cautioned that improved outcomes cannot be achieved when principals provide unsatisfactory support to the DHs, since they (principals) have paramount role in backing this support. Therefore, the current study purports that for DHs to become effective and efficient managers, appropriate forms of support are vital from the entire basic education stakeholders, starting at the school level with the executive management team that comprise the principal and the deputy playing a leading role. This corresponds to Kavanagh et al. (2021) that appropriate support is essential to aid newly appointed DHs acquire and develop the skills necessary for the multi-faceted, imperative role.

When teachers are promoted to the DH role, their relationships with former colleagues are affected negatively (Fluckiger et al., 2015; Jaca, 2021; Leithwood, 2016) and they find it difficult to have conversations with their staff about performance (Cardno et al., 2019). While Fleming (2013) suggests that newly appointed DHs in schools need specific form of support and development to maximise their potential, the fact that changing from leading learners to having an official role in leading necessitates a dissimilar set of skills and competences (Kavanagh et al., 2021). As suggested by Fluckiger et al. (2015), middle leaders need to acquire personal strategies to enable them to build rapport with colleagues, to deal with resistance, uncertainty, and varying levels of expertise in colleagues. Similarly, these are addressed in the *strategy-factor* of Schlossberg's (1995) 4S model in providing support to newly appointed DHs on the flexibility of applying coping strategies while adapting to the new position.

2.4. Theoretical framework

Schlossberg's (1995) 4S model to assess transitions into new roles was the framework of the current study. The major sets of factors assessed in this model include; 1) situation, 2) self, 3) support, and 4) strategy (Schlossberg et al., 1995). The model is focused on adults in transition and the assessment of taking charge. Distinctively, the model was considered appropriate to delve into the support needs of newly appointed middle leaders since it provides sets of factors (in the form of 4 Ss) that influence a person's ability to cope in a new leadership environment. The four (4S) major sets of factors identified by Schlossberg are abridged in figure 1.

Figure 1

Touch Community Services: Coping with the new norm (2020)

Situation-factor. The first S, the situation-factor, refers to circumstances and factors surrounding a transition (Schlossberg et al., 1995), and factors to be assessed within this study include the ability of the newly appointed DHs to adapt and lead successfully, role change and appraisal. For instance, DHs new appointment may cause stress that may call for continuous

support from the senior leadership. Thus, Schlossberg et al. (1995) describe a transition as a continuous process of assimilation and appraisal with no endpoints. Musamali (2018) further asserts that the model is based on the assumptions that transitions are continually experienced and reactions to transitions depend on the type of transition, context, and impact. Therefore, newly appointed DHs have entered a new context, where the school culture may hinder their growth, hence this factor (situation) take context into consideration when investigating their support needs.

Self-factor. The second S, the self-factor, assesses factors that include appraising an individual's personal and demographic characteristics as well as psychological resources. This includes among others, stage of life, ego development, commitment, and values (Schlossberg et al., 1995), the self-signified individual characteristics and resources one could access to cope with transitions to effectively and efficiently use available resources to support learners' learning outcomes. As a result of DHs being teachers before the promotion, it is expected of them to take an initiative in propelling their personal growth and development before the external ones. This will only be possible, when necessary, supportive resources, such as time, administrative resources, and human capital (in terms of adequate and suitable qualified teachers) are made available.

Support-factor. Given the purpose of the study, the third S, support-factor, is viewed as the most significant factor of the model. Support refers to the assistance available in aiding an individual DH to cope with transition. According to Bussolari and Goodell (2009), transition processes are characterised by disruption and transition management is critical to ease efficacious adaptation to new situations. Transitioning from being a leader of learners to a leader of teachers must be well-managed by providing consistent and adequate support. This factor was employed to assure transition management by paying attention at institutional and organisational support.

Strategy-factor. The fourth S, strategy-factor, includes assessing a newly appointed DH plan to modify or control the situation by taking direct, information seeking, or intrapsychic action (Schlossberg et al., 1995). Put simply, strategy refers to the DH plan of action to cope with a transition of being a leader, managing self and managing relationships. Effective leadership and management of teaching staff and educational processes within a department are essential for the academic success of the learners and the school at large. In

essence, the model through the *strategy-factor* seeks to assist newly appointed DHs to expand their leadership and management skills when they assume their supervisory roles, and ultimately take complete control of their respective departments.

3. Research Methods

3.1. Methodology

The current study utilised the phenomenological qualitative approach to effectively explore the support needs of newly appointed DHs. Phenomenology is suitable for exploring concepts associated with social and cultural meanings that cannot be easily quantified (Thwala, Ugwuanyi, Okeke & Gama, 2020). Based on phenomenological research approach, the lived encounters of the DHs about their support needs were described by the researchers "based on the participants responses" (Creswell & Creswell, 2018). A case study design was chosen because it enabled the researchers develop an in-depth analysis of more DHs participating in a study (Creswell & Creswell, 2018). It was further deemed suitable for the topic under study since it is a research design targeted at collecting detailed information from a smaller group of subjects (Ugwuanyi, 2023). In this regard, the DHs number in schools is far less than that of the teachers, making the choice of the design more appropriate. As a result, three secondary schools with expanding learners' rolls from D10 were purposively selected as research sites. Due to the high number of learners in the three schools, numerous DHs vacancies were advertised in the Gauteng Provincial Department of Basic Education Vacancy Circular 04 of 2023. Consequently, numerous departmental heads were appointed in the three case study schools, becoming relevant research sites to fulfil the purpose of the study. Moreover, the three schools are near each other.

3.2. Selection of participants

The rationale behind qualitative research is to purposefully select participants or sites that will best help the researcher understand the problem and answer the research question, (Creswell (2009). Subsequently, nine newly appointed departmental heads were purposefully chosen, three from each school. This type of sample does not include any type of random sampling and was based entirely on the judgement of the researchers, in that a sample is composed of elements that contain the most characteristic, representative, or typical attributes of the population that serve the purpose of the study best (Grinnell & Unrau, 2008). A study

may have a small sample size, but the researchers continually returned to the same situation or the same informants, seeking confirmation as accentuated by McMillian and Schumacher (2014). The DHs were selected for inclusion because by the time the current study was conducted, they have not completed a 12-month period in those positions. Again, the newly appointed DHs were deemed relevant participants since they may have experienced challenges upon the transition and assumption of the new role as the carried-out review has suggested. The selected DHs were from various departments (STEM subjects, (science, technology, engineering, and mathematics), Social Sciences, Languages, African Languages, and commercial subjects. This variety brought different perspectives on how the DHs navigate the challenges associated managing multiple subjects and the strategies they employ to cope with this responsibility.

3.*3. Data collection and ethical concerns*

The in-depth interviews questions were prepared guided by the topic under study and the research purpose. This was done prior meetings with the participants. To satisfy that, an interview schedule was created and applied to complete the data collection procedure (Creswell,2014). Although we obtained the gatekeeper permission from the Gauteng provincial Department of Basic Education to access the selected schools, we opted to engage the nine participants in one-on-one interviews at various locations away from their schools. That gave them a sense of protection where they felt comfortable to share their insights on the support needs, without the dangers of being traced or monitored on what they said, (Hlatshwayo & Majozi, 2024). An informed consent form that details the purpose of the study and the rights of the participants was signed before the interviews assume. The participants' confidentiality and anonymity were ensured by using the abbreviated name of the 'departmental head' followed by the number, (i.e., DH1 or DH2). With the participants permission, the interviews were audio-recorded and transcribed verbatim by the researchers. This type of interviews were considered relevant bearing in mind that in-depth interviews are performed with distinctive individuals or a small number of persons (Creswell, 2014). The interviews were conducted in August and September of 2023, this is after the selected DHs received their official appointment letters. The interviews lasted for about 45-60 minutes given the shortcomings of a specific DH. The researchers used member checking to ascertain and confirm some of the participants' intended meanings after data analysis. Hence the participants

were given the opportunity to check, review, and respond to the written product to validate that the findings "were faithful" (Pyrczak, 2013), and to highlight any mistakes made by the researchers. The participants corrected and approved the transcribed interviews.

3.4. Data analysis

Wellington's seven-stage thematic analysis data model was used to analyse data. Wellington (2015) proposed seven stages of thematic and analysis for qualitative data. We adopted the following stages: (1) immersion in the data; we familiarised ourselves with data, so that we formed a general impression of themes or ideas suggested by data, (2) reflecting; we identified the major themes that emanated from data, with the support of simple qualitative analysis software called Quirkos (3) analysing; through member checking we ensured that the identified themes and created categories resonate well with the data, (4) synthesising; generated data cannot make meaning if they stand alone, (Dube, Thulebona & Shawe, 2023), hence, themes were linked to quotations and notes, (5) locating the data; the themes were linked to various scholarly views guided by the model steering the current study, (6) reflecting; we developed a clear argument pertaining to the specific forms of support identified as essential for departmental heads to effectively lead and manage teaching staff and educational processes, and lastly, (7) presenting; we disseminated the findings aligned with the research questions and objectives of the study. Throughout, the analysis was guided by Schlossberg's (1995) 4S model to assess transitions of DHs into new roles. Particularly emphasising the 4 major sets of factors identified by Schlossberg, situation, self, support, and strategies.

4. Findings and discussion

This study explored the support needs of newly appointed DHs, by posing three research questions. Based on the one-on-one in-depth interviews with nine newly appointed departmental heads, three themes emerged from the verbatim replies of the participants. The themes are (1) *the lack of holistic and adequate training for newly appointed departmental heads*, (2) *identified forms of support for newly appointed departmental heads*, and (3) *departmental heads' lack of strategies in managing multiple subjects*. The findings are presented and discussed based on the emergent themes and the categories that are aligned to the research questions.

4.1. The lack of holistic and adequate training for newly appointed departmental heads

The theme entails one question from the interview schedule. The study used the first question to ascertain the nature and extent of the training received by departmental heads before assuming their roles. A largely qualitative collected data revealed that greatest number of the participants did not receive any training prior assuming their new roles. They were thrown into the deep end, starting new and demanding roles without being fully prepared and ready. In line with the framework underpinning the study, most DHs lacked the strategy to take control and cope with a transition of being new leaders. The following statements from the participants confirmed the lack of holistic and adequate training.

> "*I did not receive any training, I just learnt through observation and helping the departmental head before me."* ***(DH6)***
>
> "*I never received any training."* ***(DH2)***
>
> "*I learnt on the job since I received no training, it was a trial and error. All this consequently makes being a DH an almost impossible job especially if you had no training because you tend not to even know how to react to resistance from your team members*." ***(DH3)***
>
> "*I only got the training when I was already in the position, before training I was thrown into the deep the end, and I swam on my own. I would find myself seeking guidance from other experienced DHs."* ***(DH1)***
>
> *"No training in whatever form, remember we were in a new school with no support and expected to excel. We were immediately forced to be leaders, my acting experience from the previous school helped me a lot. Such a situation made me learn about the leadership traits early."* ***(DH8)***.
>
> *"I have been in the position of DH for a few months now, and I have realised that when it comes to training the newly appointed DH, support from the DBE is quite minimal. I agree that developmental workshops for newly appointed DH is another form of support from DBE, however I believe it shouldn't end there."* ***(DH9).***

The findings are not surprising since appraised literature has revealed that the training needs of the newly appointed DHs had been ignored, with senior leadership prioritised. There are many studies reinforcing this finding, for example Shun-wing and Tsan-ming (2014) and

Ng and Chan (2014) observed that there were insufficient training opportunities for middle leaders. Contrary to the experiences of most participants, two participants appreciated the support from the principal and the district subject advisors and the nature of the training they received. They stated the following when probed about training:

> *"The principal did the orientation and made sure I attended new DH trainings. I am also part of the DH support group around the district where we assist one another with challenges and share good practices."* ***(DH4)***

> "*We had workshops offered by the district subject advisors, and they were very informative and helpful, we were trained about our roles and responsibilities".* ***(DH7)***

The nature of the training received by the few participants cannot be conclusively defined since it is not well-coordinated to cater for all the DHs, this is despite all the participants falling under one provincial district. This lack of uniformity is consistent with the findings from a South African study by Ogina (2017) that the lack of standardised management training in South Africa has led DHs to use different leadership strategies. Therefore, the extent of the training received by various DHs remains inadequate to non-existent.

4.2. Identified forms of support for newly appointed departmental heads

Most participants hinted that they were unable to manage the teaching staff and educational processes effectively and need suitable support in a form of induction that incorporates orientation and mentoring to perform their role. Some of the interviewed DHs highlighted the inability to deal with disobliging team members, who unable them to effectively lead educational processes, a finding that is aligned with Kavanagh et al. (2021) on the identified managing conflict as the area where newly appointed DHs needed the greatest support. The theme generated from the findings is discussed along the categories that emerged.

Induction, mentoring and orientation as forms of support for newly appointed departmental heads. The statements from the participants are aligned to Estrict's (2018) definition of induction as 'a formalised programme that often involves mentorship (but is not narrowed to mentoring) and includes a variety of activities for DHs such as orientation sessions, mentorship, collaborative and developmental workshops, and programmes designed

to support and help DHs transition into the leadership setting'. Participants echoed the following statements regarding the forms of support:

> *"A school should have a suitable orientation model for newly appointed DHs."* ***(DH2)***
>
> "A *day or two long orientations, and maybe workshops on teachers' discipline may help*. ***(DH3)***
>
> "*Induction process or a detailed training for newly appointed DHs. Train the new DH on all aspects of their job, such as running departmental meetings and conducting pre and post moderation."* ***(DH5)***
>
> *"I think support should also come in a form of mentoring this newly appointed DH because that form of support will make it easier to adapt to the new position. Support should come to schools, where subject advisors from the district come to schools and mentor these newly appointed DHs on how to conduct or to perform duties in their position. Because in most cases you will find a newly appointed DH who doesn't even understand the tools that have been provided by DBE to use in monitoring their teachers."* ***(DH9)***

The findings signify a need for a holistic approach in supporting the newly appointed DHs, where all the aspects that may bring efficiency in middle leadership are tackled. They believe a thorough induction that takes place before assuming their role and deals with all expectations of their position will enable them to effectively lead and manage teaching staff and educational processes. An outcry by the newly appointed DHs for a suitable induction is in line with the support-factor of Schlossberg model, since there was no formalised assistance available in aiding majority of the DHs to cope with transitions and ease successful adaptation to new situations. Furthermore, a need for induction for newly appointed DHs is consistent with vast literature assessed (Madonsela & Proches,2022; Gurr & Drysdale, 2013; Murphy, 2019; Adey & Jones, 1998) where authors contend that DHs should ideally attend an induction course to be familiarised with the position they are in, as they may encounter challenges during the transition. Induction has a potential of preparing the newly appointed DHs for the expectations and challenges that lies ahead.

In-school support for departmental heads to effectively lead and manage teaching staff. In South Africa, the school management teams are responsible for the provision of leadership development and management in schools. Most participants revealed the

significance of in-school support for them to effectively lead and manage teaching staff and educational processes. However, one participant complained about the lack of in-school support from the school management team. This is despite regarding them as an immediate structure to enhance their growth and development.

> *"I need support from the principal and the deputy, its essential for my growth and development. United SMT will ensure that I will be able to effectively lead and manage teaching staff and educational processes."* ***(DH4)***
>
> *"Deputy principals should offer support to HODs."* ***(DH7)***
>
> *"The SMT should skill us on how to be professional and deal with teachers, but they are not doing that. They must afford us the due authority to lead so that we feel empowered and confident in doing our work."* ***(DH1)***
>
> *"I need to be supported on how to manage people and the rules around here*." ***(DH6)***

In the view of the majority participants, and in line with the support-factor of Schlossberg's model, in-school support precisely from the principal, deputy and experienced DHs is essential and may play a profound role in developing and capacitating newly appointed DHs. They view these senior leaders as a beacon of hope when it comes to the fulfilment of their support needs. The expression of the lone participant regarding the lack of in-school support resonates with Gurr's (2019) investigation that found too often DHs did not receive sufficient support from senior leaders, and worked in school structures that hindered their work. In line with the self-factor, the institutions under scrutiny are compelled to assist the newly appointed DHs with the resources they could access to cope with transition. Support management team and supportive school culture are essential in the development of competences of newly appointed DHs. The lack of adequate in-school support does not only affect DHs growth and development, but also contribute negatively to learners' academic achievement. This may further lead to DHs lack of confidence in executing their responsibilities.

Support from the district and the subject advisors. The participants see the support from the district and subject advisors as essential, however, expressed different views on how the support is cascaded to respective schools. The participants divulged the following statements:

> *"The district's strategy of monitoring schools must be changed, they only focus on the curriculum, nothing about the well-being of the DHs. Holistic support is needed."* ***(DH8)***

> "*The support from the district is far and between. Its erratic. They always make last minute demands of details and information. They force us to implement baseline tests, whose time is not allocated on the Annual Teaching Plan."* ***(DH2)***

> "*Content related support yes, but leadership and administration no. I was expected to submit things I have never done in my whole life. It was challenging."* ***(DH3)***

> *"I argue that the support the district is providing should be scrutinised because it is very minimal and sometimes not enough to support the newly appointed DHs."* ***(DH9).***

In contrast, ***DH4*** and ***DH5*** presented different views in relation to the provision of support by the district.

> **"***The support from the district subject advisors is adequate as they always monitor and give support where necessary."* ***(DH4)***

> "*My subjects advisors are very helpful and approachable for assistance."* ***(DH5)***

The provision of support from the district is viewed as multi-pronged, since varying units within the district offer different services to schools, that include among others, units responsible for the development of the teaching staff and the curriculum and assessment respectively. The participants expressed different views in terms of the support provided by the district. Most participants highlighted the support as being inadequate particularly in supporting them on how to improve in leading their teams and executing some administrative functions. DHs need to be provided with support on how to lead and manage teaching staff so that they acquaint themselves with strategies for working together with colleagues. This is the essence of Schlossberg's Transition model through the strategy-factor that seeks to assist newly appointed DHs to expand their management skills when they assume their supervisory roles. In addition, several participants acknowledged the enormous support provided by the subject advisors in relation to curriculum development and how to manage assessment. This is contrary to what literature has revealed, where Malinga (2016) established that DHs were under immense pressure because they received inadequate support from subject advisors. This study deduced that the type of support given to the DHs is not well-coordinated and focused more

on the curriculum instead of providing an all-inclusive approach based on the needs of the position and mainly the needs of an individual DH. Striking a balance and uniformity may assist all the newly appointed DHs in the district to effectively lead and manage teaching staff and educational processes.

4.3. Departmental heads lack firm strategies in managing multiple subjects

The DHs did not present firm strategies on managing multiple subjects, instead, majority of them navigated the challenge by handing over responsibilities to other departmental members. Indicative of lack of knowledge on all the subject they are heading, one DH navigated the challenge by capacitating themselves by reading the subject related materials. Some further raised concerns about the number of teachers they are leading since it has brought an extra responsibility. Their concerns may be aligned with the situation-factor of the model steering the current study that confirmed the inability of the newly appointed DHs to adapt and lead successfully after the role change. The following statements confirm the assertion:

> **"***I'm unable to deal with multiple subjects under my belt. But I have learnt how to navigate the challenges by attending subject workshops and reading any materials that has to do with the subject, so that I cope with that responsibility"* (***DH5)***
>
> **"***Yes, I am largely managing although I cannot fully be an expert on both subjects. The challenge is the roles that one must fulfil as a DH such as class visits and monitoring of learners' books."* ***(DH3)***
>
> "*I am not coping with the responsibility because I was appointed to lead two subjects, but now I'm leading three with 9 teachers."* ***(DH4)***
>
> "*I am coping with the subjects I'm managing. The problem is the number of teachers in my department. Hence, I suggest that upon getting a DH post, the school should be allowed to reallocate posts to suit the pool of subject specialisation among different DHs. One DH is managing one teacher in geography, and I am managing eight teachers in mathematics."* ***(DH2)***
>
> *"I am managing life sciences, natural sciences, and technology; hence I have delegated two of the subjects to senior teachers within the department to be responsible for their overall management and they can rotate per term. Afterall life sciences is my only major subject."* ***(DH7)***

> "*I survived by delegating the work to various teachers who may be able to render such services, particularly the curriculum section."* ***(DH9)***

> **"***I appointed someone from my department who was teaching grade 12 to become English subject head. I was overseeing him without the principal's knowledge, and where he was unable to set test question papers, I came in to assist. I also encouraged him to attend subject meetings on my behalf so that he understands the subject management side, whilst my focus was on Life Orientation."* ***(DH8)***

The findings confirmed that most DHs do not have the knowledge of all the subjects they are heading, hence they are unable to cope with the responsibility. This finding is consistent with Jaca (2021) and Malinga (2016). Some also raised concerns about the number of teachers they are leading, contending extra responsibility in terms of personnel management compared to their counterparts. Thus, they are finding it difficult to adapt, effectively lead and manage teaching staff and educational processes, making the transition more challenging. DHs need support in all the subjects they are heading, starting with the self-development, followed by in-school support and district support to navigate the challenges. The reason being, in South Africa, DH posts and all promotional posts are accorded to schools based on the Post Distribution Model sanctioned by the DBE (PAM, 2016). The model is based on the principle that available posts are distributed among schools, proportionally to the number of weighted learners (DBE, 2002). Therefore, this study maintains that DHs will forever face the challenge associated with managing multiple subjects given how teaching posts are being distributed, including the provision of new DHs posts.

5. Conclusion

The significance of exploring the support needs of newly appointed departmental heads has been demonstrated throughout the current study. The nature of the training received by few participants cannot be conclusively defined since it was not well-coordinated to cater for all the DHs, and this is despite all the participants falling under one provincial district. Therefore, the extent of the training received by various DHs remains inadequate to non-existent. For this, the current study suggests that the ministry of basic education provides newly appointed DHs with an induction programme before assuming their role so they can deal with all expectations of their position to effectively lead and manage teaching staff and educational processes. The school support from the principal, deputy and experienced DHs remains essential and may play a profound role in developing and capacitating newly appointed DHs. The lack of adequate in-

school support does not only affect DHs growth and their development, but also contribute negatively to learners' academic achievement. Therefore, support from the district should be equally distributed because the same subject advisors are serving the schools under investigation. Furthermore, the forms of support identified by the study must be well-planned to provide an all-inclusive approach based on the needs of the position and mainly the needs of an individual DH. The DHs did not present firm strategies on managing multiple subjects, instead, majority of them navigated the challenge by handing over responsibilities to other departmental members. Indicative of the lack of knowledge of all the subjects they are heading, DHs need support in all the subjects they are heading, starting with the self-development, followed by in school and district support to navigate the challenges. If not, the quality of education discharged by some secondary schools will remain compromised.

This study hopes that the findings will reshape how the DBE view the professional development of DHs. Moreover, they may inform the development of a suitable induction programme for DHs. Bearing in mind the conclusions illuminated, the current study concedes certain limitations. A limited sample size of nine participants, from three case secondary schools was utilised, and although the findings can be transferred to other districts within the Gauteng province, they cannot present the entire impression of the situation countrywide. Therefore, further research may include primary and special needs schools with a larger sample size to achieve a more precise depiction of the target population and enhance understanding across school locales. Furthermore, a mixed method study is suggested, to gather both in-depth and statistical representations of departmental heads support needs.

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ORCID
Michael Moreti Mahome - https://orcid.org/0000-0002-6034-5188
Lydia Kgomotso Mphahlele - https://orcid.org/0000-0002-3643-0833

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Student engagement in higher education: Lecturers' perspectives

[1]Nirashnee Padayachee, [2]Dipane Hlalele & [3]Flip Schutte

Abstract

This article, a stepping stone for further research, explored lecturers' perspectives on student engagement at a higher education institution (HEI). This qualitative case study was based on an interpretivist paradigm and Schindler's conceptual framework on behavioural, emotional and cognitive indicators. A purposive sampling technique was applied to select eight lecturer-participants presently teaching compulsory modules in the initial year of the teacher education programme at a HEI in KwaZulu-Natal, South Africa. A narrative interview, discursive informed conversations, and an open-ended questionnaire were used to generate data from all the participants. A thematic data analysis technique was employed. According to the findings, lecturers at the HEI understand student engagement as participation, which entails being interactively and meaningfully involved during lectures. This includes collaboration, co-construction, interaction, and metacognition. Considering the conclusion and the results, this study paves the way for further research that explores active participation through digital pedagogy. Such research is recommended to provide further insights into student engagement and inspire more contributions in this area.

Keywords: *active participation, collaboration, co-construction, interaction, metacognition*

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About the authors:
[1]Senior lecturer, Stadio Higher Education.

[2]University of KwaZulu Natal

[3]Corresponding author. Dean of Research and Head of the Institute for Postgraduate Studies, Stadio Higher Education.

1. Introduction

Student engagement, a topic of constant evolution, is a widely researched area in education due to its association with success and achievement. It has become integral to teaching and learning, which should be prioritised in higher education (Alli & Hassan, 2018). Since active student engagement is crucial for enhanced student academic performance in the twenty-first century (Witowski & Cornell, 2015), one needs to consider that student engagement is also evolving with the changing times and the rapid advancement of technology. This dynamic nature of student engagement presents an intriguing challenge, necessitating ongoing research to explore the current trends for engaging students meaningfully to attain successful outcomes. According to Quaye et al. (2019), the concept of student engagement has travelled across the landscape of higher education for many decades, and institutional leaders and policymakers have prioritised it as the main driver for college academic success. Although it is evident that active student engagement plays a significant role in academic success, it has since become redefined, given the changing landscapes in education.

In the past, student engagement dealt mainly with participation and involvement, but emerging research reveals that it has become multi-dimensional, multifaceted, and complex. Accordingly, student engagement has now become conceptualised in multiple ways across diverse research fields and disciplines (Gurcan et al., 2023). In support, Du Vivier et al. (2018) claim that engagement has continually been redefined in current studies to make student engagement more understandable. In the past, student engagement has been defined as "*students' willingness, need and desire to participate in and be successful in the learning process*" (Gray & DiLoreto, 2016, p. 2). Furthermore, Mathews et al. (2016) state that student engagement is explained according to the constructivist perspective, which states that the individual's active participation influences learning in educational activities. Thus, it is evident that past definitions use the terms *involvement* and *participation* interchangeably. However, recent literature affirms that student engagement is complex, multifaceted, and multidimensional (Wu & Ouyang, 2024). For example, it is argued that student engagement is multi-dimensional, fluctuating, context-dependent, and interactive (Heflin et al., 2017). Comparing the past and present definitions, student engagement has become more complex over time. Hence, the current complexity of the concept of student engagement has demonstrated a need for ongoing research as this is an evolving phenomenon.

The problem this study addresses is the need to understand how lecturers perceive and interpret student engagement within higher education institutions (HEIs), specifically focusing on the initial year of teacher education programs. Given the crucial role of student engagement in academic success and the evolving dynamics of higher education, there is a gap in knowledge regarding lecturers' perspectives on engagement and how these perceptions can inform and enhance teaching practices. Additionally, with the increasing integration of digital pedagogy, there is a necessity to explore how active student participation can be fostered through digital means. Thus, this article argues that student engagement is complex, multifaceted and challenging to measure because of the variety of dimensions and indicators. This article evaluated how the lecturers in the initial year of teacher education programs at a higher education institution in KwaZulu-Natal, South Africa, perceive student engagement. In addition, it identified the key indicators of student engagement based on Schindler's conceptual framework on behavioural, emotional, and cognitive indicators as well as the teaching strategies employed to enhance student engagement. The study aims to fill the gap regarding a comprehensive understanding of lecturers' perspectives on student engagement and identify effective strategies for fostering engagement through both traditional and digital pedagogical approaches.

2. Literature Review

According to Angelle (2018, p. 38), "*the most critical shift during the past twenty years has been a move away from a conception of learning as passive absorption of information to a conception of learning as the active engagement of meaning.*" This confirms that there has been a shift in learning processes, which was also evident in the definitions of student engagement presented in the past. It is, therefore, beneficial to examine the concept of student engagement over the years to understand how it has transformed and shifted to being more complex, multidimensional, and multifaceted.

2.1 Student Engagement is Multifaceted, Multi-Dimensional, and Complex

Varga (2017) contends that student engagement reveals a student's interest and attention in academic-related activities, participation in educational activities through independently working on subject assignments, contribution to discussions during lectures, working on a learning task with peers, and a desire to participate in the learning experience as

a whole. Bowden et al. (2019) agree that it is a multi-feature construct that includes resilience, effort, and persistence when confronted by obstacles (vigour) - in addition to passion, inspiration, and pride in academic learning (dedication). Further, Peters et al. (2019) observe that there has been increasing attention toward a more comprehensive understanding of student engagement over the past decade. It has also associated with the interaction between time, effort, and other closely connected resources invested by both students and their institutions, which were intended to optimise the student experience to enhance learning outcomes. Hence, it is evident that the literature associates student engagement with positive educational outcomes, a beneficial construct in higher education environments.

Student engagement involves desirable student behaviours such as regular attendance, undivided concentration, and interactive participation, as well as establishing the psychological experience, which entails displaying emotions that one is cared for, respected, and part of the institution (Olson & Peterson, 2015). From experience as a lecturer, most colleagues depend on these observable indicators to gauge whether students are meaningfully engaging. Therefore, engagement has been associated with being active, attentive, interested, effort-driven, and motivated (Cronin, 2019). Additionally, it refers to the curiosity, optimism, and passion students demonstrate when learning or being taught. This extends their motivation level to accelerate their academic education progress (Dary et al., 2016).

The concepts of student engagement focus on students who are enthusiastic about learning. They look for specific indicators like facial expressions, those eager to respond to questions, those who follow guidance, and those who ask in-depth questions. According to Pather et al. (2017), when students are focused and gainfully engaged, they can work autonomously, develop positive, constructive peer relationships, feel competent to succeed and make legitimate knowledge claims. Empirical evidence showed many indicators; some are observable, whilst others are not. Based on the variety of indicators that promote positive student engagement, this phenomenon may be confirmed as multifaceted.

Table 1 outlines the myriad indicators for measuring student engagement, which can be divided into three categories. Such various indicators make this phenomenon complex and multifaceted, which is not always simple to measure. In addition, with the changing landscape in the education field, student engagement indicators also evolve and increase in number.

Table 1

Indicators of student engagement (Bond & Bendlier, 2019, p. 3)

Cognitive engagement	Affective engagement	Behavioural engagement
Purposeful	Enthusiasm	Effort
Integrating ideas	Sense of belonging	Attention/focus
Critical-thinking	Satisfaction	Developing agency
Setting learning goals	Curiosity	Attendance
Self-regulation	Sees relevance	Attempting
Operational reasoning	Interest	Homework completion
Trying to understand	Sense of wellbeing	Positive conduct
Reflection	Vitality/zest	Action/initiation
Focus/concentration	Feeling appreciated	Confidence
Deep-learning	Manages expectations	Participation/involvement
Learning from peers	Enjoyment	Asking teacher or peers for help
Justifying decisions	Pride	Assuming responsibility
Understanding	Excitement	Identifying opportunities/challenges
Doing extra to learn more	Desire to do well	Developing multidisciplinary skills
Follow through/care/thoroughness	Positive interactions with peers and teachers	Supporting and encouraging peers
Preference for challenging tasks		
Teaching self and peers' positive attitude about learning/values	Teaching self and peers' positive attitude about learning/values	Teaching self and peers' positive attitude about learning/values
Use of sophisticated learning strategies		Time on task/staying on task/persistence
Positive perceptions of teacher-support		

While most research refers to multi-aspect constructs when defining student engagement, other definitions allude to the dimensions of this phenomenon. The variety of

definitions converges to disclose three interrelated facets: cognitive, behavioural, and affective engagement, which further elaborated by Alcine (2019) to three interconnected dimensions (emotional, cognitive, and behavioural) pertaining emotional or affective dimension to interaction with teachers, school staff, other students, and the institution. On the other hand, the behavioural dimension highlights students' involvement in academic and social activities while cognitive dimension comprises the psychological and cognitive aspects. Angelle (2018) contends that although there is no definite consensus on a concise and uniform definition, student engagement can often be described as a complex psychological concept of different dimensions which involves behavioural, emotional, and cognitive elements – all of which are linked to feelings of belonging, enjoyment, and attachment.

Since student engagement is challenging to quantify, researchers like Angelle (2018) maintain that there are many aspects to consider when measuring student engagement at HEIs. Generally, student engagement is widely used in teaching and learning environments to explain students' behaviours. However, researchers have indicated that the definition of student engagement is still too broad, and there is no consensus on its exact meaning, measurement, and definition (Nguyen et al., 2018). After perusing the different interpretations of this concept, it became apparent that attention is drawn to the positive indicators. However, empirical evidence showed many indicators. Hence, the conceptualisation of engagement has three categories (cognitive, behavioural, and emotional), which researchers find helpful when they recognise that students engage in different and complex ways. The complexity of conceptualising student engagement assists in gaining a deeper insight into this phenomenon. However, it has become somewhat enigmatic for lecturers, educators, and researchers concerning ongoing conversations about its nature and evolution. Therefore, it is necessary to comprehend this phenomenon by exploring it continuously due to its complexity.

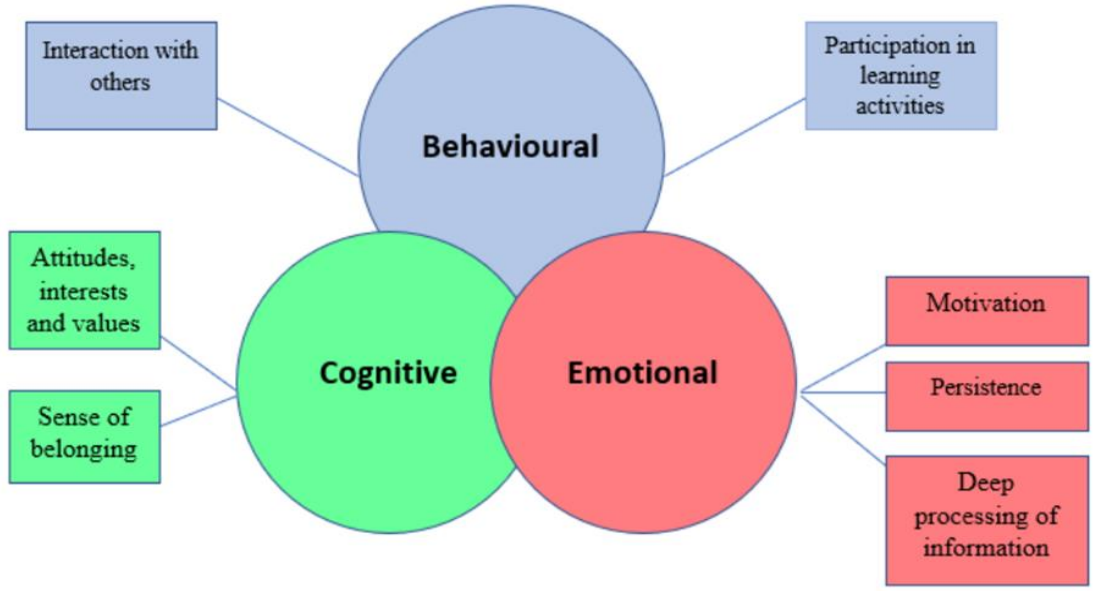
3. Conceptual Framework

This article investigated the lecturers' perspective on student engagement at a higher education institution. As discussed in the literature review, there are three dimensions or categories of student engagement (i.e. behavioural, cognitive and emotional), each with its defining characteristics. However, Schindler (2017) mentions that while each dimension of student engagement has distinct features, there are standard features across the dimensions.

The conceptual framework in figure 1 shows the indicators for identifying each dimension. It is one of the current student engagement models, which displays behavioural, emotional and cognitive indicators and outlines how it has been conceptualised, with each dimension exhibiting specific indicators that correspond to the characteristics of the type of engagement (Schindler et al., 2017). With the concept of student engagement having a variety of indicators, it is beneficial to conceptualise it as it assists in gaining a better understanding. Since the topic was broad and complex, this study's conceptual framework was a prerequisite for acquiring an in-depth understanding of the phenomenon.

Figure 1

Conceptual framework and indicators of student engagement



Source: Schindler et al. (2017, p. 27)

Behavioural dimension and indicators. Behavioural engagement is the extent to which students are gainfully involved in learning activities, as observed in their interaction and participation (Schindler et al., 2017). The literature review showed that most teachers or lecturers measure student engagement based on the behavioural component, which is more observable via interaction and participation. Although behavioural engagement is observable, student participation and interaction require cognitive and emotional involvement to achieve one's aims and objectives (Frymier & Houser, 2016). Therefore, it is evident that there is commonality across the dimensions of student engagement.

Emotional dimension and indicators. There is a link between emotional reactions and learning, which can be noticed in attitudes, interests, and values (Schindler et al., 2017). The motivation and persistence of the student largely determine emotional engagement. To determine which goal in one's life is active and being pursued, there must be some yardstick to measure this. One's goal is activated when one wants to learn more about a new topic and attempts to reach this goal. The motivation that drives an individual is influenced by various factors: the choice of pursuit, the intensity of their effort, and the persistence in achieving one's goals. Motivating people to learn not only influences what they learn but also increases their level of intensity and length of engagement in learning activities (Vollmeyer & Rheinberg, 2000).

Cognitive dimension and indicators. Cognitive engagement is the extent to which students invest in their learning and the mental effort injected to master the prescribed content (Schindler et al., 2017). In terms of indicators, this could include motivation to learn, the ability to overcome challenges, critical thinking and self-regulated learning**.**

Although there are different indicators for each dimension of student engagement, there are instances where an indicator could have characteristics similar to more than one dimension (Schindler et al., 2017). However, the literature only mentions the dimensions evident in the conceptual framework. This study intends to discover other dimensions that may appear in the research findings. Since the landscapes of education constantly fluctuate, the researcher aims to explore each of these dimensions of student engagement comprehensively. While gaining a deeper understanding through the conceptualisation of student engagement is essential, the theoretical framework also sets the foundation for how this knowledge can be thoroughly understood. Hence, the theoretical framework underpinning this study will guide the research processes to analyse this complex phenomenon concerning student engagement.

4. Methodology

This research adopted a phenomenological qualitative approach by doing in-depth interviews with participants (Cohen et al., 2018). The interpretivist paradigm and a descriptive case study strategy were applied to conduct this study. Descriptive case studies involve narrative accounts of real-life situations that lend themselves to the researcher's data collection methods. Moreover, the case study strategy follows interpretive research traditions, which

narrate the story from the individual's perspective (Cohen et al., 2018). Data generation methods are aligned to how information and the type of explanations are elicited (Paradis et al., 2016). For this study, the researcher used discursive conversations and discussions, narrative interviews, and open-ended questionnaires as data collection techniques. The sample in this study consisted of eight lecturers who presently facilitate compulsory modules at one higher education institution. The rationale for selecting these eight lecturers was that the initial teacher education programme lasted four years. Hence, one lecturer from each student cohort was chosen. The Intermediate and Foundation Phases also offer the initial teacher education programme. Hence, four lecturers from each phase were voluntarily chosen as each has different compulsory modules. Also, lecturers who teach compulsory modules were chosen as they receive the full complement of students. Table 2 outlines the participants' profiles.

Table 2

Summary of sample size

Role	Cohort	Phase	Gender	Experience (in years)
Lecturer 1 (L1)	First year	Intermediate Phase	Male	5
Lecturer 2 (L2)	Second year	Intermediate Phase	Male	6
Lecturer 3 (L3)	Third year	Intermediate Phase	Female	6
Lecturer 4 (L4)	Fourth year	Intermediate Phase	Female	5
Lecturer 5 (L5)	First year	Foundation Phase	Female	3
Lecturer 6 (L6)	Second Year	Foundation Phase	Female	14
Lecturer 7 (L7)	Third Year	Foundation Phase	Female	9
Lecturer 8 (L8)	Fourth Year	Foundation Phase	Female	6

Table 2 provides information on lecturers facilitating compulsory modules in the initial teacher education programme in the Foundation and Intermediate Phases at a HEI. They were selected (with all ethical protocols observed) based on their suitability and willingness to participate in the study and were subjected to participation involving all three data generation methods.

To ensure a rich, descriptive data analysis, the researcher chose thematic analysis to dissect the data elicited from the participants. Thematic analysis assisted in identifying, analysing, and reporting patterns (themes) concerning the transcribed data (Braun et al., 2019).

In comparison to other methods, it was advantageous in that it accurately organises and describes data comprehensively. Research themes indicate attributes, descriptors, elements, concepts, and grouping of ideas in a way that helps researchers to answer research questions (Vaismoradi et al., 2016). Braun et al. (2019) add that the thematic analysis technique provides a detailed account of the complete data set. When the data generation and transcription were completed, the researcher coded the data according to common themes within the data set. Once the data was coded, the themes were divided into sections aligned to the research questions.

5. Findings and Discussion

After the data analysis and interpretation processes, the findings emerged. The research question examined lecturers' perspectives on student engagement at a higher education institution. Four themes emerged from the data elicited from narrative interviews, discursive informed conversations, and open-ended questionnaires. These themes were active participation/involvement, collaborative and co-constructive relationships, interaction, and metacognition.

5.1 Active Participation/Involvement

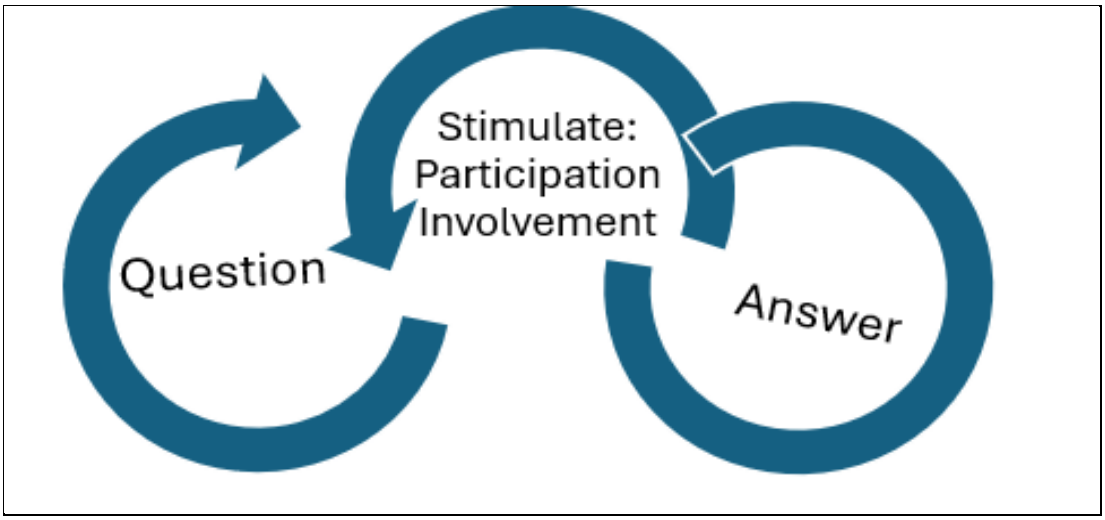
Participants were prompted to share their understanding of student engagement during the narrative interviews and discursive conversations. The following responses emerged:

L2	So, I would say student engagement has to do with how I relate with students in terms of engaging with them, with the materials, the activities, and everything related to the module that we put out there for them. So, I regard it as active participation in the learning process where students are not just passively participating because they must tick all the boxes to meet the criteria for certain subjects or modules. However, students actively and intentionally become involved in the learning process.
L4	I think the most basic definition would be students being able to get involved, not passively but actively, in their learning process, where you are not lecturing to them.
L5	To me, student engagement would be active participation, feedback, and even asking questions about something they do not understand, whether they are typing it out or just putting their hands up in the venue and asking a question. I think when students engage in the lecture, they try to understand the content of the lecture. That, to me, is student engagement.
L3	Student engagement involves students being active in the lesson. This may involve responding to questions and sharing views on the lesson's content. Perhaps they could teach or facilitate a part of the discussion or even present the content as group work and answer other students' questions while the teacher facilitates.
L4	Student engagement means students play a meaningful role in learning. Students become active participants and co-constructors of knowledge and not merely passive recipients.
L5	My understanding of student engagement is when students are actively involved in the lecture or lesson.

The study's findings revealed that lecturers' perspectives of student engagement at the HEI involve active participation by students in the learning activities. In other words, they ask questions and get interested in ensuing discussions. It was noted that the words *participation* and *involvement* were used interchangeably. The findings were congruent with Angelle's (2018) contention that there is a significant migration in the interpretation of student engagement: learning is no longer the passive absorption of information but a process that involves interactive and meaningful participation. Most participants recommended that students become more actively involved or engaged in lessons by asking relevant and critical questions to stimulate class discussions.

Figure 2

Question and answer as active participation



Similarly, Varga (2017) suggests that student engagement highlights a student's attention and interest in academic activities, and this occurs by participating in learning activities, independently and collaboratively working on class assignments, contributing to class discussions, working harmoniously on learning tasks with peers, and the willingness and zest to participate in the learning process. The findings confirmed that students who actively participate by demonstrating engagement through activities such as discussions and answering questions display sound behaviour patterns. Wang et al. (2016) agree that sound and relevant behavioural engagement includes asking and answering questions, interactive participation, and persistence to succeed. Whilst the findings resonate with improving student involvement and active participation in lessons, they also raise the question of how this will be measured

using online technology and platforms considering the transition of higher education institutions to online spaces.

5.2 Collaborative and Co-constructive Relationship

Participants indicated via their responses that student engagement is a bi-directional collaborative relationship involving joint co-construction of knowledge. In other words, both the student and the lecturer are responsible for engagement in terms of co-constructing knowledge. The responses follow:

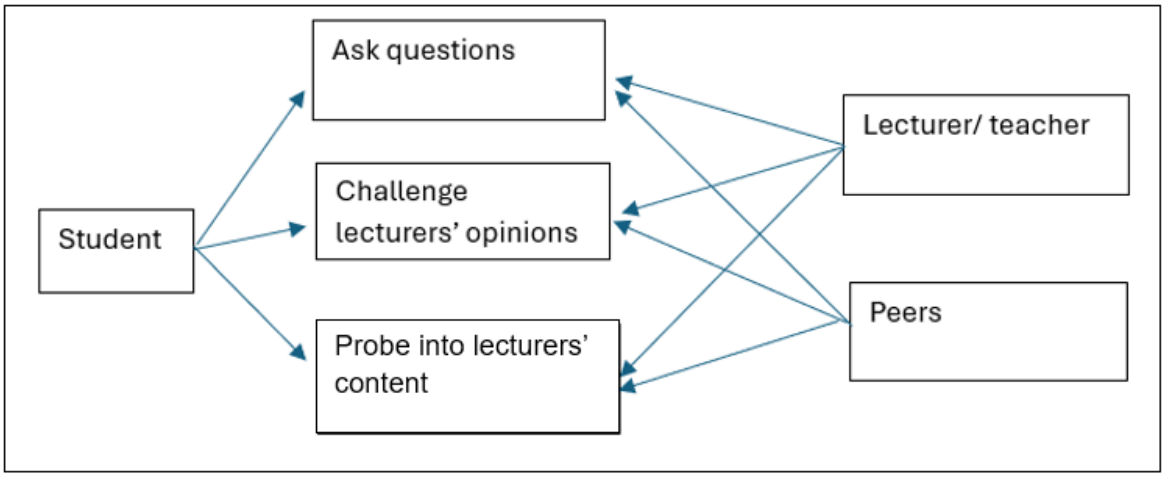
L3	Genuine interaction revolves more around collaboration when I work with my students to problem-solve something to discover answers. Then, I realised that we had moved onto an online platform. Even though many struggle with interacting and engaging with their students, I find that by using digital tools, I am learning and collaborating with my students because they are helping me understand the tool. I am learning to use it better because of it.
L4	It becomes more of a collaborative space. Students engage with the material because they are co-constructing knowledge with you, so it becomes a very engaging endeavour, an active process where they are involved as participants. I think that is what student engagement means.
L5	It is not a one-way, unidirectional flow of knowledge from the lecturer to the student. However, the flow is much more two-directional, where they are actively engaged by responding to you, and you are providing clarity and feedback. I think this is what makes our job exciting, especially when these responses are unexpected and challenging. However, you have to respond knowledgeably. So, I think that this kind of cycle of engagement makes my job full of joy, especially when challenged. I enjoy it in the classroom when students challenge my ideas or even the material they are studying. Thus, together, you co-construct new knowledge or get a clear understanding of the module's content. Moreover, I would say that that is really what engagement is: a co-construction of knowledge, where it is not a unidirectional flow from the lecturer to the student, but together, you are negotiating your way through whatever material you are working through. You determine how it can be understood and applied in a particular context and how it can be utilised in the classroom based on what content you teach them on a particular day.

The findings also revealed that student engagement is a collaborative relationship that involves the co-construction of knowledge. In other words, the student and the lecturer are responsible for engaging in relevant discourses to construct new knowledge. This implies that student engagement is a bi-directional relationship between the student and the lecturer. This

implies that students ask questions, challenge the lecturers' opinions, or probe into aspects of the lecture's content. This is consistent with Zepke's (2014) study, which found that emotional engagement is about reactions to and relationships with teachers, classmates and administrators who encourage a love for learning via discussion. Similarly, Davis et al. (2012) mention that emotional engagement has more to do with students' pleasant and unpleasant emotions, which relate to the quality of relationships with teachers, peers, and the institution, rather than the feelings they express during learning activities. Moreover, Madland and Richards (2016) suggest that when teaching content, it is imperative to engage students actively with the content; interaction is the primary reason why formal educational systems exist.

Figure 3

Co-constructive collaboration



Considering the co-constructive collaboration illustrated in figure 3, it can be concluded that active participation means interrogating the lesson's content through interaction with lecturers, peers and other relevant role players. Hence, students must interact more with the lecturers to enhance academic performance by demonstrating interest, understanding, and inquisitiveness.

5.3 Interaction

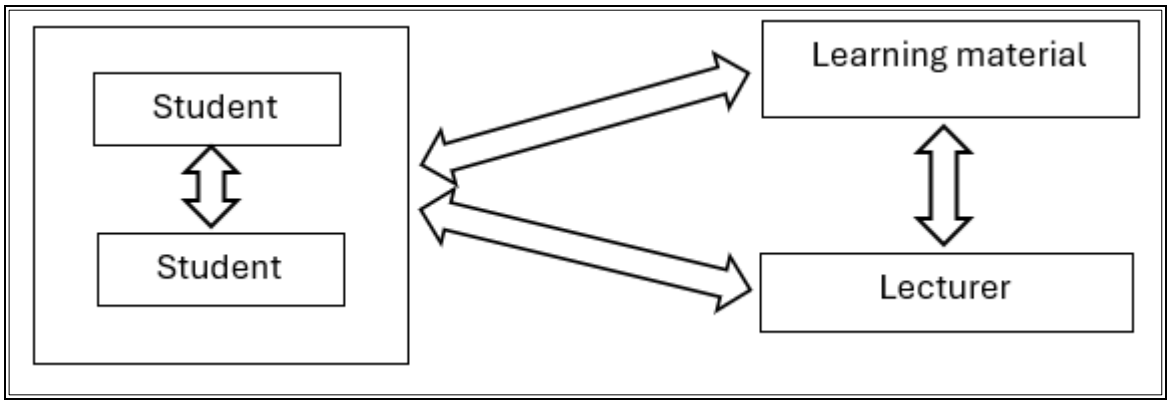
During the interviews and discursive informed conversations, lecturers also mentioned that student engagement is about interaction. The questionnaire also elicited responses that indicated that lecturers saw student engagement as an interactive process. From the interpretation of data, lecturers indicated the following:

L3	Well, on a very superficial level, student engagement would mean just interaction much of the time. I want to be able to ask my students questions, and I want them to answer, or I want them to do group work, and I would consider that interaction.
L8	It entails interacting and breaking down these big concepts into simpler terms or expressing them in a manner that students will not find difficult to understand.

The study's findings revealed that lecturers at HEIs also understand student engagement as interaction with the learning materials, lecturers, peers, and relevant educational authorities. This concurs with Schut et al. (2020), who state that teaching-learning occurs through human interaction. Therefore, teachers' characters (e.g., congeniality) should encourage critical thinking and harmony with learners to create a learning environment that fosters higher academic performance.

Figure 4

Interaction with learning materials



Pastore and Luder (2021) recommend inclusive classrooms where teachers' quality interactions and professional relationships with students can be seen as essential in supporting students' behavioural, social, and emotional engagement. One participant mentioned interaction with content in terms of simplifying complex concepts and texts into expressions that are not difficult to understand. Considering the interaction with learning materials as shown in figure 4, it can be affirmed that active participation can also be seen through interaction with the text during lectures when students and facilitators dissect written discourse; hence, student-lecturer interaction indicates positive student engagement and active participation during lesson presentations. Such interaction between the lecturer and the student

leads to a greater understanding of learning materials, which enhances learning outcomes. This could also be stimulated by challenging traditional knowledge and/or asking questions. This leads to better lecturer-student, student-student, and student-lecturer-content interactions.

5.4 Metacognition

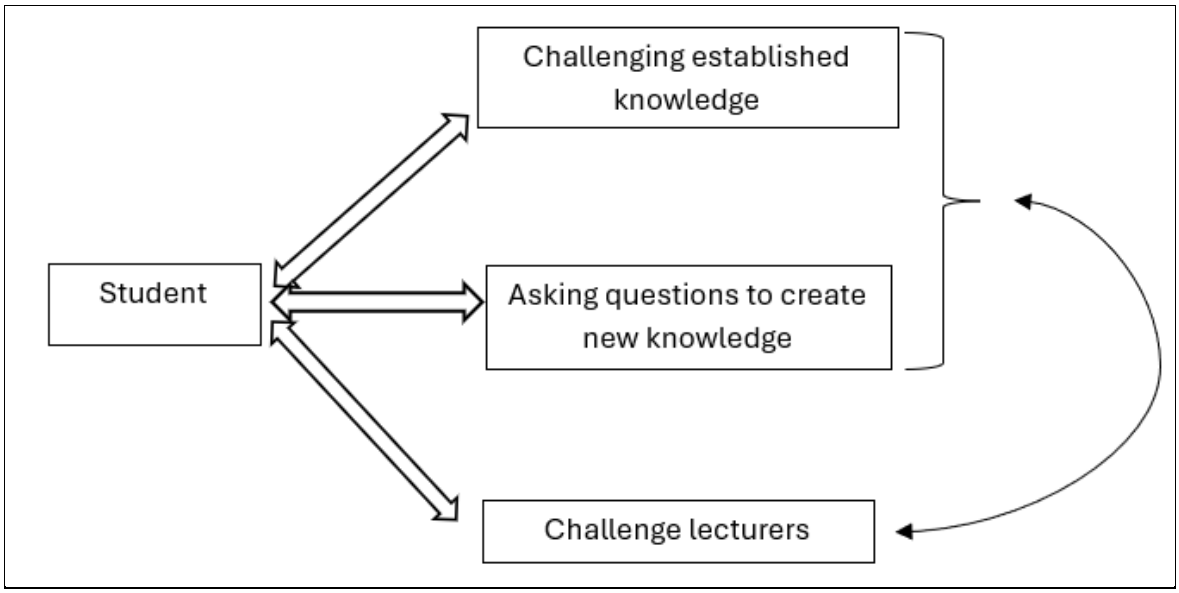
When lecturers were asked about their understanding of student engagement during the three data generation processes, they also referred to metacognition. Whilst cognitive skills may include (among others) thinking, reading, and remembering, metacognitive skills involve one's ability to regulate one's learning through circumventing challenges and asking probing questions. During the data generation processes, lecturers mentioned the following:

L1	Are they awake? Are they taking in information? What are they thinking? Is the brain engaged? I think that is what engagement is. I was going to say, can they do some reasoning and use their logic in making decisions? The most significant point for students is ensuring they think during the lecture. This is evident when they raise their hands to make a point, ask a question, answer a question, challenge someone else in the class, or challenge the lecturer.
L2	Sometimes, they ask probing questions that make you think more deeply about the modules you teach. In so doing, you immerse yourself in the modules and subjects you teach. So, when it comes to teaching and learning, that is what I regard as student engagement.
L3	Usually, at the end of the lecture, I always have many students waiting to ask me or tell me something, or they want to share something with me. Moreover, I can relate to this as that is their way of engaging with me.
L4	They provide feedback via questioning and, in addition, provide real-life examples that relate to what was discussed in class.

The findings showed that lecturers understand student engagement as related to the process of metacognition, which is thinking about thinking. Metacognition is an increasingly useful mechanism to enhance student learning for immediate outcomes and to help students understand their learning processes. Whilst cognitive skills may include (among others) thinking, reading, and remembering, metacognition includes one's ability to regulate one's learning through challenging established knowledge and asking questions to create new knowledge.

Figure 5

Metacognitive engagement



Most participants mentioned that student engagement includes questioning, providing feedback, thinking, and challenging lecturers about the content of the modules that they present during lectures. Further, the processes of memorising, thinking, reasoning, problem-solving, critical thinking, planning, and speed-processing, broadly described as aspects of human intelligence (Anstey, 2016), highlight that student engagement can be classified as the cognitive dimension. Casimiro (2016) adds that cognitive engagement describes how students think, make sense of the material, and use self-regulating and metacognitive strategies to master academic content. Redmond et al. (2018) affirm that cognitive engagement is an active process, one of the most fundamental forms of student engagement. Schindler (2017) maintains that cognitive engagement is the degree to which students invest in learning and the mental effort they inject to master the prescribed content of modules at HEIs. Indicators could include motivation to learn, overcoming challenges, critical thinking, and self-regulated learning**.** Using metacognition requires reflecting on one's learning process - a critical-thinking process that disciplines learners to structure and assume responsibility for their learning (Gaup et al., 2018).

The findings concerning lecturers' perspectives of student engagement at a higher education institution align with the literature reviewed to unpack the concept of student engagement. Notably, the ability to regulate one's learning demonstrates motivation and

autonomy. Gleaning from the researchers' experience, when students demonstrate autonomy to regulate their learning, it demonstrates active participation and authentic student engagement. It is beneficial for students to develop metacognitive skills as this supersedes other forms of student engagement and demonstrates a higher level of active participation.

6. Conclusion

The findings revealed that the lecturers at a HEI understand student engagement as active participation, which entails involvement, interaction, collaborative relationships, and metacognition. Lecturers suggested many ways to encourage active participation. However, conducting further research on student engagement will be beneficial as this is a complex, multi-faceted, and multi-dimensional concept. With the changing landscapes in education and the move online, there is a need to examine and explore strategies to enhance student engagement effectively.

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ORCID
Nirashnee Padayachee - https://orcid.org/0000-0002-1974-9404
Dipane Joseph Hlalele - https://orcid.org/0000-0003-4455-4876
Flip Schutte - https://orcid.org/0000-0001-6031-9206

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Exploring the impact of school heads' supervisory skills on teacher self-efficacy: A mixed-methods study

[1]Rey Anthony E. Esllera & [2]Elmer C. Escala

Abstract

This study utilized an explanatory sequential research design to explore the relationship between school heads' supervisory skills and public school teachers' self-efficacy in one of the districts in Laguna, Philippines. It investigated how the supervision skills of school administrators impact teachers' self-efficacy using adopted survey questionnaires. The study utilized a non-probability quota sampling with a total respondent of 141 teachers while data were analyzed using Spearman rank rho. On the other hand, eight teachers were interviewed to explain the quantitative results. The study's findings revealed that feedback provision had no significant relationship with teacher self-efficacy. However, several variables, such as instructional leadership, communication, support mechanisms, and fostering a positive work environment, were positively correlated with self-efficacy. These results highlighted the importance of effective leadership practices in enhancing teacher self-efficacy, which may uplift the country's education quality. While this study provides valuable insights into the relationship between school heads' supervisory skills and teacher self-efficacy, its findings may be limited in generalizability due to the specific context of the district. Thus, further research is needed to enhance the generalizability and robustness of the findings. It is recommended to increase the sample size by including more teachers from diverse regions, making the findings more applicable to a broader range of educational contexts.

Keywords: *teacher self-efficacy, supervisory skills, role of supervisor, leadership role in education*

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About the authors:
[1]Corresponding author. MAEd, Teacher I, Dayap National Integrated High School, Philippines. Email: esllera.rey21@gmail.com

[2]PhD. EdD. Professor, Pamantasan ng Lungsod ng San Pablo. Head Teacher I, Col. Lauro D. Dizon Memorial Integrated High school, Philippines.

1. Introduction

Students' learning experiences are crucial indicators of learning outcomes, engagement, and curiosity. Several research studies support this idea, highlighting that quality instruction from teachers plays a significant role in these experiences (Gonzales & Villacruel, 2024; Zhang et al., 2021; Inayat & Ali, 2020). Additionally, the school head's leadership style significantly enhances teachers' commitment to their work and teaching style (Austuti et al., 2020; Khumalo & Van Der Vyver, 2020). As key educational leaders, school heads are essential in fostering a culture that supports better student reading and writing abilities (Mansueto et al., 2024). Furthermore, developing a healthy and encouraging work environment for teachers and students depends on strong school leadership (Cooray, 2023). Teachers' professional development and self-assurance are greatly influenced by their supervisors' abilities, including mentoring, observation, and feedback (Gallagher & Smith, 2000). Fostering resilience and creativity in the teaching profession may require an awareness of how these leadership strategies impact teacher self-efficacy, especially when schools face challenges ranging from diverse student demands to technological advancements.

Teacher self-efficacy is pivotal in classroom management, instructional strategies, and teaching effectiveness. Conceptualized by Bandura (1997 as cited by de la Fuente et al., 2022), it is crucial for the success and adaptability of educators. Educators with high self-efficacy are more likely to set and achieve challenging goals, persist through difficulties, and adapt their teaching methods to meet the evolving needs of their students (Tschannen-Moran et al., 1998; Schwabsky et al., 2019). These teachers are inclined to experiment with new strategies, maintain positive classroom dynamics, and foster a supportive learning environment. School leaders play a vital role in enhancing student learning outcomes and overall school effectiveness by instilling in teachers the confidence that they can make a meaningful impact (Lazarides & Warner, 2020). In addition, teachers with higher levels of self-efficacy tend to be more content with their professions and more motivated to continue in the field (Worth & Van den Brande, 2020).

Despite the several associations of the effects of the school head's role on teachers in the world perspective, there are few and limited studies in the Philippine context (Villanueva et al., 2023; Rubio, 2023), specifically in Laguna. Hence, this study explores the relationship

between school heads' supervisory skills and teachers' self-efficacy to provide valuable insights that can inform the development of evidence-based practices and policies in educational leadership.

2. Literature review

2.1. Importance of School Head-Teacher Relationship

There are things to consider when creating and preserving a comfortable workplace. The school head-teacher relationship is one of them. Maintaining a peaceful and balanced relationship with subordinates can benefit the school, the students' growth, and the teachers' effectiveness. Setting them on the correct course could result in success. By including school heads in the study of their leadership techniques, teachers were given a way to evaluate their methods and decision-making processes (Pannell et al., 2018).

The school head is pivotal and influential, significantly shaping the institution's success and environment. This leader establishes and enforces regulations that ensure smooth operations and compliance with educational standards, providing a structured and fair framework for all. They articulate the school's goals and objectives, aligning them with its mission and vision to drive collective efforts toward excellence. The school head also cultivates a positive learning environment, boosting faculty morale and professionalism and fostering productive interactions between faculty and students. Their leadership directly impacts the school's culture, education quality, and the school community's overall well-being (Encanto, 2021). Thus, adequate supervision is crucial for achieving the organization's aims and goals, as it provides the necessary oversight and guidance (Hidayat et al., 2021). Additionally, the quality of instruction is closely tied to the school head's leadership. The school head is responsible for planning, organizing, implementing, monitoring, and assessing programs, ensuring that they are effectively executed and contribute to improving the school's educational standards. Without such diligent supervision and leadership, a school cannot hope to realize its full potential or maintain high standards of education, thereby underscoring the indispensable role of the head of the school in fostering academic excellence and a positive learning environment (Hidayat et al., 2021).

Madiistriyatno and Sofianto (2021) emphasize that a school head's systematic and planned approach to directing, influencing, and controlling the entire school is essential for accomplishing organizational objectives. Effective supervision enhances educators' skills and efficacy at any educational level. The school head is the main figurehead who controls and oversees operations to ensure they are focused, directed, and significantly improved (Oyewole & Alonge, 2013, as cited by Hidayat, 2021). Consequently, school heads play a crucial role in enhancing teacher effectiveness and helping them become more adept at imparting knowledge to students (Hidayat et al., 2021). Prioritizing these advantages allows principals to oversee their staff members more effectively and ensure they can fulfill their educator duties.

2.2. Influential School Head's Supervisory Skills in Global Settings

In educational leadership, several critical components of a school head's supervisory skills significantly impact teachers' self-efficacy. Among these, feedback provision, instructional leadership, communication, support mechanisms, and fostering a positive work environment are particularly influential (Stronge & Xu, 2021; Gougas & Malinova, 2021; Culduz, 2024). Research by Gougas and Malinova (2021) emphasizes the importance of these factors, suggesting that adequate feedback provision not only enhances teacher performance but also bolsters their confidence in their teaching abilities. When school heads provide constructive, timely, and specific feedback, teachers are more likely to engage in reflective practices and adopt new strategies to improve their instruction, increasing self-efficacy.

Instructional leadership is another critical component highlighted by educational scholars. As Culduz (2024) notes, school heads who actively participate in the instructional process by setting clear academic goals, monitoring classroom practices, and providing professional development opportunities create an environment conducive to teacher growth. This active involvement helps teachers feel supported and valued, enhancing their efficacy. Recent research has further reinforced the critical role of supportive leadership in educational settings. For instance, Smith et al. (2022, as cited by Henderson & Truman, 2024), found that proactive support from school leaders significantly correlates with increased teacher self-efficacy and job satisfaction. This study highlights how effective leadership can cultivate a positive school culture where teachers feel valued and empowered to excel.

Effective communication is also pivotal in influencing teachers' self-efficacy. Open, transparent, and two-way communication channels between school heads and teachers ensure that concerns and ideas are heard and addressed. According to Gougas and Malinova (2021), when school leaders maintain clear and consistent communication, it fosters trust and collaboration within the school community. Teachers who feel heard and understood are likelier to develop a strong sense of self-efficacy, as they perceive their leaders as approachable and supportive. This positive communication climate enables teachers to express their needs and seek guidance, contributing to their professional growth and confidence. Strong connections are forged via communication, and people actively work to hone their speaking and listening abilities because they appreciate the suggestions and criticism they get (Stronge & Xu, 2021).

Support mechanisms provided by school heads also play a crucial role in enhancing teachers' self-efficacy. Gougas and Malinova (2021) highlighted the significance of providing resources, mentoring, and professional development opportunities tailored to teachers' individual needs. When school leaders establish robust support systems, teachers are better equipped to handle classroom challenges, leading to a greater sense of competence and self-efficacy. It is also established that teachers have higher self-efficacy and job satisfaction levels when school leaders prioritize mentorship and professional growth opportunities (Beiter, 2021). These mechanisms also create a safety net for teachers, encouraging them to experiment with new teaching methods and innovate without fear of failure (Culduz, 2024).

Lastly, fostering a positive work environment is essential for boosting teachers' self-efficacy. A supportive and positive school culture, characterized by mutual respect, collaboration, and recognition of achievements, can significantly impact teachers' confidence in their abilities. Culduz (2024) suggests that when school heads cultivate a positive work environment, it enhances job satisfaction and promotes a sense of belonging and purpose among teachers. This positive atmosphere enables teachers to thrive and develop a resilient sense of self-efficacy, ultimately benefiting the overall educational outcomes of the school.

2.3. Teachers' Self Efficacy

Across different timelines, measuring teacher self-efficacy is crucial for understanding the complex dynamics of educational environments and the factors that influence teaching

effectiveness. Teacher self-efficacy refers to educators' beliefs in their capabilities to orchestrate and execute instructional strategies that foster student learning and development (Tschannen-Moran & Hoy, 2001). This construct is pivotal in shaping teachers' professional behaviors, decisions, and classroom interactions, directly impacting student outcomes (Bandura, 1977).

Research using the Teacher's Sense of Efficacy Scale (TSES) has consistently shown that teachers' efficacy beliefs are strong predictors of their teaching effectiveness and student achievement (Ashton & Webb, 1986; Tschannen-Moran & Hoy, 2001; Hoy, 2022). Higher efficacy beliefs are associated with greater persistence in challenging teaching situations and more adaptive teaching practices (Gibson & Dembo, 1984; Tschannen-Moran & Hoy, 2001). TSES has been instrumental in guiding professional development efforts to enhance teacher efficacy. Studies have shown that targeted interventions, such as mentoring programs and reflective practices, can effectively increase teachers' efficacy beliefs and improve their instructional practices (Tschannen-Moran & Johnson, 2011; Hoy & Spero, 2005). Teachers and policymakers can customize support mechanisms to create a more effective learning environment by using the TSES to identify particular areas of strength and improvement (Henson, 2001).

3. Methodology

The study utilized an explanatory sequential research design to explain the relationship between supervisory skills and the teachers' self-efficacy. The 141 survey respondents were teachers in different public high schools in one of Laguna's districts. In addition, eight teachers were interviewed to triangulate the quantitative results. The survey respondents were selected using a non-probability quota sampling technique, using the public schools as sub-groups to get an equal representation among the public high schools.

The primary research tool employed in the quantitative part of this study was a structured questionnaire adopted from Tschannen-Moran's Teacher Sense of Efficacy Scale (2001) and Gougas & Malovina's School of Leadership tool (2021). The former survey tool integrated a series of Likert scale questions, enabling teachers to self-assess their proficiency in instructional strategies, classroom management, and student engagement. The latter, on the other hand, integrated a range of modified Likert scale questions to fit the study's context and

tested for reliability (α=0.952). It is carefully designed to measure the effectiveness of the school head in key supervisory domains such as feedback provision, instructional leadership, communication, support mechanisms, and the cultivation of a positive work environment.

The survey questionnaires were printed in sufficient quantities and distributed to the selected sample population after data gathering permission has been granted. It was ensured that the distribution process maintains confidentiality and anonymity as necessary, adhering to ethical guidelines. After the data had been collected, it was consolidated and tabulated. Spearman Rank Rho was employed to examine the relationships between the school head's role of supervisory skills and the teacher's self-efficacy. Then, eight teachers from different schools were selected for an interview. During the interview, researchers employ active listening techniques to grasp participants' perspectives fully. Open-ended questions are posed to encourage participants to elaborate on their thoughts and experiences. At the same time, probes are used to delve deeper into specific areas of interest or to clarify ambiguous points. Then, a thematic analysis was employed in the interview results of the study. It begins with immersion in the data to gain familiarity, followed by the systematic coding of significant features or elements. These initial codes are then organized into potential themes, which undergo iterative refinement and validation to ensure their robustness and coherence across the dataset.

This study was dedicated to ethical standards in addition to information acquisition. Before engaging in any data collection activities, participants were provided with clear and comprehensive information about the study's purpose, procedures, and potential implications. Informed consent and fundamental ethical protection were obtained from each participant, emphasizing their right to withdraw from the study at any point without effects. The study adhered to the Philippines Data Privacy Act of 2012, and participants were assured that their responses would be treated with the utmost confidentiality.

4. Findings and Discussion

4.1. Correlation of Supervisory Skills and Teacher's Self-Efficacy

As reflected in table 1, the result indicates that the school head's feedback provision is not statistically significant in enhancing teacher's self-efficacy (instructional strategies: ***p***

=0.53, classroom management: p = 0.33, and student's engagement: p = 0.6). This implies that the provision of feedback alone may not directly impact the teacher's self-efficacy.

Table 1

Perceived role of supervisory skills of school heads in terms of fostering a positive work environment

School Head's Supervisory Skills	Teacher's Self-efficacy								
	Instructional Strategies			Classroom Management			Student's Engagement		
	r	*p*	VI	*r*	*p*	VI	*r*	*p*	VI
Feedback provision	0.05	0.53	NS	0.08	0.33	NS	0.08	0.36	NS
Instructional Leadership	0.35	0.00	S	0.35	0.00	S	0.27	0.00	S
Communication	0.25	0.00	S	0.32	0.00	S	0.19	0.02	S
Support mechanisms	0.25	0.00	S	0.36	0.00	S	0.21	0.01	S
Fostering a positive work environment.	0.29	0.00	S	0.36	0.00	S	0.24	0.00	S

Legend: $p < 0.05$ Significant(S); $p \geq 0.05$ Not Significant (NS)

Another implication of this finding is the need for a more comprehensive approach to professional development. This encompasses sustained, collaborative, and practice-based components (Darling-Hammond, 2017). Thus, integrating feedback with mentoring, peer collaboration, and practical workshops might yield better results. Additionally, the quality and nature of the feedback provided are critical. Feedback is most effective when it is clear, task-focused, and offers actionable steps (Hattie & Timperley, 2007 as cited by Ng et al., 2023). This indicates that school heads may require training on delivering high-quality feedback that is detailed and constructive to effectively influence teachers' self-efficacy. Moreover, it shows that the perceptions and applications of school heads' actions differ across national borders. It does imply that the effectiveness of certain supervisory practices, such as feedback provision, may depend on the specific context or country (Flushman et al., 2019). Thus, school heads should consider the cultural and contextual factors that influence how feedback is received and acted upon by teachers, tailoring their approaches to align with these nuances to enhance the overall impact on teacher self-efficacy. While feedback provision did not show a significant relationship with teacher's self-efficacy in the current study, it does not negate its potential

importance in different settings or circumstances. More research is needed to explore this relationship further and determine the conditions under which feedback provision may have more or less an impact on teachers' self-efficacy.

The other indicators, instructional leadership, communication, support mechanisms, and fostering a positive work environment, all showed a significant positive relationship in enhancing teachers' self-efficacy. This suggests that effective leadership, clear communication, adequate support systems, and a positive work environment may contribute to enhancing the self-efficacy of the teachers. This indicates that effective leadership that provides clear direction and guidance, along with transparent communication of expectations and feedback, plays a crucial role in boosting teachers' confidence in their instructional abilities (Hattie & Timperley, 2007). Moreover, robust support mechanisms such as professional development opportunities and mentoring not only aid in skill enhancement but also contribute to teachers feeling capable and supported in their roles (Darling-Hammond et al., 2017). Additionally, fostering a positive work environment characterized by collaboration and reduced stress levels can further reinforce teachers' sense of efficacy and overall well-being (Sarong, 2024).

These findings underscore the importance of a comprehensive approach to school leadership and organizational culture in promoting teachers' self-efficacy. School heads and policymakers should prioritize these factors when designing interventions and policies aimed at improving teacher effectiveness and job satisfaction. By investing in effective leadership practices, enhancing communication strategies, strengthening support mechanisms, and cultivating positive work environments, educational institutions can create conditions that nurture and sustain teachers' belief in their abilities, ultimately benefiting both educators and students alike.

4.2. Experiences and Aspirations of Teachers towards School Head

Table 2 shows how feedback provision helps motivate teachers in their jobs. Several key themes and sub-themes emerged. The feedback provision, through positive reinforcement, constructive feedback, confidence boosts, and validation of efforts, significantly impacts teachers' motivation and self-efficacy.

Table 2

Generated themes on supervisors' feedback provision

Sub-Theme 1. Positive Reinforcement	Verbal Praise Written Commendation
Sub-Theme 2. Constructive Feedback	Specific Improvement Areas Regular Reviews Developmental Workshops
Sub-Theme 3. Confidence Boost	Encouragement to Innovate Risk-Taking Support
Sub-Theme 4. Validation of Efforts	Appreciation and Recognition Administrative Support
Sub-Theme 5. Negative Experiences	Insincere Praise Fear of making mistakes Overly Critical Feedback Lack of Recognition

Annotated Exemplars:

> *“Mas nagiging mahusay ako sa pagtuturo kapag may mga specific suggestions para sa aking improvement.” (Interview 4)*
>
> *"I become better at teaching when there are specific suggestions for my improvement." (English Translation)*
>
> *“Feeling ko lumalakas ang loob ko na mag-explore ng bagong teaching strategies kapag may positive feedback.” (Interview 7)*
>
> *"I feel more confident to explore new teaching strategies when I receive positive feedback." (English Translation)*

However, negative experiences such as insincere praise, overly critical feedback, fear of making mistakes, and lack of recognition can undermine these benefits. Effective supervisory skills must balance positive reinforcement with constructive criticism and ensure that teachers feel genuinely supported and appreciated.

Annotated Exemplar:

> *“Kung minsan ang feedback ay masyadong masakit at personal. Hindi nakakatulong, parang pinupuna lang ang mga pagkakamali” (Interview 5)*
>
> *"Sometimes, feedback can be too harsh and personal. It doesn't help; it feels like faults are being criticized rather than constructive advice." (English Translation)*

It underscores the delicate balance required in feedback delivery. Effective supervisory skills must ensure that feedback is constructive and supportive, avoiding overly critical or insincere approaches. Effective feedback delivery necessitates a delicate balance that supports rather than undermines professional growth. Supervisory skills play a crucial role in ensuring that feedback is constructive and supportive. Constructive feedback is specific and actionable, providing clear guidance on areas for improvement while acknowledging strengths. This approach empowers teachers to make meaningful adjustments to their teaching practices without feeling discouraged or overwhelmed.

This emphasizes that effective supervisory feedback balances positive reinforcement with constructive criticism. Feedback plays a crucial role in shaping individuals' beliefs about their capabilities and performance (Mireles-Rios et al., 2019). Specifically, when feedback is specific, actionable, and supportive, it enhances teachers' confidence in achieving instructional goals and overcoming challenges. Additionally, reflective supervision provides leaders with valuable feedback on their leadership style, decision-making processes, and communication practices, thereby fostering both personal and professional growth (Dickson, 2023).

Table 3

Generated themes on supervisor's instructional leadership

Sub-Theme 1. Vision and Goals	• Articulating vision • Aligning goals with teaching
Sub-Theme 2. Professional Development	• Continuous learning opportunities • Mentorship and Coaching • Access to teaching resources
Sub-Theme 3. Decision-Making	• Involving teachers in decisions • Open communication • Acting on feedback

Table 3 shows how the participants illustrate the various ways in which supervisors influence teacher motivation and professional growth through instructional leadership. It is characterized by a clear vision and goals, robust professional development, and inclusive decision-making, which significantly enhances teachers' self-efficacy and motivation. School leaders must balance these elements to create a supportive and empowering environment for teachers.

Effective instructional leadership involves clearly articulating the vision of the school and aligning goals with teaching practices. This provides teachers with a clear direction and purpose. It emphasizes the importance of the principal clearly communicating the school's vision, which helps teachers focus and align their efforts with the school's goals.

Annotated Exemplar:

> *"Mas naiintindihan ko ang goals ng school kapag malinaw na nai-share ng principal. Nakakatulong ito sa akin na mag-focus sa aking pagtuturo." (Interview 7)*
>
> *"I understand the school's goals better when they are clearly shared by the principal. This helps me focus on my teaching." (English Translation)*

Professional development is a critical component of instructional leadership, encompassing continuous learning opportunities, mentorship and coaching, and access to teaching resources.

Annotated Exemplar:

> *"Dapat hindi lang sa technical na bagay naka-focus ang principal. Kasama din dapat ang mentoring o coaching sa aming teaching style para mag-improve pa kami." (Interview 6)*
>
> *"The principal shouldn't just focus on technical matters. Mentoring or coaching in our teaching style should also be included to help us improve further." (English Translation)*

Inclusive decision-making involves teachers in the process, maintains open communication, and acts on feedback from teachers.

Annotated Exemplar:

> *"Masaya na kami kapag na-consult sa gagawing desisyon para sa school. Kasi para sa bata naman ang ating lahat ng ginagawa." (Interview 6)*
>
> *"We are happy when we are consulted about decisions for the school because everything we do is for the children." (English Translation)*

Instructional leadership plays a crucial role in the supervision of school heads. The effectiveness of instructional supervision practices by school heads is essential for supporting teachers in facilitating student learning. Leadership style and instructional supervision strategies of department heads can significantly impact instructors' job performance. School heads' instructional leadership skills, such as being a resource provider, instructional resource, and communicator, positively correlate with teachers' performance (Ampofo et al., 2019).

While principals feel they are effective in their instructional leadership practices related to the evaluation and supervision of instruction, there are differences in the leadership self-efficacy of principals and assistant principals. This suggests that while school heads may be effective in their roles, there is still room for improvement in the distribution of leadership responsibilities and the development of leadership skills among different roles within the school system (McBrayer et al., 2020).

Table 4

Generated themes on supervisors' communication

Sub-Theme 1. Open Communication	• Transparent and clear updates • Timely dissemination of information • Honest and candid communication
Sub-Theme 2. Regular Meetings	• Consistent staff gatherings • Agenda-driven discussion
Sub-Theme 3. Collaborative Dialogue	• Encouraging brainstorming sessions • Seeking input from all stakeholders • Active listening and empathy

Table 4 shows how fostering open communication, regular meetings, and collaborative dialogue within educational leadership cultivates an environment of trust, productivity, and inclusivity. These sub-themes not only foster a sense of transparency and collaboration but also contribute to a conducive work environment that enhances overall productivity and

morale. By embracing these positive communication practices, school leaders can effectively engage their staff, promote teamwork, and ultimately enhance the overall educational experience for students.

Open communication among school heads serves as the cornerstone of a healthy and thriving educational community. It entails providing transparent and clear updates, ensuring the timely dissemination of information, and fostering an atmosphere of honesty and candor.

Annotated Exemplar:

> *“Kapag ang aming principal ay nagbibigay ng mga updates sa aming trabaho ng clear at mabilis, ito ay nagbibigay sa amin ng parang motivation to finish our work.” (Interview 2)*
>
> *"When our principal provides clear and prompt updates about our work, it gives us motivation to finish our tasks." (English Translation)*

Regular staff gatherings provide an invaluable opportunity for collaboration, alignment of goals, and fostering a sense of belonging. These meetings should be consistent and characterized by agenda-driven discussions to ensure productivity and focus.

Annotated Exemplar:

> *“Kapag may regular meeting sa aming mga teachers, nabibigyan kami ng pagkakataon na magbahagi ng aming mga ideya, at magtulungan para sa mga students." (Interview 3)*
>
> "*When we have regular meetings among teachers, it provides us with the opportunity to share our ideas and collaborate for the benefit of our students." (English Translation)*

Encouraging collaborative dialogue involves actively seeking input from all stakeholders, fostering brainstorming sessions, and practicing active listening and empathy. This promotes a culture of inclusivity and ensures that diverse perspectives are valued and considered.

Annotated Exemplar:

> *"Ang pagpapahalaga sa boses ng bawat isa, kahit na kakaunti lamang ang kanilang karanasan, ay nagpapaunlad sa ating edukasyon.” (Interview 6)*

"Valuing the voice of each individual, even those with limited experience, contributes to the advancement of our education." (English Translation)

Fostering open communication, regular meetings, and collaborative dialogue within educational leadership yields profound implications for school environments. These practices not only cultivate transparency, trust, and a sense of belonging among staff but also enhance overall productivity and morale. Clear and timely updates from school leaders, as noted in interviews, motivate educators and foster a shared commitment to organizational goals. Regular staff gatherings facilitate collaborative problem-solving and goal alignment, ensuring educational strategies are effective and student-focused. Moreover, embracing diverse perspectives through inclusive dialogue promotes innovation and continuous improvement. By prioritizing these communication practices, educational leaders create a supportive culture that enhances both educator satisfaction and student outcomes, thereby fostering a thriving educational community.

This was supported by the study of Sumapal and Haramain (2023), stating that the support mechanisms of the school head have something to do with enhancing teacher's self-efficacy. The active involvement of school heads in providing guidance and support enhances instructional practices, ultimately leading to improved teaching and learning outcomes. School heads' role as instructional leaders is essential in fostering a positive learning environment and facilitating the professional growth of teachers.

Table 5

Generated themes on supervisors' support mechanism

Sub-Theme 1. Emotional Well-Being	• Provide counseling services • Stress Management Programs
Sub-Theme 2. Career Advancement	• Funding and grants • Leadership Development
Sub-Theme 3. Technological Integration	• Technical Support • Access to Educational Technology Resources • Training on Technology Integration

Table 5 identifies the several sub-themes that play a crucial role in fostering the well-being and professional growth of educators. These support mechanisms not only contribute to the overall satisfaction and effectiveness of teachers but also enhance the learning experiences

of students. Ensuring the emotional well-being of educators is paramount for maintaining a healthy and productive work environment. Providing counseling services and implementing stress management programs are essential components of supporting teachers' mental health.

Annotated Exemplar:

> *"'Yung kapag may problem ka sa buhay pwede mo siyang (supervisor) kausapin. Malaking bagay na 'yun sa amin. Kasi hindi naman palaging okay ang lahat ng teachers. Kailangan din naming ng magbibigay ng payo." (Interview 8)*
>
> *"When you have a problem in life, you can talk to your supervisor. That's a big thing for us because not all teachers are always okay. We also need someone to give us advice." (English Translation)*

Supporting teachers' career advancement is essential for professional growth and job satisfaction. Providing funding and grants for further education and offering leadership development programs are effective ways to invest in educators' long-term success.

Annotated Exemplar:

> *"Malaki ang maitutulong kung may mga funding ang aming capacity building o further studies. Kapag ganun ang principal sobrang motivated ng mga teachers na mag-aral." (Interview 1)*
>
> *"It would be a big help if there were funding for our capacity building or further studies. When the principal supports that, teachers are highly motivated to pursue their studies." (English Translation)*

In today's digital age, integrating technology into education is essential for enhancing teaching and learning experiences. Providing technical support, access to educational technology resources, and training on technology integration are crucial aspects of supporting teachers in this endeavor.

Annotated Exemplar:

> *"Technology. Ito 'yung kailangang-kailangan ng teachers ngayon. Hindi na ito maiaalis. Kaya kung supportive ang principal sa bagay na ito malaki ang maitutulong sa aming teachers at lalo na sa mga bata." (Interview 8)*

The implications drawn from table 5 underscore the critical role of support mechanisms in nurturing educators' well-being and professional growth, thereby enhancing both teacher

satisfaction and student learning outcomes. Prioritizing teachers' emotional well-being through counseling services and stress management programs not only fosters a healthy work environment but also equips educators with the resilience needed to effectively support student learning. Moreover, investing in teachers' career advancement through funding for further education and leadership development programs not only enhances professional growth but also motivates educators to innovate and excel in their teaching practices. Embracing technology integration in education, supported by technical assistance and access to resources, ensures that teachers are equipped to deliver high-quality instruction in today's digital age, ultimately benefiting both educators and students alike by improving educational experiences and outcomes.

The support mechanisms of the school head have something to do with enhancing the teacher's self-efficacy. The active involvement of school heads in providing guidance and support enhances instructional practices, ultimately leading to improved teaching and learning outcomes (Sumapal & Haramain, 2023). School heads' role as instructional leaders is essential in fostering a positive learning environment and facilitating the professional growth of teachers.

Table 6

Generated themes on supervisors' fostering a positive work environment

Sub-Theme 1. Supportive Leadership	• Leadership visibility and support • Encouraging open communication
Sub-Theme 2. Personal Engagement	• Volunteering in activities • Empathy for teachers • Walk the talk
Sub-Theme 3. Exercise Fairness	• No bias • Equal distribution of tasks

Table 6 shows how supervisors play a crucial role in fostering a positive work environment for educators by demonstrating supportive leadership, personal engagement, and fairness in their interactions and decisions. Through these strategies, supervisors can cultivate a culture of trust, collaboration, and mutual respect, ultimately enhancing the overall well-being and effectiveness of the educational community.

Supportive leadership plays a crucial role in setting the tone for a positive work environment. Supervisors can enhance morale and productivity by demonstrating visible support for their team and encouraging open communication channels.

Annotated Exemplar:

> *"Malaking bagay kapag ang principal ay hindi naka-kontra sa aming ginagawa. Mas gaganahan ka talaga na magperform ng maayos." (Interview 3)*
>
> *"It's a big deal when the principal is not against what we are doing. It really motivates you to perform well." (English Translation)*

Personal engagement from supervisors involves actively participating in activities, showing empathy toward teachers' needs, and aligning actions with words to build trust and rapport. This fosters a sense of camaraderie and shared purpose among educators.

Annotated Exemplar:

> *"Masaya 'yung ang principal mo ay makikita mo rin na gumagawa. Hindi lang utos-ng-utos. Alam naming na marami siyang ginagawa pero iba pa rin 'yung nagpaparticipate sa mga small things. Nakakamotivate 'yun." (Interview 3)*
>
> *"It's fulfilling when you see your principal actively involved, not just giving orders. We know they have a lot on their plate, but participating in small tasks is different. That's motivating." (English Translation)*

Fairness in decision-making and task distribution is essential for building trust and maintaining a positive work environment. Supervisors should strive to eliminate bias and ensure equitable treatment of all staff members. Commitment to fairness in decision-making strengthens trust and respect within the organization, creating a sense of fairness and impartiality for all.

Annotated Exemplar:

> *"Pantay-pantay na tingin. Positive ang magagawa niyan. Kapag walang bias, walang comparison. Kapag walang comparison, masaya ang lahat." (Interview 7)*
>
> *"Treating everyone equally leads to positive outcomes. Without bias or comparison, everyone feels happier." (English Translation)*

The responses emphasize the importance of school heads' leadership practices in influencing teachers' performance. While there is a correlation between certain supervisory skills and teacher efficiency, the study of Aquino et al. (2021) suggests that the quality of skills implemented by school heads does not significantly affect teachers' success. This independence implies that regardless of leadership practices, teachers' performance and efficacy remain consistent. Furthermore, Mulford (2023) affirms that effective school leadership plays a crucial role in creating a positive work environment and fostering a sense of shared leadership among staff. Studies show that sustainable improvement in schools depends on distributed leadership within the school community rather than centralized in one individual.

5. Conclusion and Recommendation

Among the five indicators of supervisory skills, providing feedback shows no significant relationship with teacher self-efficacy. However, other aspects of supervisory skills, such as instructional leadership, communication abilities, support mechanisms, and the creation of a positive work environment, show a significant relationship with enhancing teacher self-efficacy. These findings suggest that while feedback provision might not directly impact teacher self-efficacy, other variables of supervisory skills play a crucial role in fostering teachers' confidence in their abilities.

This study suggests the provision of targeted training programs for school heads to further develop their supervisory skills, particularly in areas where improvement is needed. This training should focus on enhancing and strengthening instructional leadership abilities, improving communication strategies, providing support mechanisms, and fostering a positive work environment. Given the limitations of the research variables used in this study, further study into other supervisory skills factors might be explored to evaluate the long-term impact of supervisory interventions on teacher retention and student outcomes.

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ORCID
Rey Anthony E. Esllera - https://orcid.org/0009-0004-4171-121X
Elmer C. Escala – https://orcid.org/0009-0006-3463-1208

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Curriculum and gender spaces in high schools in Eswatini

[1]Gibson Makamure, & [2]Phumuzani Mpofu

Abstract

This article makes a social constructionist exploration of student experiences of socially constructed curriculum in school spaces in high schools in Eswatini. The study utilised a qualitative narrative inquiry methodology. Individual semi-structured interviews and focus group were used to generate data. The participants were 24 purposively selected students (12 boys and 12 girls) from four high schools in Hhohho region. Participants ranged in age from 16 to 18 years. Contexts of subject knowledge and socially constructed curricula have shaped ideas about what constitutes a suitable education for girls and boys, as well as what subjects they should study. Subject suitability criteria have evolved, but there are still strong curriculum roots that drive the gender problem and disparities in accomplishment, where specific information has historically been associated with various groups. The study found that learners in other schools were free to choose subjects according to their abilities and without any influences from teachers. In those schools, girls even took up subjects perceived to be masculine, like agriculture and technical drawing. However, in other schools, teachers heavily influenced the subjects the learners chose. In most cases, the subjects were chosen according to femininity and masculinity. According to the social constructionism theory that guides this study, societal and interpersonal influences shape how people live their lives, as such, and subject selection by boys and girls is thus formed and informed across many settings and societies by cultural and social values.

Keywords: *curriculum, gender, gendered spaces, masculinity and femininity*

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About the authors:
[1]Corresponding Author: University of KwaZulu-Natal, South Africa. Email: makamuregibson@gmail.com

[2]School of Human and Community Development University of Witwatersrand, South Africa

1. Introduction

Young students perceive the "socially constructed curriculum in schools" through subjects (Elwood, 2016). Contexts of subject knowledge and socially constructed curricula have shaped ideas about what constitutes a suitable education for girls and boys, as well as what subjects they should study. Subject suitability criteria have evolved over time, but there are still strong curriculum roots that drive the gender problem and disparities in accomplishment (Parmaxi et al., 2024; Buenestado-Fernández et al., 2023; Kuteesa et al., 2024; Llorens et al., 2021; Sevilla et al., 2023; Xie & Liu, 2023), where specific information has historically been associated with various groups (Murphy, 2008; Eisenmann, 2023; Lundberg, 2020; Hadjar et al., 2014; Lahelma et al., 2023).

Galbin (2014) asserts that social constructionism, also referred as social construction of reality, is a knowledge theory in sociology and communication that explores cooperatively constructed understanding of the world. Social constructionism is a "*theoretical perspective that looks into how reality is negotiated through people's everyday life interactions and through sets of discourses*," (James & James, 2008, p. 122). In social constructionism, gender is "*created and re-constructed out of human interactions, out of social life, and it is the texture and order of that social life*," (Lorber, 1994, p. 54). According to human genitalia (Lorber, 1994), feminine and masculine identities are based on cultural ideologies and represent socially constructed views of what it means to be a girl or a boy in a specific culture and context, respectively (Berger & Luckmann, 1996; Lorber, 2011; Hagedorn, 2019; Kachel et al., 2016; Mazzuca et al., 2024; Davis, 2018; Bermúdez Figueroa et al., 2023; Cislaghi & Heise, 2020). However, feminine identities are based on cultural ideologies and reflect socially constructed views of what it means to be a girl in a particular culture and setting (West & Zimmerman, 2009). In addition to social context, structural contexts for gender constructions, performances, and experiences are provided by children's gendered experiences (Elmore, Crouch &Chowdhury, 2020). Due to its tendency to promote masculinities while subserviently placing girls, social constructionism offers analytical insights into the intricate processes of gendered spaces and gendered experiences of children (Pitikoe, 2017). As a result, this study focused on the students' gendered experiences of the social school spaces in high schools.

2. Methodology

2.1. Research Design

A narrative inquiry design was used in this study. The study employed narrative inquiry to gather participants' accounts (narratives) about their experiences with phenomena (Cowger & Tritz, 2019). Due to the contextual variables affecting space and the gendered experiences of students in the four high schools, narratives proved useful in this study for capturing the subjective voices of the participants. It was also employed to discuss the significance of the participants' own life experiences (Cresswell, 2016). It was also used to discuss the meaning of the personal experiences of the participants. The narrative approach examined the completeness of an experience positioned within the lives and realities of the school children.

2.2. Geographical and Socio-Economic Context of the Study

This research was conducted in four high schools in Eswatini's Hhohho region. Except the east, where it borders Mozambique, Eswatini, officially the Kingdom of Eswatini (formerly known as Swaziland) and also known as kaNgwane, is an independent country that borders South Africa and Mozambique. The people of Eswatini share a common language and uphold a traditional, static way of life based on patriarchy and Christianity (Fielding-Miller et al., 2016). The country is divided into four geographically separate regions: Manzini, Hhohho, Shiselweni, and Lubombo. The study was conducted in the Hhohho area, which is home to Mbabane as its capital. The study selected coeducational schools situated in and around Mbabane, the capital city.

2.3. Data Collection Methods

A qualitative narrative approach served as the foundation for the study's methodological framework. Aspers (2019) states that, in qualitative research, a small distinct group of participants is generally examined to gain an in-depth understanding of the topic, hence a research sample of 24 participants was sufficient. 24 students from four high schools in Form 5 (12 boys and 12 girls), all of whom were between the ages of 16 and 18, participated in the study. Face-to-face individual interviews and focus group discussions were used to collect data. Focus groups helped with "data triangulation" by enabling the researcher to confirm the remarks made by students in one-on-one interviews (Winslow et al., 2002). The researcher encouraged the participants to speak freely, naturally, and openly. As a result, questions were asked, and answers were given in response to the remarks made. Each participant was given the chance to respond to the topics and issues raised while taking into

account group dynamics. On average, at each research site, the researcher spoke with one participant. Neuman (2014) affirms that conducting individual interviews with participants enables them to express their thoughts and open up to thorough study, particularly when it comes to personal accounts of their feelings and experiences. The researcher recorded the conversations on tape and took brief notes as the data was being generated. Participants communicated in both SiSwati and English.

2.4. Data Analysis

In this study, thematic analysis was employed. According to Braun and Clarke (2014), thematic analysis is a systematic process used to classify, analyze, and summarize data in a thorough manner with little organization. Tracy (2013) says that thematic analysis allows understanding the potential of any issue more widely and is flexible for many different types of texts. As opposed to narrative analysis which insists on maintaining the integrity of the text being utilised as data and does not break it down into meaning units, the thematic analysis goes beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas (Saldaña, 2016). Semi-structured focus group interviews and individual interviews were the main instruments used in the researcher's active participation in data gathering. The length of each interview was between 45 minutes to one hour for individual interviews and between one hour to one and a half hours for focus groups. The aim was to derive from participants their experiences of curriculum and gendered spaces and their views as to the extent of its contribution to their gendered experiences in school. The interviews were done at the four research sites of the study.

The researcher transcribed the audio recordings and translated the recordings to English where necessary. He then typed the information and highlighted it with various colours to present it in visually differentiating ways. All words and phrases that were underlined by the researcher were typed on separate pages. Then, he reviewed the transcript once more to see whether he had missed any other crucial expressions or words. The pages for codes were updated with the words that were left out. Open coding, the first level of coding, allowed for the labelling or tagging of data. It took the researcher several readings of these codes and words before he could classify them into themes. To comprehend the thoughts and concerns that surfaced, the researcher listened to the speech recordings and read the transcripts multiple times. This immersion in the data aided the researcher in absorbing the information and deciphering the meanings and patterns that emerged (Braun & Clarke, 2006, 2014). The

researcher listened to the audio recordings again and studied the texts in order to classify and categorise the concerns and ideas that were emerging. The researcher's ability to comprehend the data and make sense of the meanings and patterns that surfaced was assisted by this interaction with the data. From written categories, themes emerged, organized, and linked to the study.

2.5. Ethical Considerations

Ethical considerations were observed to respect the participants' rights (Creswell, 2014). The Ministry of Education and Training in Eswatini was approached for permission through the Education Director's office. Written consent from the school principals was also secured via a written letter describing the study's goal. Before conducting the study, the researcher obtained informed consent from the guardians and parents, as advised by Kaewkungwal (2019). He then asked for informed consent from the parents/guardians via a letter, as supported by Morrow (2016). The researcher did this to try and avoid doing any harm, and to ensure parents and guardians were aware of their children's activities and movements. Each participant was provided adequate information about the research's goals, methodology, and how the data would be used. The letters of consent outlined the issues of confidentiality, privacy, and voluntary involvement. The confidentiality of the participants was safeguarded by pledging that the information they supplied would not be disclosed without their permission. The participants had a choice to participate, not participate or stop participating in the research without any penalties for such an action. For the sake of anonymity, pseudonyms have been employed to represent both the schools and the participants in this study. The ethical clearance was granted for this study by the University of KwaZulu Natal's ethical clearance committee.

3. Findings and Discussions

The study found that learners in other schools were free to choose subjects according to their abilities and without any influences from teachers. In those schools, girls even took up subjects perceived to be masculine, like agriculture and technical drawing. However, in other schools, teachers heavily influenced the subjects the learners chose. In most cases, the subjects were chosen according to femininity and masculinity**.**

In responding to the question of whether curriculum reflects the needs and life experiences of both boys and girls by providing a varied range of subjects that will provide

both with the necessary knowledge and skills needed in adult life, participants had varied views. It is without doubt a factor that plays a major role in defining the space, geography and gendered experiences of children is the curriculum. Bruce (focus group) from site B asserted:

> *There are a variety of subjects at school. We choose our subjects according to our abilities. Girls also do agriculture and TD and some boys are doing Home Economics. You take subjects according to what you want to be in the future.*

The suggestion from this response is that stereotypes in subjects are being done away with. There are no more subjects reserved for boys and girls. Students have an opportunity to shift subjects to fit what they would like to do in the future. A sex-stereotyped view of subjects was associated with sex-stereotyped attitudes towards occupations and roles. Learners whose attitudes were stereotyped and who saw themselves conforming to traditional notions of masculinity and femininity would be more likely to choose sex-appropriate subjects. There are varied and changing dynamism pertaining to gender and curriculum. Tetlow (2016) drawing from Tamboukou and Ball (2006) agrees that children are equated to nomads: as nomads wander, they are "subjects in transition". As such, curriculum influences gender and gender affects the curriculum, hence both affect the gendered spaces and places of boys and girls within the schools and practices.

Ayden (focus group) from site A described whether the curriculum reflects the needs and life experiences of both boys and girls by providing a varied range of subjects that will provide both with necessary knowledge and with skills needed in adult life:

> *We do have many subjects to choose from. Some subjects we do not do them because they are not much related to what we experience in life. For example, some left history for ICT because it relates with what we having now. We shift the subjects.*

Ayden acknowledges that curriculum provides a variety of subjects from which they can choose from. In the choice of the subjects, some subjects are seen to be more relevant than the others which result in students 'migrating' from one subject to another. He sees ICT to be more relevant than history, maybe due to the fact that technology is dominating educational spaces. This augurs well with the notion of nomadism in curriculum. Tamboukou and Ball (2006) state that nomadism in the curriculum is when learners are afforded an opportunity to try and experience different subjects and then settle for their best. Nomads have the quality of

recreating their homes everywhere, not of homelessness (Tamboukou and Ball, 2006). The threat of spatial transitions and changes is what nomads are always dealing with, as such they do not have security in the spaces they inhabit. This means that students have the ability to change their subjects to fit their circumstances instead of staying in a traditionally ascribed subjects.

Stromquist (2007) alluded that in Sub-Saharan Africa, there are fields in which maleness is fashioned in schools, especially in recognised subjects for boys. This entails that subjects are still studied based on masculinity and femininity. Celiwe (group interview) from site C contradicted the response given by Bruce:

> *Most of the curriculum (subjects) favour boys. TD, woodwork and agriculture are mostly done by the boys. Girls only do consumer sciences only. The teachers don't want to give us the subjects that boys normally do. They don't say they are for boys but action speaks louder than words.*

The suggestion from this response is that there is still gender stereotyping as far as subjects allocated to learners are concerned. Traditionally, masculine subjects are given to boys while traditional female subjects are taken by girls. Gender plays a role in deciding the spaces children occupy in the curriculum. Through their overt and inherent gender norms though, teachers regulate gendered behaviour that reinforces unequal gender relations in Eswatini, hence creating gender inequitable school spaces (Motsa & Morojele, 2018). Elwood (2016) agrees that curriculum is created and informed by cultural and social values, skills, and information that are considered essential for learners to know to prepare them for future work and life in a range of contexts and communities. Stromquist (2007) agrees with Connell (1996) that the curriculum is still separated between girls and boys, with girls learning more about family life and home science and boys learning more about productive skills and sports. This confirms the view that curriculum is a gendered space, and the view that the school is a gendered space. Savard (2016, p. 10) points out that gendered spaces are places where "*behaviours that are distinctly male and female occur*". In this case, subjects are done based on femininity and masculinity. Social constructionism states that gender is created and re-created out of human interactions, out of social life, and it is the texture and order of that social life.

The responses from this theme show that stereotypes in subjects are being done away with in other schools. There are no more subjects reserved for boys and girls. Students have an opportunity to shift subjects to fit what they would like to do in the future. Findings, however, also show that gender stereotypes still exist in other schools concerning the subjects chosen for students. Boys typically take traditionally masculine subjects, whereas girls typically study traditionally female subjects. The spaces that children occupy in the curriculum are determined in part by their gender.

Children's geographies in subject choices. The study found that the children's daily lives were dominated by adults. Their decisions in choosing subjects had much interference from teachers. In some cases, teachers greatly influence learners' subject choices. Subject choices made by teachers were according to tradition. However, in other situations, learners had the freedom to choose their preferred subjects, according to their ability and desire**.**

Morrow (2011) says that the concept of children's geographies deals with the study of places and spaces for everyday lives for children. As children attend school, they have to decide on which subjects to take. In the Eswatini context, children have the right to choose subjects (Swaziland Education and Training Sector Policy, 2011); however, on the ground, teachers make decisions on behalf of the learners. This puts into context Holloway and Hubbard's (2014) view that children's voices should be heard: they add value to debates, as independent knowing subjects. In responding to a question on the freedom of learners to confidently make subject choices that may not be traditionally male or female subjects, different responses were achieved. Musa (individual interview) from site D alleged:

> *In my view, boys are capable of doing vocational education. We like doing things like agriculture, mechanics, plumbing and TD. They (teachers) give us geography, history and other such which do not give us skills needed in the near future. For girls is fine because they are doing Home Economics (H E) because they end up being married and should know how to cook and manage the homes. We are boys who will be heads of families we need productive subjects.*

This response from Musa suggests that the students are not given a chance to decide on the subjects that they like to do. Social stereotypical perceptions about children and gender therefore guide most schools' and teachers' pedagogic practices in Eswatini. For example, children are perceived to be too young to listen to or understand issues of gender (Nxumalo et al., 2014). Subjects are allocated to them, which means that the voices of the learners are not

heard. The response from this participant disapproves the hand of administrators and teachers in deciding subjects for them. There is also the issue of masculine or feminine subjects raised by the participant. This line of argument is supported by Yarwood and Tyrrell (2012) that children's perspectives and experiences were traditionally overlooked in mainstream geography. In the Kingdom of Eswatini, the voices of children are overlooked and adults make decisions on their behalf (Motsa & Morojele, 2019). As such, there is restriction and control in their use of space by adults, legislation and institutions such as schools. Children find it difficult to change or shape their spaces and environment because they do not have the same voice or power as adults. This shows that the boy learners' choice of subjects is limited. In later life, they will not be able to do careers of their choice because they have been short-changed with the curriculum decided for them by the teachers. Norozi and Moen (2016) assert that children are considered and deliberated as being in a relatively powerless position in relation to adults in deciding on subjects to take. This means that the destiny of the children is in the hands of the teachers and to some degree, the administrators. Social constructionism states that gender 'is created and re-created out of human interactions, out of social life, and it is the texture and order of that social life. It is through children's interactions with teachers that their behaviour is shaped.

Linda (focus group) from site C suggested the hand of teachers in subject selection was based on gender stereotypes:

> *We have more girls in home economics and more boys in woodwork. Teachers assume that we are lazy to write so we should do woodwork when actually some of us want to cook. The teachers in a way want us to do subjects that boys normally do and not take female subjects.*

The suggestion from this participant is that there is stereotyping by teachers in subject choices. Subjects are allocated to students based on tradition. Because curriculum is socially created, it is "*a mirror of both dominant ideas and a space where ideas are restricted or played out through practice, as well as implicated in the defining and formation of gender relations*" (Elwood, 2016, p. 9). Eswatini is a country that is strongly patriarchal where girls and women are viewed as inferior to boys and men (Mabuza, 2017). Women and girls in Eswatini are treated and perceived as second-class citizens and they occupy the lower divisions of hierarchised levels of unequal gendered power relations (Nxumalo et al., 2014). With this,

there is an understanding of how much curriculum promotes or reflects appropriate gender behaviour and perceptions about girls and boys and what/how they should learn. Mugodzwa and Matope (2011) agree that girls are expected to take home economics, while boys are made to take courses such as metalwork, woodwork and mathematics, which are subjects that prepare them for work and to support the family. There are limited spaces for girls in those subjects, while wide and assured spaces are guaranteed for boys. This is a sign that there is gender stereotyping in the choice of subjects.

While the responses show the influence of teachers and administrators in subject choice decisions, research site B seemed to be doing things differently. The following are the responses to the question on subjects' offerings.

Bheka (focus group) asserted:

> *We chose our subjects according to our abilities. Anyone does what he/she is best at. Teachers support our decisions since that is what we will have chosen. Girls also do agriculture and TD and even some boys do home economics.*

This response alludes to the fact that autonomy is given to students to make academic subject choice decisions. It reveals that all subjects are free to all students despite their sexual orientation. Girls are now occupying spaces that were traditionally reserved for boys. This shows that in as much there are still stereotypes in the choice of subjects, but through counseling and training and education, there is a shift from the *status quo*. The submission suggests that teenage learners are happy in choosing subjects for themselves. Viklund and Wikblad (2009, p. 3269) agree that teenagers in schools should be respected "*for their imperfect decision-making abilities.*" They deserve constructive support to compensate for their deficiencies from teachers and parents as their social network. Female students now look broadly at the different types of professions than in the past when they choose their subjects (Kring, 2017).

The MOET came up with a project called 'Take your girl child to work', which is meant to encourage the participation of girls in science and technology to encourage girls to take up careers that were male-dominated (National Education and Training Sector Policy, 2018). It is meant to ensure that girls and women are adequately represented in Science, Technology, Engineering, Mathematics (STEM). In response to the question of how the participation and

achievement rate of girls in relation to boys in math and science, and boys in disciplines such as literature and history, participants spoke their minds out and their experiences.

Asher (focus group) from site A claimed:

> *Boys perform better in maths and science. Boys are born mathematicians and scientists. However, there are girls who are also good in these subjects. Boys find it difficult in literature and history. I do get higher marks in maths and sciences than on literature and history.*

This submission suggests that boys are better in maths and science than girls. However, girls seem to be also doing well in maths and science. Asher's assertion is supported by Ma (2011), who found that there were small differences in Grades Four and Five in the sciences between boys and girls, but by Grade 12, there were huge and very reasonable differences in favour of the boys.

Of note was participant Adam (focus group) from site A, who averred:

> *Boys hate reading and enjoy maths and science. They enjoy figures, hate reading and like practical work. Most girls do not like science and maths. They need motivation in those subjects.*

From this response, it seems obvious that boys enjoy maths and science, while girls enjoy literature and history. Many studies by Dee (2007) in USA, Roohani and Zarei (2013), in Iran and Quenzel and Hurrelmann (2013) in USA have revealed how subjects categorised in the technologies, sciences and mathematics, have been legitimised and deemed more relevant for boys for a long time as appropriate spheres of learning, whereas mother tongue and foreign languages, a categorisation of languages, arts and humanities, are considered appropriate and relevant for girls. Stromquist (2007) notes that science is associated with hegemonic masculinity, and physics is seen as the most masculine of subjects in the West. Girls are more attached to their homes than boys, and girls are typically associated with writing and reading, despite the assumption that they prefer romance literature. One of the participants Owethu (focus group) from site D declared:

> *Girls love reading literature books and magazines. They love romantic novels and this keeps them busy much of the time. That is the reason I think girls do well in literature and history. Boys, on the other hand, are lazy to read; they enjoy calculations and more hands-on subjects like science. One more thing I see here*

is that out of all our eight Form Five maths and science teachers, only three are females. Vele ungatsi tifundo tebafana (It's like these subjects are for boys).

Owethu suggests that girls are good in literature because of their love to read magazines and novels, while boys are good in maths and science because they enjoy calculations and are lazy to read. Girls read more than boys and have a wide experience with fiction. Boys undoubtedly spend more time outside, and reading is not considered as particularly masculine among adolescents. It is a sad reality in Eswatini that the education system that is entrusted to bring about equity and equality, supports gender stereotypes that uphold inequalities (Nxumalo et al., 2014). Mcpherson (2012) commented on the under-representation of women in science post-secondary schools in the United States, stating that women are under-represented in the sciences due to the philosophy of home comforts and the social and political conditions of science, rather than a lack of curiosity or aptitude. In all parts of the subject, females tend to perform better than males in the examination of English language. Murphy (2008) notes that the differences in curriculum subject preferences and choices between boys and girls had more to do with access to the range of curriculum on offer as well as the choice of subjects that interact with gender identities and how they are played out in school, rather than natural tendencies with females and males being better in particular subjects, after detailed analyses. This resonates with Owethu's assertion. Pinar (2011) and Slattery (2013) noted that maths and science are predominantly taught by male teachers, which gives the subject an impression of masculinity. The gender stereotypes of those teaching science and maths send the unspoken message, is that mathematics is for males.

4. Conclusion

As regards to children's geographies in subject choices, this study found that students are not given a chance to decide on the subjects that they like to take. They are allocated certain subjects, so the students' voices are not taken into consideration in some schools. However, in other schools, autonomy is given to students to make academic subject choice decisions despite sexual orientation. Girls are now occupying spaces that were traditionally reserved for boys because they have the freedom to choose subjects they want.

For the high school students in Eswatini, curriculum is formed and informed across many settings and societies by cultural and social values, skills and knowledge, that are considered essential for young people to know and which prepare them for future work and

life. The school curriculum plays an important role in preparing girls and boys for their different traditional social roles and therefore helps to maintain a division of labour founded on sexual differences. Hence, pre-service training and in-service workshops should be held where teachers would be skilled on how to deconstruct dominant constructions of gender through the curriculum because of the implications it has on the children's own constructions of gender and general well-being at the schools. Similarly, children should be given full autonomy to select the subjects they want to take in high schools to allow them to develop within their area of choice.

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ORCID
Gibson Makamure - https://orcid.org/0000-0001-7761-1588

Phumuzani Mpofu – https://orcid.org/0000-0002-5671-9263

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A model for assessments in higher education institutions

Flip Schutte

Abstract

The rapid transition to online learning during the Covid-19 pandemic has necessitated re-evaluating assessment practices in higher education. This research article presents an assessment model to inform policymakers and practitioners of innovative approaches to address the challenges effectively. Using an action design research methodology, this study delves into the problem of online assessments in Private Higher Education Institutions (PHEIs). By considering the contextual factors of load shedding, unavailability of Wi-Fi, the requirement for cheat-proof evaluations, and the paramount importance of addressing learning outcomes, the study sought to design a model that enables effective assessments in a post-Covid world. The designed artifact contributes to the growing body of knowledge on assessment practices in higher education by providing practical insights and recommendations for adapting to the unique challenges faced post-Covid. The model can guide policymakers and practitioners in developing a framework to address innovative assessment designs in the future.

Keywords: *online assessments, private higher education institutions, innovation, assessment*

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About the author:
Dean of Research and Head of the Institute for Postgraduate Studies, Stadio Higher Education.
Email: pjwschutte@outlook.com

1. Introduction

The overall success within the context of Private Higher Education Institutions (PHEIs) is based upon continual and consistent student throughput rates and successful completion of qualifications. These factors are the establishing and guiding underlying visible principles of best practice regarding student success in higher education. PHEIs are currently at a crucial crossroads in their learning and teaching strategy, where they must consider the goalposts of the future (Mentz, 2023). Furthermore, PHEIs must determine what quality entails and what will be sustainable, replicable, and achievable. The key focus will be on quality assessments. Student success has recently come under the spotlight because of the potential causal link between emergency interventions implemented during Covid-19 and the marked improvements in student throughput rates during the 2020/2021 academic cycles (Khumalo & Makibinyane, 2021). The Covid-19 pandemic disrupted higher education in many ways. Teaching, learning, group, practical work, and assessments moved online and took on new modes. Questions about these changes' sustainability, efficacy, and integrity and their impact on student success still need to be answered and explored. There is a need for further reflection and research as HEIs navigate their way out of the pandemic and into a post-Covid world.

The way HEIs implemented assessments already started to show fractures pre-Covid-19. However, the move to emergency remote teaching revealed that assessments could be done differently. This disruption acted as stimuli for the reconceptualization of current practices and how higher education conducts assessments. Although different types of assessments are used to assess students' learning curves, written examinations are the most common approach HEIs use (Fynn & Mashile, 2022). The emphasis on assessment has become more important because modern society demands high-quality learning. According to Mawa et al. (2019), educators know very little about the assessment of learning or assessment practices in higher education. In fact, a recent study by Dos Reis et al. (2022) found that most summative assessments they evaluated were on a low cognitive level, only testing understanding and application, according to the Bloom Taxonomy. It was concluded that no explicit national policy guides HEIs on using Bloom's or any other taxonomy to assess students at the appropriate National Qualification Framework (NQF) level. Moreover, they found a need for a national assessment policy framework to guide HEIs in assessing students at the different cognitive levels as required by the qualification authorities.

Apart from the quality of assessments, Kakepoto et al. (2021) revealed that poor computer literacy, electricity load shedding, slow internet speed, expensive internet packages, and lack of interaction between students and lecturers are barriers towards online learning and assessments. A huge challenge in the country is to keep the electricity on. This is a fundamental problem in South Africa, and it affects online learning for students. Kakepoto et al. (2021) confirmed it is not only a South African problem. Most developing countries struggle with the same challenge. Pakistan, for example, sometimes has up to 12 hours of electricity load shedding per day. While all online exams rely on electricity, there is no way to program a power outage into the examination and tools to terminate or pause the examination. Some basic issues include recommence exam once the power is back and load-shedding time be bracketed (Dawson, 2021). Similarly, some online exam technologies are resistant to a loss of internet connectivity. According to Kakepoto et al. (2021), expensive data creates a financial burden for students, and because they cannot afford data, they miss online classes. Sometimes, online workshops last around four to six hours a day. For students who can hardly afford the tuition fees, expensive data causes an extra barrier. On most campuses, there are student centers where they can access free data, but then they must travel, which also creates challenges because of affordability. On the other hand, cheating is also a concern, especially for sit-down online assessment sessions, because students have their textbooks and notes with them. They also create WhatsApp groups where they share answers, and the use of artificial intelligence (AI) to monitor exams raises questions about privacy and ethics. More and more students also use AI, such as ChatGPT, to write assignments and answer assessment questions on their behalf (Dianati & Laudari, 2023). These are key problems towards effective online learning, and they have huge implications for online examinations. However, students still consider online learning as helpful and positive.

Connectivity has changed the spaces and times where learning and assessments occur (Gros, 2016). The learning and assessment context has been and is still rapidly changing. Approaches that have been working effectively for decades are challenged, and it seems as if they are no longer appropriate to meet the expectations and needs of the 4IR. To be constantly connected is a way of life, and it has serious implications for learning and assessment. Both can happen anywhere and anytime and can be scheduled around one’s lifestyle, habits, or

preferences. According to Gros et al. (2016), the current buzzword is “personalisation.” Not every person has the same approach to learning, and technology supports this situation.

Students live in a world where everybody is connected 24/7, types on keypads, has permanent access to all information, and struggles with load shedding and affordable data. However, when it comes to exams and assessments, they are forced back to a world of no access to information, writing with a pen on paper, or sitting down for an online examination that mirrors the traditional one, and memorise facts instead of applying it to new situations while googling the info they need. Because of this old-school assessment paradigm, stress and anxiety are building up because students must memorise and remember info and get mostly evaluated on what and how well they can remember (Sharma, 2024). Though people are used to googling everything they want to know while living in the Fourth Industrial Revolution, which is characterised by the fusion of digital, biological and physical technologies, fundamentally altering the way people live and work, people are en route to the 5IR Fifth Industrial Revolution, where the collaboration between humans and advanced technologies like AI and robotics will be implemented to create sustainable, personalised and ethical innovations.

Assessment methods developed slower than the world around the examination centre (Schutte, 2024). Examinations happen in a context that needs to be coordinated and in pace with the world in which the student lives. These worlds must meld to not only accommodate the availability of electricity, data and the movement towards asynchronous learning but also to turn assessments into practical knowledge about the subject, where the student can even gain experience and learn valuable new skills during the assessment, instead of just being an exercise in parroting the textbook and memorising class notes. To address these burning issues, this paper follows design science research (DSR) as methodology to create an artefact to provide a solution to the problem. DSR, as a type of research, invents a new purposeful artefact to address a generalised problem and evaluates its utility for solving problems of that type (Venable et al., 2012). Amongst the different methods for conducting DSR, the research reported in this paper employs the action design research (ADR) methodology. Action design research, as presented in the seminal paper by Sein et al. (2011), provides an insightful structured process model for combining the activities of action research and DSR (Mullarkey

& Hevner, 2018) so that DSR researchers work together with practitioners or stakeholders for mutual benefits and better results.

Following DSR, this paper investigates the problem of online assessments in PHEIs in a post-COVID world and formulates an assessment model that is not affected by load-shedding and the unavailability of Wi-Fi and that is also AI and cheat-proof but will still address learning outcomes. The paper attempts to develop a new, theoretically informed and practical model for this problem.

2. Literature Review

2.1. Necessity for assessments

Assessments are the standard practices to measure how much knowledge and skills have been mastered as a programme's learning outcomes. Mawa et al. (2019) state that the purpose of assessment is to measure, certify, and report the level of students' learning so that reasonable decisions can be made about students' future programmes or placements, but also to assess the success of teaching and the overall value of a programme and system. Assessment is a standard tool to investigate the relationship between subject knowledge and skills gained. But, for Quinn (2015), it is a pity that the dominant discourse is still the assessment of learning in many institutions. She advocates for a shift towards assessments that facilitate learning. She challenges lecturers to extend their focus beyond the immediate classroom context, contemplating how assessment strategies can equip students for lifelong learning and professional success.

Assessment through written examination is a traditional method, universally practiced in most educational institutions. It is a system in which questions are created following the subject content (Jabbar & Omar, 2015). This is done to evaluate if learning took place and if students are competent when measured against the learning outcomes of a subject. However, how effectively this testing is done is an issue (Kembo, 2020), that needs to be addressed. Despite the importance and regularity of testing, many institutions of higher learning need to train their lecturers to assess students effectively. According to the assessments of examination papers done by Dos Reis et al. (2022), most papers do not align with the appropriate NQF level, questions are not crafted in suitable, well-formulated language, and in many cases, the same examination questions are repeated over several years. Kembo (2020) confirmed that, in

some cases, academics expect students to provide word-for-word replications of lecture notes. If this is how students are trained to respond, they will not be able to think critically and innovatively. The assessment paper should stretch and challenge students rather than merely test for memory (Dos Reis et al., 2022).

It is taken for granted that if one holds a PhD or master's degree, one is qualified to teach and construct examination papers (Kembo, 2020). However, a study by Momsen et al. (2013) showed that over 60% of the questions asked stayed at lower levels of cognition and did not test students' abilities to re-organise information, use it in different ways, synthesise it or even apply it to novel situations. The absence of these higher-order questions indicates that examinations do not adequately develop students with the best skills and competencies. It indicates students who have a better memory. The same is true about lecturers' technological competence. It is assumed that they know how to use technology effectively in class and during assessments, but many are either struggling with or avoiding the use of technology (Schutte, 2024). According to Do Reis et al. (2022), the assessment problem relates to the curriculum problem. Some curricula remained unchanged for a decade or more, and the academic staff who ought to lead curriculum innovation often do not have the skills and tools required.

2.2. Different ways of assessing

At many institutions, examination papers assess the student's competency against the learning outcomes. The prescribed textbooks and study guides are the main materials that students use to prepare for examinations. The textbook or outcomes do not change every year. Because of this, a practice has developed where students utilise past assessments as a deductive tool to predict future areas that will be assessed, as well as certain characteristics, such as the difficulty level of question papers (Ontong & Bruwer, 2020). According to Ontong and Bruwer (2020), when past papers are used, they inhibit the development of critical thinking skills. This repetitive nature of items being assessed may result in students who can pass assessments but cannot demonstrate critical thinking skills as required by module outcomes.

For Mawa et al. (2019), the assessment of learning is an ongoing process as it is being conducted continually in various forms. These forms and methods may include tests and examinations and a wide variety of products and demonstrations of learning, such as portfolios, exhibitions, performances, presentations, simulations, multimedia projects, and other written,

oral, and visual methods. However, written assessments are the dominant one. According to Quinn (2015), assessments must not only focus on the content but also on the process of learning and on creativity to gain skills while being assessed.

Critical thinking is a highly valued skill in the current Fourth Industrial Revolution. However, the traditional assessment methods often used by educational institutions, such as repetitive past assessments and focusing on previous examination papers during lectures and study sessions, do not effectively stimulate critical thinking or encourage the analysis of new scenarios. This approach creates a comfortable space for students because they know what questions to expect and what answers to prepare, but it fails to challenge them to think critically and become problem-solvers. HEIs should adopt test-enhanced learning and an appropriate learning approach to produce students who can think critically and solve problems instead of just regurgitating academic content (Ontong & Bruwer, 2020).

According to Mawa et al. (2019), critics argue that written examinations are limited because they only test students' verbal ability and, in a sense, their ability to memorise and remember. This method of assessing is usually a one-time measure based on the achievement made by a student on a particular day and a single correct answer per specific question. Then, this one intervention adds up to 50 – 70% of the total year mark, omitting the student's demonstration of overall knowledge and thought processes. The practice of formative and summative assessments needs some rethinking. Therefore, the enquiry into other assessment methods also identifies the need to measure what students can do with what they know rather than to find out what they know. Other authentic forms of assessment can encourage students to use higher-order cognitive skills and to use their knowledge creatively, encourage them to analyse, synthesise and evaluate (which are the highest orders in Bloom's 1959 cognitive taxonomy) and prepare them better for a life in a demanding digitalised world where problem-solving, critical thinking and decision-making activities are in high demand.

A whole new way of thinking about assessment is necessary. A burning question is the introduction of peer, group, and self-assessment in designing assessment processes (Quinn, 2015). This is important to develop students' capacity to make judgements about their own and others' work. Being able to do this realistically and ethically is likely important for all graduates in their future professions and workplaces. But to assess and evaluate, one needs criteria against which it can be done. In some cases, students are involved in designing their

assessment criteria. This, as well as the process of evaluating peers or their work, contributes to a deepening understanding of how work is assessed and what is valued in a specific discipline.

2.3. E-examinations

Online examinations are still trying to find an identity of their own. Examinations also moved online during the COVID-19 pandemic's remote emergency teaching phase. These examinations were not initially designed as online but as sit-down ones that quickly moved online. Since the first COVID-19 examinations, institutions have experimented with different forms of online examinations. Currently, online assessments at many institutions are more suitable for multiple-choice questions and questions with short answers or questions that can be machine-marked. Questions are given inversely to avoid cheating, and each student might receive a separate set of randomly selected questions. Thus, some students may have more difficult questions; therefore, a fairness issue can arise. Technology to prevent cheating has also been developed and used, such as web lock software, webcams, fingerprint readers and biometric machines (Kakepoto et al., 2021). Researchers such as Dawson (2021) are focused on finding solutions for e-cheating. However, technology is constantly creating new opportunities for learners to have more control over how and where their learning occurs; this includes some assessments. The e-learning environment incorporates collaboration, interaction, and engagement. It makes various possibilities possible, including assessment by simulations and gamifications.

2.4. Technology post-Covid

The Covid-19 has changed the world, particularly how education across the world was seen and accepted. Some HEIs were on the verge of changing their learning philosophy and were propelled and prepared for what became an essential methodology of learning strategy that relied on technology-driven learning. Even though some institutions implemented 'emergency protocols' to continue learning based on technological approaches, the underlying education and learning models were based on archaic and outdated models and policies.

Technology has not stagnated during Covid-19; it has grown, and the 5th Industrial Revolution is now a reality. The future of technology post-Covid will grow, and AI and chatbots are anticipated to transform communication, and logically this concept follows that it

will also change the world of digital literacy (Mills, 2023). Digital literacy and online learning will be catalysts for ensuring that future generations of learners are employable and ready to work in a world that includes new and innovative technology methods. Technology will also influence students' behaviours in the future (Mills, 2023). Therefore, HEIs must address how they look at learning and particularly assess learners in the future. One of the positive concepts that came out of online learning during Covid-19 was that learners, particularly adult learners, could adapt to what became known as the 'new normal'.

The future of education will be hybrid; however, online is going to be the money spinner, and technology will drive this evolution. Therefore, the institutions that gain momentum stay abreast of learning methodologies and interconnect with technology to ensure that they remain relevant and at the forefront of education in the future. The ability to adapt and thrive will not be a catchphrase; it will be the bedrock of education and assessing learners. Higher education needs to remain relevant, authentic and adaptable. A key component will be changing the overall model of assessment that allows learners to embrace technology and a method that allows learning to be transferable and relatable and, most importantly, that allows learners to be employable and able to demonstrate that they have truly a high competency in their area of study. Practical and innovative assessment strategies based on models that include flexibility and life-long learning components will be how future learners thrive in a highly competitive world.

3. Methodology

3.1. Research design and process

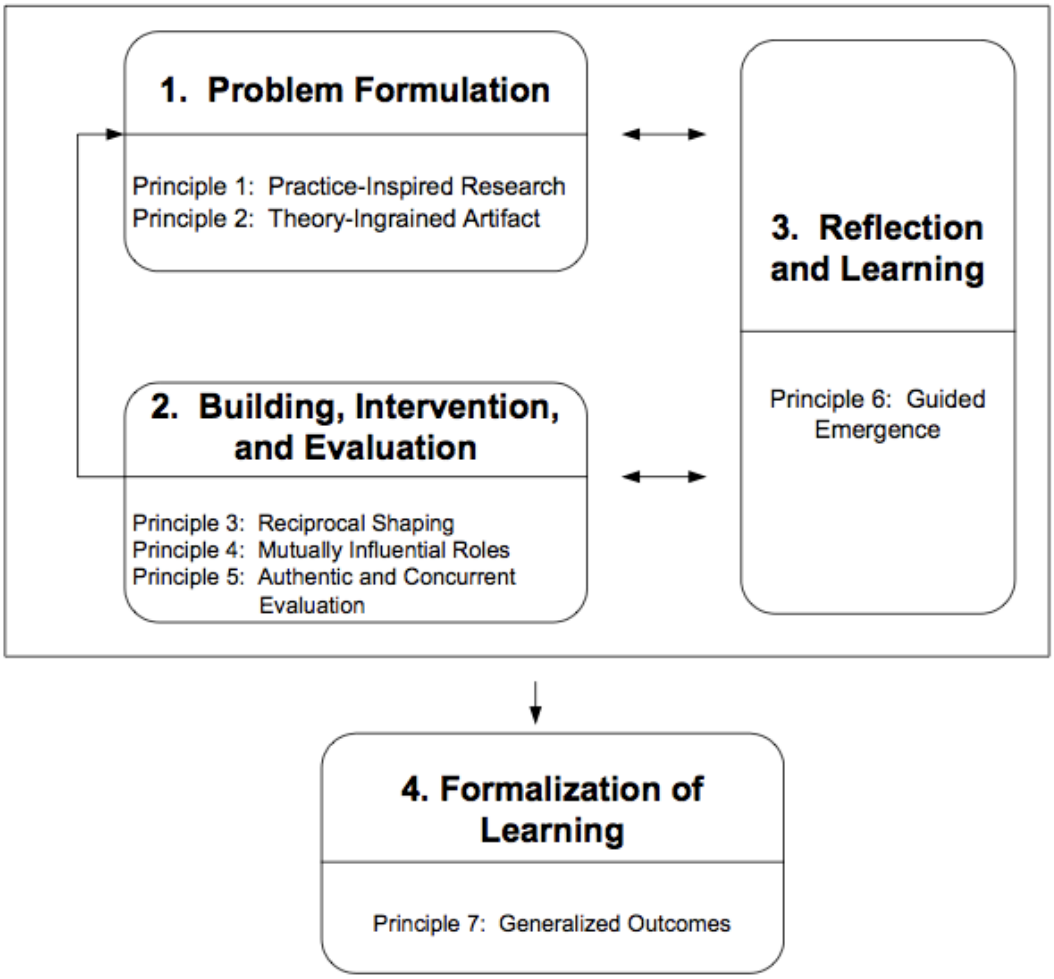
This paper aims to create a new artefact to address the general problem regarding online assessments. DSR is suited for this study because this methodology aims to develop knowledge that can be used to design solutions for problems experienced in a specific field. It has largely been developed in information system research, but it has been used successfully in other fields, such as business and education (Winter et al., 2015; Bakker, 2018)). DSR projects typically undertake four main activities: problem diagnosis, purposeful artefact invention, purposeful artefact evaluation and design theorising (Venable, 2010).

ADR, as presented in the seminal paper by Sein et al. (2011), provides a structured and insightful process model that combines both the activities of DSR (Hevner et al., 2004) and

Action Research (Susman & Evered, 1978). In the end, ADR requires a contribution that proposes a solution for a specific real-world problem through the building of an artefact (Haj-Bolouri et al., 2018), which, in terms of this study, will be a model that aims to guide assessment designs, policies and practical execution in higher education. To this end, this study follows the four stages of the ADR process model (Figure 1), namely the formulation of the problem, intervening and evaluating the problem, reflecting and learning from various collaborative interactions, and finally, formulating the learning into a solution.

Figure 1

ADR Stages and Principles



Source: Sein et al. (2011)

While the first three stages form an iterative cycle, the fourth stage is an outcome of these iterative stages, where the learning is formalised into a result. It is important to note that although this body of research will follow the technical steps of ADR, it is more community-

based, focusing on a network of similar individuals and compiling learning from iterated feedback cycles.

The interactions with educators and students were conducted as semi-structured interviews. The artefact was tested at meetings, structured workshops, brainstorming sessions, and a mini-conference. After each intervention, the artefact was improved and additional elements we added according to the data collected during the intervention. The artefact's design was based on the literature available on online assessments, assessment in general, pedagogy, technology in education, AI, and the challenges of the twenty-first century. The design and creation of the artefact followed multiple evaluations, reflection and intervention sessions during and in between the workshop, meetings, mini-conference, and interviews. The data collected for this artefact came from interaction with educators, students, assessment officers and academics from several private higher education institutions in South Africa. Seven interviews were held with educators and nine with students. The mini-conference had 34 attendees. Eleven people showed up for the brainstorming session and the workshop was attended by fourteen educators who actively participated. All of these activities took place online during scheduled TEAMS meetings.

The final model was evaluated by 26 participants from four different institutions during an online workshop. During the design of each pillar, evaluation was done, and comments were made on what was available at that stage. Immediate improvements were implemented. During the workshop, the researcher presented and explained the model. Then, participants were asked to evaluate its overall comprehensiveness and usability as a model to inform assessment policy and practice. Most participants made positive and appreciative comments on the comprehensiveness and guidance the model is giving.

3.2. Design of an artefact

This section entails the ADR Principle 2 and explains the thinking process leading to the chosen model for online assessments. A theory-ingrained artefact for online assessments needs to find a balance between science, practicality, and technology according to the ADR methodology framework **(**Haj-Bolouri et al., 2016**)**. The artefact will inform policymakers and practitioners on handling innovative assessments in the future, including in an online environment.

4. Results and Discussion

4.1. Basic design and labelling of the artefact

Learning outcomes. Learning outcomes (ELOs) are the minimum range of standards for a level within a module or qualification (CHE, 2011). It would be specified in behavioural and measurable terms, and according to Bell (2022), it should be listed in order of content-based outcomes, cognitive and affective outcomes, and application outcomes. The balance between the three will vary, depending on its role in the module and programme. All the participants stated that this is a non-negotiable pillar of any form of assessment. Assessments assess if learners are competent when assessed against the criteria set by the learning outcomes. It is, therefore, an essential part of the designed artefact.

Learning graduate attributes. During the interviews, brainstorming sessions, and meetings with groups of practitioners and participants from different institutions, the importance of graduate attributes in the curriculum design and assessment has been raised several times. Graduate qualities have been widely debated internationally using terms such as key competencies, core skills, and transferable skills. The term ‘graduate attributes’ has been widely used to describe these qualities (James et al., 2004; Barrie, 2007; Barrie et al., 2009; Holmes, 2013). A baseline study of South African graduates from the employers' perspective (Griesel & Parker, 2009) also embraces the term.

Graduate attributes have several points of reference. Some are shared by the higher education sector (such as attributes relating to academic authenticity); some will emanate from the specific mission, values and ethos of the awarding institution and its commitment toward student graduateness; others are shaped by the disciplinary context and knowledge in which they are conceptualised and taught (Jones, 2009). The graduate attributes must form part of the qualification standards for the Council of Higher Education (CHE) in South Africa (CHE, 2011). The CHE (2022) distinguishes two categories of graduate attributes: knowledge attributes and skills attributes. The CHE also suggests assessing the progression towards the attainment of the attributes. Coetzee (2012) from Unisa emphasised embedding graduate attributes and employability in curriculum and assessment design. According to her, employers seek discipline-specific intellectual capabilities (learning outcomes) and transferable graduate attributes in candidates pursuing employment. The quality of graduates' personal growth and

intellectual development must be portrayed by the skills and attributes they bring to the workplace. Graduate attributes thus enable and promote employability. According to Coetzee (2012), university education has a formative function, cultivating a specific set of transferable graduate attributes that constitute a graduate's graduateness and employability. Therefore, these attributes must be assessed to ensure they have been transferred. That is why this is included in the artefact.

Institutional differentiators. During the workshop and conversation at the mini-conference, the concept of institutional differentiators and niche focus areas were mentioned a few times. Two participants during the semi-structured interviews also stated that the study guides at their institutions are written from their unique focus, and their assessment papers are internally moderated to ensure that their unique perspectives and differentiators are present or implied in the questions. When asked, all participants from all the different institutions confirmed that they have unique differentiators that act as their "competitive advantage", setting them apart from the other institutions in the private education space in the market. All participants also confirmed that they promote these differentiating perspectives and factors by incorporating them into their study material. The majority also confirmed that there is a focused effort to embed their unique niche as part of their assessment.

The CHE (2022) encourages institutions to find their differentiators and unique niches, guided by their institutional vision and mission, and make it part of their qualifications. According to Bell (2022), learning outcomes may, apart from core skills, also include values and competencies that contribute to the ideals and focus of a specific institution. It is thus important to include these in an assessment artefact.

Challenges with online assessments. During the COVID-19 pandemic, lecturers employed various assessment methods through the online mode of teaching and learning, but currently, at the beginning of the end of the pandemic, lecturers are back to practising offline assessment methods, or, where they kept the assessments online, the temptation or commonly used approach is to mirror face-to-face strategies and practices. Only one institution of those interviewed as participants for this study confirmed that they are back to practising sit-down examinations exactly as before the pandemic. The remaining participants confirmed that they kept the assessments online and that their students preferred it. Numerous challenges and barriers to effective online assessments were discussed during the interviews with students and

educators, the workshops, brainstorming, meetings, and the mini-conference. In summary, these can be documented as:

- Load-shedding: An issue exists when load-shedding kicks in during or in the middle of an exam or when downloading or uploading an assessment.
- Expensive data. Some assessment takes three or four hours.
- Unavailability or constant dipping of Wi-Fi.
- Cheating by students who write online. They have open textbooks next to them. They create WhatsApp groups and share questions and answers.
- Artificial Intelligence: They ask ChatGPT to give them the answers, do assignments or write essays on their behalf. They Google the answers.
- Transport is expensive for rural students to go to the nearest centre where they can access Wi-Fi on examination days.
- Not all lecturers have the technological skills and knowledge to maximise the potential of online assessments.
- Not all institutions have the latest and best digital student platforms to facilitate seamless and smooth online student experiences. Many institutions find the available options too expensive, especially PHEIs in South Africa, which do not receive government subsidies. Institutions building their student platforms to customise their student experience undergo teething problems that sometimes affect the student's use of the platform.

  All of these need to be taken into account when designing a model.

Multiple modes of assessment. During the pandemic, online assessments at most institutions mirrored face-to-face strategies and practices. This was called emergency remote teaching, which most students had a positive experience with (Schutte, 2021). Different assessments were suggested during the mini-conference, and a strong plea was made for multiple modes of assessments. During brainstorming sessions, lecturers listed a variety of assessment practices they could think of, such as peer assessments, group work and presentations. As part of the interviews, lecturers from the different institutions shared ways of assessments they are currently experimenting with, such as journaling, reflective essays, gamification, project-based assessments and assignments as summative assessments. This is

not a new or a post-Covid debate. For more than two decades, various assessment practices have been debated during faculty development programs (Zhang & Burry-Stock, 2003; Sikka et al., 2007).

During the interviews, two participants from two different institutions confirmed that they do not do formal examinations on a specific day as an online option. All their assessments are assignments with due dates that the students must upload on the system. One institution still sets an assessment paper for a specific date, but students can download it at the scheduled time. Then, they have 12 hours to complete it, and then upload it again before the deadline. They follow this route to give students affected by load-shedding a fair opportunity to write the exam. Most other institutions set an assessment for a specific date online. The system opens the paper at a set time, and after three or four hours, as indicated by the assessor of the paper, the system automatically closes, and all papers must be submitted. Some institutions use multiple-choice questions because the system marks them, and results are immediately available. To avoid cheating, one institution combines the assessment with reflective essays in which students must explain what they learned from the module in their own words. Another institution expects students, as an attempt to avoid cheating, to upload a PowerPoint presentation with a video of themselves doing the presentation. Institutions see E-portfolios and experiential learning reports as ensuring students refrain from cheating or using AI to complete the assessment. A recent study done by Alzubi et al. (2022), in which they collected data from 62 educators, confirmed that quizzes and presentations were highly useful modes of online assessments and commonly used. Their participants are experimenting with e-portfolios, journaling, and project-based group assignments, which they also consider options for the future.

During one of the interviews, a conversation began on traditional African ways of assessment, and that led to the question about the decolonisation of assessments. The researcher then embarked on a detour and interviewed academic colleagues from Zambia, Nigeria, Zimbabwe, Ghana, Malawi, Botswana, and South Africa on traditional ways of assessment in African cultures. Data saturation was actually reached after the first interview because all participants were in consensus that memorising and assessing facts are not part of the traditional African way of assessing. When taught, learners can ask questions to get more information or gain deeper insight, but the educator does not ask them questions to see if they

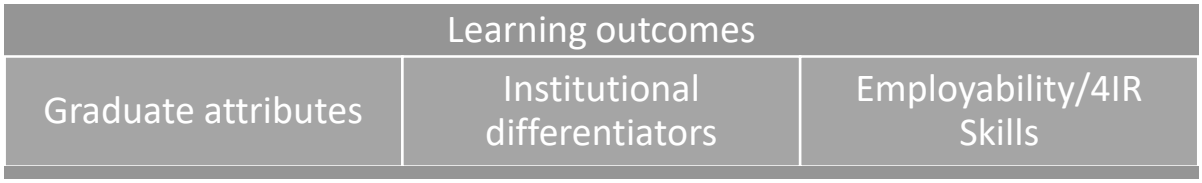
understand. When learners apply their knowledge, the educator will see if they are competent and if they understand. Skills are learned by working alongside someone who knows the trade until they can do it independently. One of the participants remarked that Western terminology called experiential learning and work-integrated learning was born in Africa, and it is a decolonised form of assessment. He mentioned a university in Nigeria where, if the workplace passes the student on the experiential learning report, the university automatically passes the student because the application of knowledge in the workplace confirms that the student is competent. According to most participants, project-based, problem-based, and experiential learning forms of assessment are rooted in a decolonised form of assessment. Since the question of the decolonisation of assessments has been asked by Godsell (2021), and the debate on the decolonisation of universities, curriculum and pedagogy (Schutte, 2019) is far from done, these inputs need to be taken seriously when designing an assessment artefact.

4.2. The model as an artefact

From the narratives of the participants, it became clear that higher education needs a way of assessing students that are load-shedding, unavailability of Wi-Fi, AI, and cheat proof, but that will address learning outcomes, graduate attributes, the unique niche of institutions, employability skills, and that can be done asynchronously. During the model's basic design and labelling phase, it became clear that learning outcomes are the overarching concept. Without assessing the learning outcomes, there is no assessment. This is the basic criteria. It was also confirmed by all participants and tested during the artefact evaluation sessions that graduate attributes, institutional differentiators, and employability skills must be incorporated into the study materials. These aspects must form part of formal assessments to confirm that it has been transferred. During the second phase of the ADR model, the artefact needs to be built and evaluated. The first pillar in the design of an assessment model can, therefore, be visually presented in figure 2.

Figure 2

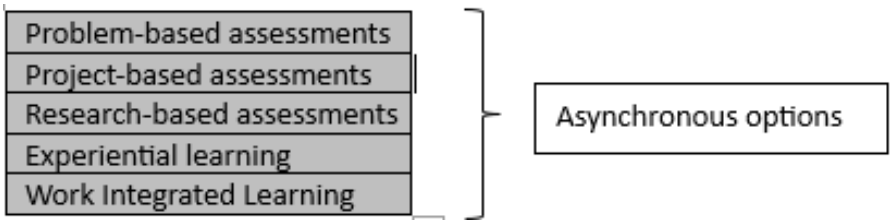
Learning outcomes



The design of the second pillar of the model focused on how to address the credibility of online assessments. During the data collection phase, numerous participants mentioned the problem of cheating and students searching either in their textbooks or online for answers. ChatGPT, other AI technology and WhatsApp groups were also mentioned as cheating tools. From all the different interactions with participants, the researcher concluded, based on the majority of suggestions made, that problem-based and project-based assessments might be the most credible because they minimise the chances of cheating, copying, and pasting an answer from the internet. What was mentioned during the decolonisation conversations can also assist here: experiential learning or work-integrated learning and applying skills. Research assignments as formative and summative assessments were also mentioned during an interview. To address the problem of load-shedding and Wi-Fi availability, asynchronous assessments, as discussed by the participants, were summarized in figure 3 to allow students to either download an assessment and work offline on it or to work on the assessment when they have electricity and access to Wi-Fi.

Figure 3

Asynchronous options

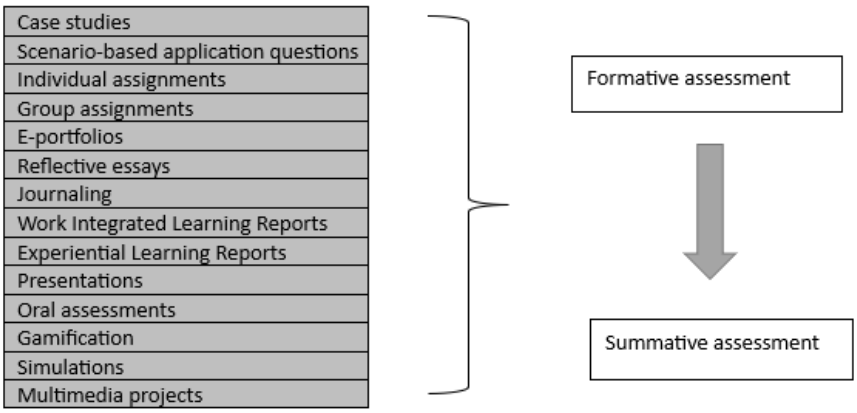


During all the data collection sessions, innovative ways and modes to replace or complement the traditional sit-down examinations have been discussed as the third pillar of the model. For online assessments, to avoid cheating and to get away from testing memory, only application questions and case studies have been proposed by the participants during the mini-conference and brainstorming session. Individual and group assignments promote 4IR and employability skills. It is also more difficult to cheat and can be done asynchronously. Application, analysis, insight, evaluation and critical thinking skills can be assessed according to many participants with e-portfolios, reflective essays and journaling. Work Integrated Learning and Experiential Learning reports from the workplace also serve as evaluation and assessment tools. According to most participants, presentations and oral examinations, even

exhibitions, are options where no cheating is possible because the assessor can ask questions and explore the knowledge and understanding of the student. It is just an impossible option in classes with hundreds of students. Gamification, simulations, and multimedia projects have also been mentioned as innovative options for institutions with technological ability as shown in figure 4.

Figure 4

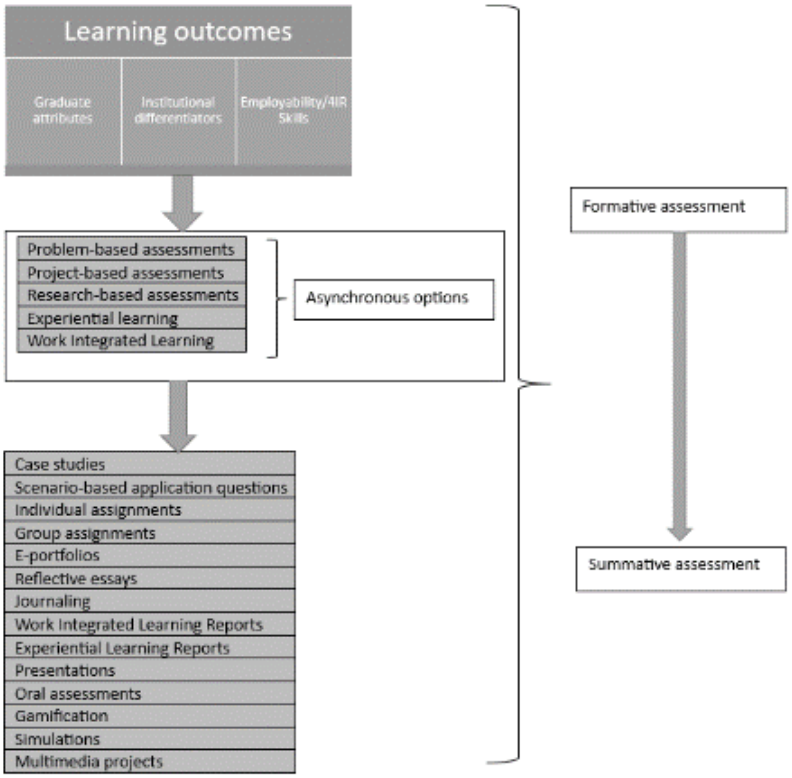
Assessment tools



When the three pillars of the assessment model are put together to create the artefact, it is presented in figure 5.

Figure 5

The assessment artefact



4.3. Evaluation

During the final evaluation session, the following comments for consideration to improve the model were made:

- Consider indicating the role of the CHE's regulatory framework for assessments. This could include the minimum standards for assessment practice and principles such as fairness, validity, reliability and credibility.
- Why only emphasise online assessment? Can this apply to both online and offline?
- Why are only asynchronous options mentioned and emphasised? Can innovative synchronous methods also be explored?
- Why are the employability and 4IR skills mentioned in a separate block? Are they not part of or incorporated by the graduate attributes?
- Is this model applicable to undergraduate and postgraduate programmes?

The researcher asked for volunteers to be part of a brainstorming session to discuss the comments. Eight participants indicated their willingness. The researcher also asked all the participants to do their research to come up with any other suggestions and improvements and to share it via email to finalise the model. Four emails were received. The considerations and improvements are discussed in the next part.

4.4. Discussion

The initial research question for this paper was formulated to investigate the problem of online assessments in PHEIs in a post-COVID world that is load-shedding, unavailability of Wi-Fi, AI, and cheat proof, but that will address learning outcomes.

Improvement feedback has indirectly suggested changes to the article's topic, namely that it must not only focus on online assessment but also that the model can be applied to offline assessments. The topic was further elaborated during the data collection process since the assessments must address learning outcomes, graduate attributes, institutional differentiators, and employability skills.

- To address the comment on the role of the CHE's regulatory framework for assessments, from a design perspective, a block can be drawn around the whole model

because everything happening within an institution regarding assessments must happen within the CHE's regulatory framework.

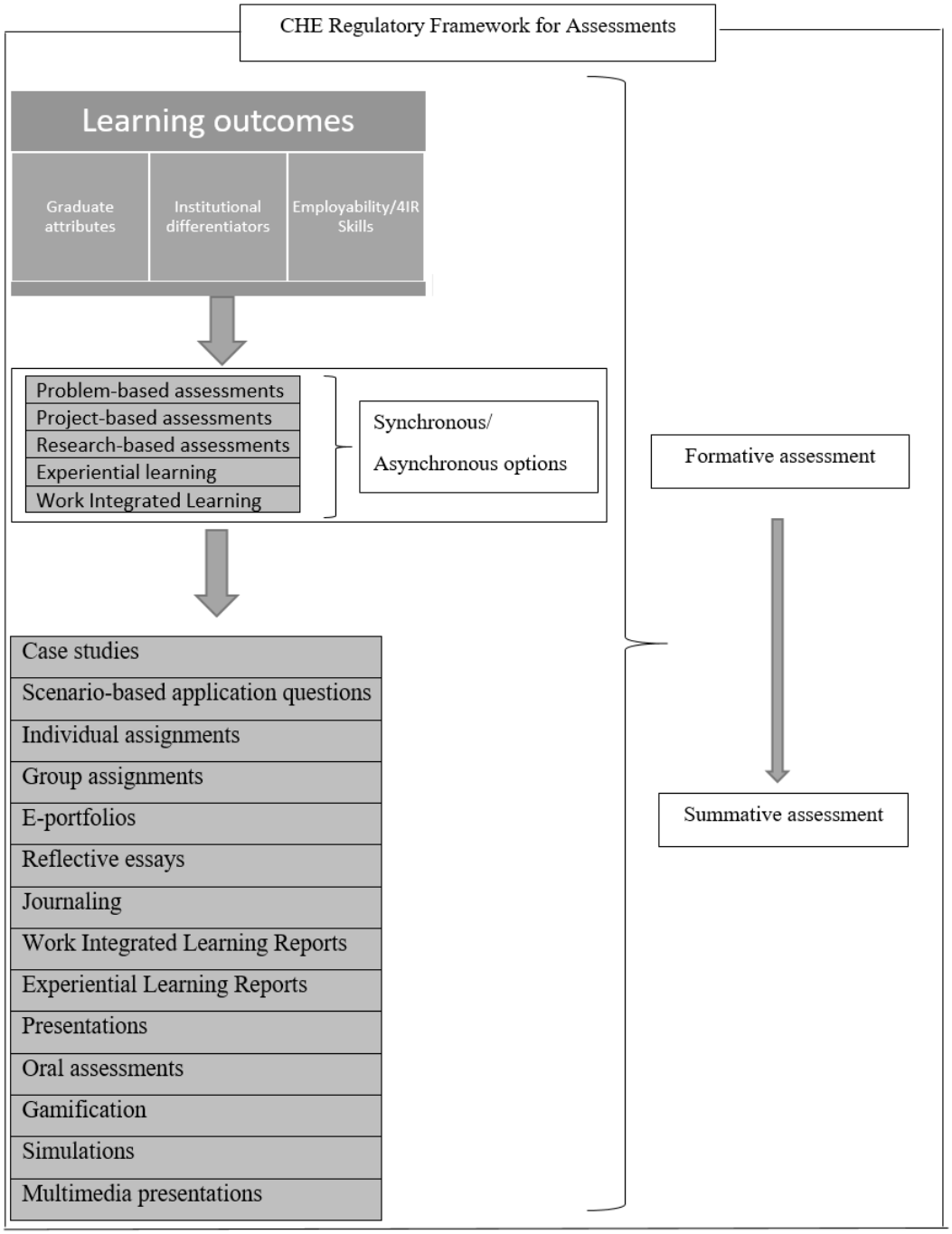
- The synchronous option can be added to the asynchronous option in the model to accommodate the evaluative comment regarding the focus on asynchronicity. The initial focus on asynchronous assessments was accommodating load-shedding and the lack of Wi-Fi. However, institutions that opt for synchronous assessments can also use the proposed modes.
- During the brainstorming session to discuss the evaluative comments, it was suggested that the block indicating employability and 4IR skills must remain part of the model for completeness because not all institutions have incorporated all skills in their graduate attributes. The attributes imply the skills, but it is better to list them explicitly. The model also does not distinguish between undergraduate and postgraduate assessments. It is a model designed to inform the policy and practice for assessments in general at higher institutions.
- The researcher received an email with the remark: Why is this model only for private higher institutions and not also for public universities? The model can be generalised for public universities as well. However, since the data was only collected from private higher education institutes, the research project limited itself to presenting the model as an artefact for PHEIs. Maybe if higher public institutions acted as participants, additional or other data could have been put on the table, but that was not the focus of this project.
- Another comment via email suggested differentiating the model between the management and administration input and the assessment design element of the model. Traditionally, the administration of the process and procedures and their implementation are the responsibility of the examination office in the institution's registrar's space, and the academic staff take predominant responsibility for the assessment design function. The questions regarding online or offline, when and where, are thus more procedural. This lies outside the scope of the model. This will be recommended as an area that needs further research. This model focuses more on the academic staff's assessment design elements, although its purpose is not to guide assessments' design. This can also be a topic for further research. This model aims to

inform the creation of a framework to revisit the policy and current practice regarding assessments at HEIs.

After the evaluative comments have been incorporated, the final artefact is presented in figure 6.

Figure 6

Comprehensive assessment artefact



5. Conclusion and further research

This research aimed to design an artefact that could serve as a model informing assessment frameworks and policies at HEIs. The research followed the DSR and applied the ADR methodology. Initially, the intent was to design a model for online assessment, but it became clear that it could also be used for offline assessments. The initial idea was to design the artefact for use by private higher institutions, but the final model can also be generalised and applied to public institutions. Using ADR was extremely useful in designing the model because of the continuous development and evaluation process. Each interview, workshop, brainstorming session, or meeting either contributed to the creation of the model or, through sharing the model during these interactions with participants; it got evaluated. It was immediately adjusted or expanded with comments that surfaced.

This model is only the first of more tools needed to inform policymakers and educational practitioners about the need to innovate the design of assessments to address the challenges of the times. Further themes that need research are the potential and possibilities technology holds for innovating credible, reliable and valid assessments. How assessments can be a learning experience enhancing employability and 4IR skills also needs to be further investigated. Two more questions must be explored: '*What structural conditions must HEIs implement to support students towards successful online assessments*?' and '*What types of assessments will contribute to creativity, problem-solving, critical thinking, analytical skills, and other expertise needed in our ever-changing world?*'

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ORCID
Flip Schutte - https://orcid.org/0000-0001-6031-9206

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Revisiting management of high school teachers during Covid-19: Implication for leadership contingency

[1]Simanga Phillip Lukhele & [2]LDM Lebeloane

Abstract

The period of Covid-19 outbreak led to the interruption of normal school functionality due to unprecedented turmoil in the management of high school subject teachers worldwide. The unexpected increase in the number of teachers who were directly or indirectly affected and infected during the pandemic brought hesitation to school principals on the appropriate crisis management approach. Thus, this study aims to revisit the management of high school subject teachers during Covid-19 at the Ubombo Circuit Management Cluster in South Africa. Using a case study design, a qualitative telephone semi-structured interview was conducted to gather data. This study finds that the chaos brought by the Covid-19 pandemic in the Kwa-Zulu Natal Department of Education was too sudden that nobody was initially trained to face its impact both in teaching and management. As a result, there was no concrete action plan and crisis management strategies the school principals followed in handling high school subject teachers. During the height of the pandemic, most of Ubombo Circuit Management Cluster school principals creatively attempted various management strategies that they believed would cater for their schools. Hence, this study finds it necessary for the Department of Education to develop policies to equip school principals with necessary skills and knowledge to face future contingencies.

Keywords: *educator, learner, school management, school leadership, Covid-19*

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About the authors:
[1]Corresponding author. Department of Educational Leadership and Management, University of South Africa, South Africa. Email: 17269741@mylife.unisa.ac.za

[2]Department of Educational Leadership and Management, University of South Africa, South Africa. Email: lebelld@unisa.ac.za

1. Introduction

The global chaos created by the outbreak of Covid-19 raised questions on the ability of school principals to respond to the crisis in South African schools. While the classes were suspended during the school closures (Kavrayci & Kesim, 2021), school principals became the first responders, focusing on the basic health and psychological needs of the school community and, later on, curriculum and instructional matters (Kaul et al., 2022). At the onset, school principals and subject teachers were unarmed and ill-prepared to cope with the sudden crisis (Jena, 2020) including the continuity of all educational activities. According to Kwatubana and Molaodi (2021), anxiety among school principals grew as schools were perceived as sites of infection. The many sorts of inconsistencies and conflicting directives from educational authorities have possibly created a timid stance and discomposure in school management during the crisis. This definitely raised the question of whether schools have learned the lessons on contingency planning. As school principals were called the boundary spanners (Ståhlkrantz & Rapp, 2020) during the crisis, studies have provided empirical evidence on their emergency school management (Kafa, 2023; McLeod & Dulsky, 2021; Day & Taneva, 2023; Fahy et al., 2024; Chatzipanagiotou & Katsarou, 2023; Ågren et al., 2023). However, leaders, researchers and policy makers assert the need for school principals to be equipped with contingency planning (Spyropoulou & Koutroukis, 2021; Adams et al., 2023; Steinsund & Eid, 2023).

While school principals struggled with creating conducive environments for learners and educators during the pandemic (Pedroso et al., 2021), they eventually used various leadership and or management styles to facilitate teaching and learning focused on educational goals (Rahman & Subiyantoro, 2021). During the unprecedented pandemic period, school principals were forced to use their personal innovative leadership and management skills and resources to adjust to the crisis (Ramos-Pla et al., Arco, 2021). Hence, this study centred on the exploration of the school principals' management of the high school teachers during Covid-19. As they were expected to perform their core duties at the midst of the pandemic, they were also required to shed light on the clear direction schools should take.

This study focused on revisiting the experiences of selected high schools at the Ubombo CMC, uMkhanyakude District in the KwaZulu-Natal Province, South Africa. The centrality of the management was the disruptions on schooling activities such as teaching, learning and assessment. Empirical evidence heavily focused on the lived experiences of the teachers

(Selvik & Herrebrøden, 2024; Udd & Berndtsson, 2023; Bhatia & Joseph, 2023)) and the management effectiveness of school principals (Apaydın & Manolova Yalçın, 2024; Ramos-Pla et al., 2021; Dare & Saleem, 2022; Elomaa et al., 2024; Taun et al., 2022) but limited research was conducted on the specific strategies employed by the school principals in handling the teachers (i.e. Siregar et al., 2022; Dayagbil et al., 2021; Weiner et al., 2021). The study aims to shed light on the implication of school principals' management practices to planning future contingencies.

2. Literature review

2.1. School management during Covid-19

As described by Chatzipanagiotou and Katsarou (2023) during the pandemic, school principals were tasked to bear the onus of managing teachers and learners in a stressful situation, applying a varied range of roles, implementing reforms and ever-changing policies within their schools, while also navigating structural limitations and inadequate resources. For instance, many Swedish school principals who were at the forefront of managing subject teachers in compulsory schools were nervous about the health of teachers (Ahlstrom et al., 2010). While management of teachers in Brazil was taunted trauma experienced by both teachers and learners (Reimers, 2022), Kosaretsky et al. (2022) shat that teacher management in Russian schools opted creating mirror sites and hosting education resources to reach communities where learners were mainly found. In India, the suspension of teaching, learning, and examinations due to the lockdowns compelled school principals to guide subject teachers through online platforms (Jena, 2020) including WhatsApp groups of guardians, parents, learners, and teachers for effective communication. These are similar scenarios in African Region including Egypt (Rezk et al., 2020) where teaching moved mostly online, Ghana (Tuffour et al., 2021) that introduced distance learning platforms and home-based learning, Mpumalanga Province (Msiza, 2022) that imposed social media and other online platforms and Eastern Cape Province (Mutongoza et al., 2021) that implemented blended learning.

In terms of teaching and learning, Mukuna and Aloka (2020) revealed that in South Africa, the cost of purchasing mobile phones, lack of electricity in some households, low network and Internet coverage, and costly maintenance requirements for data and Wi-Fi services were the challenges faced. In fact, the school principals in the Mpumalanga Province had to find alternatives to reach out to teachers, parents, and learners (Msiza, 2022) including

the use of radio (Omodan, 2020). At the height of the pandemic, high school subject teachers combined various delivery and instruction modes (Costin & Coutinho, 2022) by using social media for online instruction and distance learning platforms for learning materials and assignments (Kosaretsky et al., 2022). In some cases, where there is limited access to electronic resources and online tools (Boer & Asino, 2021), school principals were forced to pilot the best online teaching platform (Moliner et al., 2021). For instance, in Ghana, the Ministry of Education came up with systems such as i-Box education portals, solar panels, and online learning multimedia laboratories to support quality teaching and learning (Bariham et al., 2020).

In terms of school management, in Zimbabwe and Botswana, Mamvuto and Mannathoko (2022) found classes implement in double-shift to reduce class sizes. The South Africa followed suit to start teaching on a rotational approach (Boloka, 2022). While majority of the school principals are preoccupied with the basic challenges on Internet data (Adekunle et al., 2020), private tutors re-took a stance in managing teaching and learning by establishing personal classes for the learners (Resk et al., 2020). While teachers were challenged by the declining student performance (Costin & Coutinho, 2022), they were mostly managed through hotlines by specialists from education management agencies, education psychologists, and school counsellors (Kosaretsky et al., 2022).

Effective management at the time of pandemic required school principals to manage both the school activities and the spread of Covid-19. According to Kafa and Pashiardis (2020), although the physical presence of a school principal was incontrovertibly significant, the effort to manage and coordinate the online learning process was a catalyst and essential for them to control the sudden change. They were defined by their determination and hope (Harris & Jones, 2020) and the heightened sense of responsibility in supporting teachers and learners' achievement of academic and non-academic outcomes (Hauseman et al., 2020). In this regard, they ensured that teachers worked effectively in using technology to communicate with learners, thereby possessing confidence in new and different kinds of academic duties. On the other hand, Samuel (2020) argued the necessity to implement health precautions while school activities continue. Aside from developing innovative teaching and learning designs (Boer & Asino, 2021), they were also responsible to promote a sense of belonging and make the relationship between the school, learners, parents, and the community (Mutongoza, 2021)

while ensuring that teachers work to achieve the school's aims and objectives (Msiza, 2022) and coping with the days of normal schooling (Van der Berg & Spaull, 2020).

2.2. Theoretical framework

This qualitative study was orientated in the discipline of education management and leadership borrowing from Fred Fiedler's 1958 contingency theory of management. According to Shala et al. (2021), contingency theory shows the relationship between leadership effectiveness and situational circumstances. Effective leadership depends on the contingencies of the situation, demanding the nature of the task and how secure they are. Reams (2023) argues that the contingency model is characterised by three components, namely leadership style, situational favourableness, and matching style to the situation. Based on the leadership style, Fiedler's model displays the Least Preferred Co-Worker (LPC) Scale, which entails an individual's feelings towards one's co-worker that the person least wants to work at their organisation. Secondly, situational favourableness is based on the level of support a work environment is for a manager. The matching style to the situation entails that a manager, in order to be effective, must match the leader's style to the right situation.

The contingency model is centred on two variables that aim to identify scenarios and influence the efficacy of individual management (Subri et al., 2020). Firstly, the 'positional power' tests the effect that a manager has on the efficiency of followers by accepting them. This factor reflects how the management style and ability impact the outcome of the situation. The second factor is that of 'task structure,' which measures how specific guidelines are to be met in order to meet the purpose of the organisation. This factor tests the activities that must be conducted as instructed by managers.

Based on the variables of the contingency theory (Subri et al., 2020), this study aims to explore whether school principals were centred on the 'positional power' factor or the 'task structure' factor. Furthermore, grounded on the advantage of being supported by several empirical studies (Shala et al., 2021), Fiedler's contingency theory of management was relevant as a frame of reference for the study. The theory has been found valid and reliable in explaining how effective management can be achieved in research (Shala et al., 2021; Reams, 2023). Similarly, the contingency model implies that findings from studies were used to address management problems that an organisation needed to resolve (Reams, 2023). Since COVID-19 was a situational factor for the effectiveness of school principals to manage

schools, it is imperative for school principals to apply Fiedler's contingency theory of management in order to successfully manage subject teachers for future contingencies.

3. Methods

The qualitative research method was considered appropriate for the study. This method focuses on the generation of theory centred on an open-ended and flexible approach to assessment, narratives, ethnographies, and case studies (Mehrad & Zangeneh, 2019).

3.1. Research design

Since the study was qualitative in nature, Cropley (2022) explains that the purpose of qualitative method is to describe and analyse the world as it is experienced, interpreted, and understood by people during their everyday lives and within their context. The qualitative research is valuable as it studies people in their own definitions of the world, gives meaning to a phenomenon, focuses on subjective experiences of individuals, and is sensitive to the contexts in which people interact with each other (Mouton, 2022). According to Ugwu and Eze (2023), qualitative research aims to achieve a wide understanding of social phenomena in their natural environments. This means that reliance is on the direct experiences of people as agents of meaning-making in their daily lives. Moreover, qualitative research focuses on 'why' rather than 'what' of social phenomena (Ugwu & Eze, 2023).

Since the focus of this study is on an in-depth case of the Covid-19 pandemic, a case study was deemed appropriate. Case study is a logical and systematic plan (Khanday & Khanam, 2019), usually qualitative in nature and aims to provide an in-depth description of a small number of cases, which can range from one to twenty (20) or more (Mouton, 2022). Mutongoza et al. (2021) emphasise that a case study design allows the researcher to get a deeper understanding into selected cases to be studied.

3.2. Population and sampling

The non-probability sampling method was used purposively to select participants from Ubombo CMC. Since the Ubombo CMC has four circuits, School Management Team (SMT) members from each circuit made the sample size; six experienced (over three years in a management position) school principals from high schools. Table 1 shows the biographical data of the participants. Pseudonyms were used to represent the schools of the participants. A pseudonym to name respondents was also used, and they were given codes according to their management position. The gender, age, and home language of each participant are also shown.

Moreover, the highest qualifications of each participant and years of experience in the management position are indicated.

Table 1

Biographical data of participants

Participants	Gender	Age (years)	Home Language	Highest qualification	Years of experience	Position held in management
Indlulamithi High School						
DH1	Male	31	IsiZulu	BEd	3	Departmental Head
Wattle High School						
DH2	Female	41	IsiZulu	PGCE	8	Departmental Head
uMkhiwane High School						
DP1	Male	36	IsiZulu	BEd	6	Deputy Principal
Pine High School						
DP2	Female	49	IsiZulu	BEd	8	Deputy Principal
Aloe High School						
P1	Female	54	IsiZulu	BEd Hons	4	Principal
uMsimbithi High School						
P2	Male	50	IsiZulu	PGCE	8	Principal

Legend: DH1: Departmental Head 1; DH2: Departmental Head 2; DP1: Deputy Principal 1; DP2: Deputy Principal 2; P1: Principal 1; P2: Principal 2

3.3. Data collection instrument

A qualitative semi-structured telephone interview was used for data collection. The length of the interview ranged from 20 to 30 minutes per interviewee. The telephone interview was preferred because it was a feasible method enabling interviewees to respond at any convenient time other than physical contact, which would demand interviewing only during the day. Open-ended questions were generated from the four research questions. According to Elhami and Khoshnevisan (2022), open-ended questions allow the interviewer to collect related data from the interviewee(s) in detail with personal feelings, emotion, ideas, and with less self-censorship. Probing was done to help the researchers explore responses relevant to the research questions. Robinson (2023) explains that probing achieves access to an extra level of detail and depth via verbal prompts to describe, elaborate, demonstrate, or explain a prior answer to an interview question that the participant has already responded to. The appropriate

and ethical utilisation of probes within interviews is a skill that should be intensively developed by qualitative researchers (Robinson, 2023). Since questions were asked in English, participants were asked twice to ensure credibility, and were allowed to express themselves conveniently in their preferred language. The participants' responses were transcribed through an audio recording application, allowing the validity of the responses during analysis and interpretation.

3.4. Research Ethics

According to Arifin (2018), ethical considerations in a qualitative study have a particular resonance due to the in-depth nature of the study process, which is central to protecting human subjects through the application of ethical principles. Flemming and Zegwaard (2018) point out the importance of getting approval before the commencement of data collection. Ethical matters in this study included issues of informed consent, anonymity, and confidentiality.

Consent. The participants were physically approached to explain the purpose of the study and the process of data collection. Grounded on matters of consent, the researcher provided an informed consent form to participants for them to sign in agreement that they would be part of the study. Furthermore, participants were informed that their participation in the interview was voluntary and that if they wished to withdraw, they could do so at no cost.

Anonymity. Bos (2020) argues that anonymity seems like a safer guaranteed matter for protecting participants' identities. Since this study relied on audio recording for data collection, the researcher valued anonymity by informing the participants that their identities would not be revealed; hence pseudonyms were used. However, the researcher relied heavily on confidentiality rather than anonymity.

Confidentiality. Bos (2020) defines confidentiality as an agreement between the researcher and the participant not to disclose specific personal information. Grounded on the concepts of Flemming and Zegwaard (2018) that confidentiality is mainly used in interviews, participants were informed that their responses would be recorded for data analysis purposes only and that their identity would not be revealed in the study. The privacy and confidentiality of the information were managed during the telephone interview on matters such as revealing who the caller is and requesting to be in a quiet environment to ensure a noise-free recording.

3.5. Data analysis

Thematic data analysis was used in the process of categorising themes and sub-themes, as edified by Peel (2020). According to Finlay (2021), the six steps of thematic data analysis include: the researcher becoming familiar with the data; generating initial codes; searching for themes; themes are reviewed, defined, and named; and writing up phase. To answer how the high school subject teachers were managed during Covid-19 at the Ubombo CMC, the steps outlined by Finlay (2021) were contextualised for the process of data analysis.

Firstly, the researchers familiarised themselves with the transcribed data before generating codes. With the research questions in mind, data were concisely and meaningfully organised, as affirmed by Peel (2020). At this point, the coding of the participants in relation to their positions held in the management was done. Moreover, key themes and sub-themes were linked with the four research questions. Reviewing the themes considered the elimination of those that did not address the research questions. Therefore, the relevancy of data interpretation relied on the well-crafted themes arranged in table 2.

Table 2

Arrangement of themes and sub-themes

Theme no.	Themes	Sub-themes
1.	Managers of high school subject teachers during COVID-19 at the Ubombo CMC.	• School Management Teams • Circuit managers
2.	The process of managing high school subject teachers during COVID-19 at the Ubombo CMC.	• Methods and processes followed
3.	The environment where high school subject teachers were managed during COVID-19 at the Ubombo CMC.	• School environment • Online platforms • Home environment
4.	Reasons for the management of high school subject teachers during COVID-19 at the Ubombo CMC.	• Need to pursue careers • Saving instructional time • Lessons to be learnt from the pandemic

4. Results

This results were obtained through the telephone semi-structured interview and document analysis. The participants' information from the audio recording device was transcribed as is. Some participants gave their responses in the isiZulu language. Consequently, information was typed as is and without editing to ensure validity. The information was further translated into English so that it is comprehensible to people who are unfamiliar with isiZulu.

Theme 1: Managers of high school subject teachers during COVID-19 at the Ubombo CMC

Participants were asked to explore who managed high school subject teachers during Covid-19 at the Ubombo CMC, which most of them gave similar responses. The SMT was mentioned to be the most effective role player in the management of high school subject teachers. However, the circuit managers were also mentioned as taking a stance in supporting and managing subject teachers.

School Management Team. Most participants mentioned that the SMT managed high school subject teachers during Covid-19 at the Ubombo CMC. Participants expressed themselves as follows:

DH1 stated:

> *"I and the principal managed subject educators during COVID-19.*"

DH2 expressed:

> *"In our school, the SMT decided to have a meeting to discuss how the whole school would be managed. In the SMT, there is a principal and two departmental heads. As an older person who had comorbidities, she* (the principal*) suggested that she would communicate with us while she was at home because she feared being infected. We then came up with a solution: she would manage us as departmental heads through calls and WhatsApp and deliver paperwork to school, such as circulars if needed."*

When further asked who would then be managing other subject teachers, DH2 elaborated:

> *"Well, we, as DHs, managed subject educators. We then decided that when schools were closed, subject teachers and class teachers would manage their*

> *learners with support from us, and that's how it went. So, it was a top-down approach that we took in the management of our school."*

DP1 said:

> *"During the COVID-19 period, the school management team, which consists of the principal, deputy principal and departmental heads, were responsible for the entire management of the school."*

The participant was further asked to elaborate on the number of SMTs responsible for the management of subject teachers. He responded:

> *"I am the only one who is the deputy principal, so I am delegated to work as a principal in her absentia. We worked with three HODs (departmental heads) during that time. Fortunately, all SMT members reside close to the school, so it was not that difficult to meet face-to-face to make decisions on how to manage our school."*

P2 mentioned:

> *"The school was managed by the SMT, which is the school management team. We have three members: the principal and two departmental heads. However, one co-opted post level 1 educator assisted us in managing the school because we were expecting another post as our school enrollment was growing. So, she was acting as a DH for the Humanities Department. So, to answer your question, the SMT managed subject educators during COVID-19."*

Circuit managers. Although the circuit managers indirectly managed subject teachers, they played a role in supporting the management of subject teachers during Covid-19. These are the sentiments of the participants in this regard.

DH1 stated:

> *"The circuit manager ensured that we get support in managing subject educators during unusual times. We were all confused about how to manage, but through his support, we, as the SMT, tried our best to manage subject educators."*

P1 alluded:

> *"Even though we tried to ensure that teaching and learning were done, we got instructions from the Department of Education through umhloli* (circuit manager)*."*

P2 stated:

> *"We got support from our circuit manager through his visits, and we felt motivated as principals to further manage our subject educators without fear during the crisis."*

Theme 2: The process of managing high school subject teachers during Covid-19 at the Ubombo CMC

Participants were also interviewed to explore what was done to manage subject teachers during the pandemic. Firstly, they were asked to relate what was done and then probing kicked in for them to explore how it was done. This theme incorporates the methods and processes undertaken thereof.

Strategies and processes followed. Participants provided various strategies that were used to manage subject teachers in the CMC. WhatsApp groups, Facebook, Zoom meetings, radio stations, take-home activities, and departmental circulars were among the methods used to manage subject teachers during Covid-19. Other participants uttered that phone calls helped to manage subject teachers remotely. In some instances, managers referred subject teachers to listen to radios to access Matric intervention programmes, which they would use in their classes.

DH1 stated:

> *"So, in our WhatsApp group, all subject educators responded to our instruction."*

DH2 mentioned:

> *"The principal managed us as DHs remotely using cellphone calls, and we, as DHs, managed subject educators remotely and in full attendance."*

When asked whether they considered other ways of managing subject teachers remotely besides phone calls, DH2 responded:

> *"Only WhatsApp groups and phone calls were tried to manage subject teachers."*

DP1 asserted:

> *"We, as the SMT, were then used to holding meetings via Zoom and planning how subject educators could be supported during COVID-19 times. Besides the fact that some learners had no cellphones, other subject educators complained that they would not use their data because the government did not compensate them. As a result, it was difficult to manage through convincing them to opt for Watsapp lessons. Another reason that prevented the SMT from successfully managing subject educators during lockdown is that sometimes educators would not show or respond to WhatsApp meetings or pick up calls."*

DP1 added:

> *"We also advised subject educators to listen to some lessons from radio stations such as uKhozi FM and Maputaland Community Radio as there were curriculum recovery programmes. In that way we thought it was going to be fruitful to share with their learners."*

DP2 stated:

> *"We were confused about what strategies we could use. Our superiors were even hesitant to give us directions on their own. They had to get instructions from the provincial government on when to continue teaching and when to stop. So, in our school, we tried WhatsApp groups to communicate instructions to our subject educators since we had times when schools were closing. However, the strategy of WhatsApp helped and somehow created challenges."*

Besides phone calls and social media platforms, some participants adopted the rotational learner attendance approach to be able to manage high school subject teachers. However, some managers mentioned that little was done to manage subject teachers.

DH1's excerpt:

> *"There was not much effort put into managing subject educators since they were few, so they complied with our instruction when they were supposed to be at school. Schools closed when the pandemic hit hard and reopened when the infection rate was low. So, the unity that we had with subject educators made us manage with ease."*

DP1 said:

> *"During the time when both learners and educators were to be at school, the adjusted rotational approach for the return of learners was implemented in our school. That was because our school had a high enrollment of over 800 learners, so we couldn't allow all grades to return to school at once. However, we didn't compromise regarding Grade 12 subject educators and learners; they all came to school. We were lucky enough because it is mandatory that all Grade 12 learners reside near the school for extra classes, so subject educators had no worries to deliver lessons."*

Similarly, DP2 mentioned:

> *"Besides the use of WhatsApp to manage subject educators, we adopted the method of allowing learners to go to school on a rotational basis. We could not let all learners attend since we are managing a big enrolment school."*

The Guidelines for Development of the School Timetables Reopening of Schools (2020) suggested three models to be used in schools for the attendance of learners. The models included platooning, alternating days per week and bi-weekly rotational attendance. Firstly, platooning is applied when schools allow two separate sets of subject teachers and learners to use the same building, one set in the morning and one in the afternoon for teaching and learning. The alternating days per week implied that grades alternate classes or lessons on different days of the week. Lastly, the bi-weekly rotational attendance allowed grades to attend school on alternate weeks. The mentioned strategies imply that there should be a consistent model to be adopted by school principals to manage subject teachers in future contingencies.

Theme 3: The environment where high school subject teachers were managed during COVID-19 at the Ubombo CMC

Participants revealed that the management of subject teachers took place in the school, through online platforms and at home.

School environment. It is evident from the findings that teaching and learning continued in the CMC during Covid-19; subject teachers attended schools when they were reopened.

DH1 stated:

> *"The management of subject educators took place both in the school and when they were at their homes. At school, it was a usual management role displayed by the SMT while ensuring COVID-19 protocols."*

DP1 said:

> *"At school, the SMT was in full force, and we attended school except on days when we had to temporarily close due to recorded cases. It was hard because there was a time when the principal and two departmental heads tested positive for COVID-19, so we had to keep our shoulders on to manage subject educators."*

P1 articulated:

> *"Well, the place where management of subject educators was on two folds. The DH managed subject educators at school when COVID-19 infection was low, and at home when the pandemic was high".*

Online platforms. High school principals tried online platforms such as WhatsApp and Zoom to manage subject teachers during COVID-19. However, it is evident that such platforms were ineffective in some schools.

DH1 stated:

> *"...even though there were slight challenges to hold meetings via WhatsApp due to clashes on a particular scheduled time, but subject educators would later respond positively on the deliberations and instructions given."*

DP1 mentioned:

> *"We managed subject educators at school and through online platforms such as WhatsApp groups, Zoom, and phone calls."*

DP2 reiterated:

> "*So, in our school, we tried WhatsApp groups to communicate instructions to our subject educators since we had times when schools were closing."*

Home environment. Some participants articulated that the management of high school subject teachers took place while they were at home. This was because schools were closed

during the national lockdown. However, some participants highlighted that it was difficult to manage subject teachers while at home.

DH1 stated:

> *"Subject educators were managed through social media channels and telephonically when they were at home.*

Similarly, DH2 said:

> *"It was a bit easy to manage subject educators because they were managed from home and even at school through different levels of management."*

Contrary to DH1 and DH2, DP1 opined:

> *"I could say little was done to manage subject teachers while they were at home. That was due to inaccessibility to technology and other reasons that teachers gave."*

P2 stated:

> *"The effort to manage learners while they were at home was unsuccessful due to the reasons I mentioned."*

Theme 4: The need to manage high school subject teachers during Covid-19 at the Ubombo CMC

Participants were asked on the necessity to manage high school subject teachers during Covid-19. While everyone can carry-on with their individual tasks, school principals ensure to manage both the virtual and onsite working environments.

The need to pursue careers. Most participants revealed that learners, especially those in Grade 12, had to pursue their careers regardless of the Covid-19 pandemic. Likewise, subject teachers had to play their part for some reasons. It is learnt that if the management of high school subject teachers had not occurred during the entire Covid-19 period, learners would have perhaps had delayed career goals.

DH2 mentioned:

> *"We had very rare cases of serious illnesses from subject educators and learners, so we thought they were classified under low risk of serious admissions. Although that was a risk we took, it worked for us because many of those learners are in universities and colleges. So that was a fruitful risk for them, and we could not be blamed for managing them in that situation.*

DH2 added:

> *"Subject educators, on the other hand, had to be managed during the pandemic not only to do their work but to do their work under vigilance. We needed to ensure that they were not infected while doing their work."*

DP1 stated:

> *"…This means that our learners are in tertiary institutions as we speak, so if we couldn't manage subject educators to teach our learners, they would have lost the years of their tertiary studies."*

DP2 articulated:

> *"... Starting with subject educators, they needed to trust us and feel motivated and comforted by us to do their work willingly. So, the onus was to let them consider the future of our learners at hand. As hard as it was, they had to try to assist our learners through teaching, so we managed them on that. Learners also had to value their future. They had to prioritise their education amid the pandemic so that they could be doctors, teachers, nurses, and the list is endless…".*

P2 argued:

> *"There was a time when we as principals thought that the department was gambling with our lives, forcing us to work under COVID-19, but I also felt that it was unfair for learners not to learn. They had a future ahead of them as well. I think we had to manage our schools to manage that gap."*

Saving instructional time. One of the reasons explored by participants for managing high school subject teachers during the pandemic was saving instructional time. The core function of teaching and learning had to be kept running. Participants affirmed in this regard.

DH1 avowed:

> *"I think it was reasonable to manage subject educators during COVID-19 because the main core in the school is teaching and learning. As a result, without that core function, we would have no professionals and educated citizens."*

Similarly, DP2 went on to say:

> *"Maybe to add, I would say the provincial government expected us to manage teaching and learning. Curriculum management was a necessity. Our learners had to learn even though we were facing COVID-19. In essence, teaching and learning was the main reason for subject educators and learners to go to school."*

P1 revealed:

> *"It was important for several reasons but eyokuqala nje, abantwana kwakungafanele balahlekelwe isikhathi sokufunda* (firstly, learners were not supposed to lose the instructional time). *They needed to learn regardless of the challenge. Our department tried to save that time, although there were gaps here and there."*

Lessons to be learnt from the pandemic. It is undeniable that there were lessons learnt from the Covid-19 period that school principals encountered unprecedented exposure to managing high school subject teachers.

DH1 opined:

> *"Subject educators were to be managed so as to make them realise that their pastoral role was meant to provide a conducive environment for their learners even during challenging times."*

DH2 mentioned:

> *"As I mentioned earlier, our school is located in an impoverished area so izingane zethu kwakufanele bavuke bazithathe, bafunde noma izimo zingavumi ukuze baxoshe ikati eziko* (our learners had to shoulder on and learn during those hard times to eradicate poverty)*."*

Similarly, DP1 alluded:

> *"We had to act as loco parents* (in place of a parent) *as we had to take care of our learners. Some had lost their loved ones, so we had to take a pastoral role to*

ensure that even those that feared the virus and those that were orphans were taken good care of."

5. Discussion

Since school principals were called on to bear the onus of managing a particularly stressful situation, serving a diverse range of roles worldwide (Chatzipanagiotou & Katsarou, 2023), the findings revealed similar insight from the study area. The SMT managed most of the high school subject teachers at the Ubombo CMC, including the principals, DPs, and DHs. The management of high school subject teachers successfully relied on the instructions set by either one or all members of the SMT. The findings also revealed that the school principals either delegated the DP or the DH to assume management duties when they were absent or infected by the disease. Apart from the SMT's role in managing high school subject teachers, circuit managers also took a stance to support school principals in the process. It is understood that the circuit managers' role is to manage school principals. However, through the findings, they accepted the onus to guide SMTs in managing subject teachers since the pandemic was unprecedented.

School principals explained explicitly how the high school subject teachers were managed during Covid-19 in the CMC. Unlike Brazil where communication modes such as WhatsApp, YouTube, and Instagram were used to propose learning activities (Costin & Coutinho, 2022), the methods used in the management process at Ubombo CMC were WhatsApp groups, Zoom meetings, Facebook, phone calls, and radio stations. Some schools also initiated an alternative approach to learner attendance. Moreover, the DBE assisted school principals with issuing circulars, guiding them in managing teachers.

During the surge of Covid-19 infections in the country, schools were closed entirely. However, some school principals at the Ubombo CMC opted to use online platforms to manage high school teachers remotely. SMTs communicated instructions to manage subject educators through WhatsApp groups, Zoom meetings, calls and, in rare circumstances, on Facebook. Although some school principals revealed that some challenges emanated from these methods, they tried to keep the schools running, particularly in Grade 12. Challenges such as inaccessibility to smart cellphones, data costs, network problems, and load shedding seemed to threaten the process. Apart from online platforms, some school principals advised teachers to listen to radio stations such as Ukhozi FM and Maputaland Community Radio. This aimed

to assist subject teachers to impart educational broadcasts to their learners. Similarly, Ghanaian schools had opted for remote teaching endorsed by the government to deliver lessons through platforms such as the Internet, television, and radio (Tuffour et al., 2021). Learners at Ubombo CMC listened to educational programmes from the radio aimed at recovering the curriculum. Furthermore, some public announcements were communicated via these platforms. Grade 12 learners were also invited to collect study material from school during the lockdown to keep them updated with the formal curriculum.

Platooning, alternating days per week and bi-weekly rotational attendance were among the methods outlined by the Guidelines for Development of the School Timetables Reopening of Schools (2020). Most school principals adopted the approach of alternating days per week for the attendance of subject teachers and learners. School principals allowed grades to attend on certain days a week, with Grade 12 attending daily. The findings revealed that this method was only applied to schools with large enrollments. In essence, this approach aimed to lessen the fast transmission of the virus among teachers and learners. However, schools with few learners allowed all to attend when schools reopened.

Although the pandemic seemed to paralyse the efforts of school principals to manage teachers, the findings suggest that there was a need for Grade 12 learners to continue their studies in tertiary institutions. This implies that the accumulation of gap years anticipated during the crisis was avoided through continuous engagements with subject teachers and learners in matters of curriculum delivery. The core function of teaching and learning was kept on its wheels amid the pandemic. This means that instructional time was saved. Various methods were attempted to enhance teaching and learning. School principals continued to manage subject teachers so that the notional time for teaching and learning was not lost. Consequently, most learners pursued their studies at various tertiary institutions. Lastly, the findings suggest that there were lessons learnt from the unprecedented Covid-19 pandemic. The pastoral role of subject educators was intensified as they were able to take care of the learners. This was central to identifying learners from impoverished backgrounds as well as those who became orphans because of the pandemic.

The pandemic has taught school principals to be resilient and exemplary to their subordinates in leading through challenges. It could be brought to light that school principals should perhaps welcome the use of technology in schools. This has been observed when subject teachers and learners spent most of their time at home during the pandemic. As a result, the

online approach would be feasible for managing teachers and learners not only during future crises, but also at present times.

6. Conclusion

Management of high school teachers became a challenge to most school principals as they were not prepared during the Covid-19 pandemic. Consequently, there was no effective strategy and practices used to manage teachers at Ubombo CMC; everything emanated from what was necessary during the situation. Hence, the experiences shared by the participants imply the necessity for contingency leadership. School principals must be equipped with the skills to implement necessary strategies in times of crises and chaos. However, they should have been armed with necessary tools given the proper support. Hence, this study sees the need to develop and put in place a contingency management plan to be used by all school principals during any crises. As the educational landscape has been changed during and after the pandemic, it becomes a necessity to allot budgets for school gadgets and backup plans such as solar panels or generators to eliminate load shedding. As part of the training programmes, schools develop training sessions for any technological use for learning, contingency plans in cases of crises, and effective handling of students and personnel under traumatic circumstance.

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ORCID
Simanga Phillip Lukhele- https://orcid.org/0009-0008-7132-5124

LDM Lebeloane- https://orcid.org/0000-0002-5498-0118

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Exploring students' experiences with authentic assessment in an online learning context

[1]Cosmas Maphosa, [2]Eunice Khetsiwe Mthethwa-Kunene, [3]Talent Rugube & [4]Patience Samukelisiwe Dlamini

Abstract

Authentic assessment brings a new dimension to assessment where learning and assessment are linked to genuine workplace environments. In this assessment, students apply knowledge and skills to solve real and felt workplace problems. Underpinned by the connectivism learning theory, this qualitative study examined students' authentic assessment experiences in an online course. It focused on the type of authentic assessment, benefits, and challenges encountered by the students during the course. The study followed a qualitative case study research design taking the short course on online teaching for educators as a case. Data were collected from twelve purposively selected participants through an open-ended questionnaire administered online, which served as a course evaluation instrument. The thematic analysis was employed to analyse data. The study found that course participants were exposed to different and multifaceted authentic assessments related to developing knowledge and skills in online teaching. The participants derived numerous benefits from authentic assessment activities, though they also encountered some challenges. The study concludes that authentic assessment should be entrenched in online professional development courses. The results are potential inputs to curriculum development that can inform the design and implementation of online professional development courses.

Keywords: *authentic assessment, online learning, online course, pedagogy, technology*

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About the authors:
[1]Corresponding author. Professor and Director, Institute of Distance Education, University of Eswatini, Eswatini. Email: babakuzi20@gmail.com
[2]Senior Lecturer & Coordinator- Research and Evaluation, Institute of Distance Education, University of Eswatini, Eswatini
[3]Senior Lecturer & Coordinator – Multimedia, Institute of Distance Education, University of Eswatini, Eswatini
[4]Senior Lecturer & Programme Coordinator, Institute of Distance Education, University of Eswatini, Eswatini

1. Introduction

The education sector is undergoing fast changes, with online learning gaining more prominence. With the ongoing transition, it is more important to guarantee that assessment methods in online environments are both effective and meaningful. Authentic assessment has emerged as a viable approach to meet this requirement, specifically in the context of equipping educators for the challenges of online teaching. Authentic assessment necessitates students to utilise their knowledge and skills in practical situations that closely resemble the complexities and challenges they will encounter in their future careers (Mueller, 2014; Karaunayaka & Naidu, 2021). This approach is especially pertinent in the realm of education, where the capacity to translate theoretical knowledge into actual teaching abilities is vital. Participating in authentic assessment activities allows student educators to cultivate crucial skills such as critical thinking, problem-solving, and other higher-order abilities that are necessary for effective online teaching (Chabeli et al., 2021). According to Gunasekaraa and Gerts (2017), authentic assessments are made to attain learning outcomes that have real-world significance and mirror the tasks that students would complete while applying their knowledge in the real world.

The incorporation of authentic assessment in online learning settings offers both prospects and obstacles. One advantage is that it enables the use of creative assessment methods, such as collaborative projects utilising resources like Google Docs (Nguyen & Nguyen, 2022) and reflective blogging (Chiu, 2022). These methods can improve student involvement and facilitate the growth of essential digital skills necessary for online instruction (Borthwick & Hansen, 2017). However, in the online context, there are substantial challenges that arise, such as digital equity, time management, and the requirement for strong student support networks (Dhawan, 2020; Rotar, 2022). Although there are challenges, the potential benefits of using authentic assessment to train educators for online teaching are substantial. Authentic assessment facilitates the connection between theoretical knowledge and practical application, enabling student educators to apply what they have learned in genuine situations (Bardach et al., 2021). Additionally, it can enhance the acquisition of employability skills, which are becoming more crucial in the dynamic educational environment (Mohamad et al., 2018; Webb & Chaffer, 2016).

This study aims to explore students' experiences with authentic assessment in an online teaching course for educators. By examining the experiences, the study hopes to gain insights into the effectiveness of authentic assessment in this context, the types of authentic assessment tasks students were exposed to in the online course, the benefits, and the challenges students face, and the strategies they employ to navigate these challenges. These insights can inform the design and implementation of authentic assessment in online teacher education programmes, ultimately contributing to the preparation of more effective online educators.

2. Literature review

4.3. Defining authentic assessment

According to Mueller (2014), authentic assessment requires students to apply fundamental knowledge and abilities meaningfully by performing real-world tasks. Similarly, Karaunayaka and Naidu (2021) note that authentic assessment is characterised by "real-world" functions that provide students with opportunities to practice problem-solving in the real world. Such assessment allows students to apply the skills they developed during these learning experiences to problems and challenges they will likely encounter in the workplace after graduation. It is, therefore, important that in higher education, assessment should not be for assessment's sake or mainly to test students' knowledge retention. Instead, there is a need for a deliberate attempt to link assessment tasks to the world of work and make assessments real.

As further underscored by Shaw (2019), when compared to assessment tasks unrelated to the workplace, students are likely to find authentic assessment activities engaging, informative, and significantly less stressful or intimidating. Students are more likely to be motivated to complete assessment activities if made more realistic and relevant. When assessment assignments require students to solve specific challenges, they will be intrinsically driven to do so since they will feel a sense of accomplishment upon completing the difficulty.

According to McArthur (2023), "authenticity," which describes how closely an assessment resembles the environment of professional practice or "real life," is the foundation for the idea of authentic assessment. Accordingly, an evaluation is considered legitimate if it is consistent with what happens in the workplace or professional practice. According to Baartman and Gulikers (2017), the authenticity of the assessment tasks speaks to the

discipline's competencies. Authentic assessment designs should also guarantee that knowledge is transferred from real-world experiences to other assessment tasks that come after.

According to Sokhanvar et al. (2021), an authentic assessment task requires applying particular abilities and competencies in a novel setting. This calls for the course instructor's ability to create new or unique situations or scenarios that call for the students' application of knowledge and skills. In a way, authentic assessment addresses higher-order learning outcomes. According to Mohamed and Lebar (2017), the problem with traditional assessment techniques is that they typically measure a student's knowledge rather than their abilities. Authentic assessment addresses this issue by putting the student in a real-world setting where knowledge and skills are used. Nkhoma et al. (2018) make a similar claim, stating that authentic assessment allows students to build abilities that help them apply the formal education they receive in the classroom.

Through critical thinking and problem-solving, authentic assessment empowers students to address "real-world" difficulties (Chabeli et al., 2021). Authentic assessment plays a significant role in instilling critical thinking and problem-solving skills in graduates, which makes them relevant for employment. Employability is described by Mohamad et al. (2018) as the set of abilities graduates possess to help them get hired. Employability skills include time management, ethical awareness, flexible and practical learning, problem-solving, professionalism, resilience, delegating and visioning, negotiation, and conflict resolution, as Webb and Chaffer (2016) highlighted. These skills should be embedded in assessment tasks to realise authentic assessment.

2.2 Characteristics of authentic assessment

Authentic assessment must be realistic (Sutadji et al., 2021). Assessment tasks that enable students to apply their knowledge and abilities in meaningful and relevant ways should be available to course teachers. Ultimately, an evaluation is considered authentic if it is realistic and closely reflects a real-life scenario, issue, disciplinary standard, or study area. Course instructors should link assessment to real life, the world of work, or professional practice to make assessment realistic.

Based on constructivist concepts, authentic assessment should be performance-based and involve students in active learning processes with outcomes that centre on performance or

output likely to be encountered in a "real-world" setting (Spendlove & Best, 2018). At the centre of authentic assessment is allowing students to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills (Mueller, 2008). The issue of practical tasks where students demonstrate knowledge and skills becomes an essential characteristic of authentic assessment. Tasks that demand students to produce products or exhibit behaviours that accurately represent the variety of knowledge and skills they have acquired are part of performance-based assessments (Spendlove & Best, 2018).

Authentic assessment must focus on cognitively complex issues as it assesses higher-order thinking (Messier, 2022). What marks the difference between authentic assessment and traditional forms of assessment is that the latter generally focuses on measuring students' retention while the latter emphasises critical thinking and application; hence, assessment tasks challenge the students cognitively. Innovative teaching, learning, and assessment methods in higher education are typically associated with the advancement of authentic assessment (Sambell & Brown, 2021). According to McArthur (2023), authentic assessment should be challenging since it requires pupils to do more than memorise facts; they also need to construct or produce meaning.

The fact that authentic assessment encourages students to reflect on their learning is another essential component. According to Chang (2019), reflection is the process of understanding and personalising the principles, procedures, and justifications for the knowledge students have gained. Students can see the bigger picture by connecting their particular experiences to a broader perspective through reflection. Therefore, the course instructors should utilise assessment tasks that allow students to reflect on the learning process, which could be done individually or collaboratively. Chang (2019) adds that reflection improves learning by allowing students to examine their deeds, beliefs, and presumptions critically.

Authentic assessment should provide students with opportunities to produce learning products. Page (2022) noted that Bloom’s Taxonomy for Educational Objectives has been reengineered in line with digital technology. Students should apply knowledge in online environments in terms of higher-order objectives. The application of knowledge in online learning environments is evidenced by the creation of digital products (Kenney, 2020). There are several online tools that online students can utilise to work collaboratively, and Google

Docs is a new innovative tool for collaborative writing (Nguyen & Nguyen, 2022). Through Google Docs, students can work collaboratively to develop a digital product, which is the essence of knowledge production and application. With Google Docs, students can communicate with one another and instructors across time and space, as well as with other students (Hidayat, 2020).

2.3 Implementing authentic assessment in online learning environments

In implementing authentic assessment in online environments, course instructors should provide assessment activities to assess students' learning processes, learning products, and learning progress (Sutadji et al., 2021). In assessing the learning process, students may create blogs and document their learning through blogs, share the blogs and respond to each other (Chiu, 2022). As Hashem (2018) noted, blogs allow students to express their ideas and share their writing skills online. Through blogging, students will be actively engaged and autonomous in taking charge of their learning and assessment.

Students must be exposed to scenario-based learning activities to ensure authentic evaluation in the virtual learning environments. Course instructors must employ scenario-based learning, sometimes called case-based learning or problem-based learning, to introduce students to various unexpected and expected scenarios and allow them to practice their newly acquired abilities in authentic environments (Bardach et al., 2021). Online students are given specific examples relevant to their subject of study. They must apply what they have learned in scenarios that are either the actual setting or similar to real-life situations to find solutions. Online students enrolled in an online teaching course must be exposed to scenarios covering many facets of online teaching.

2.4 Benefits of authentic assessment in virtual learning environments

Online learning that incorporates authentic assessment may allow students to collaborate with others. In online learning, students should actively engage in the learning process, as participation is also a crucial component of collaborative learning (Nieuwoudt, 2018). A strong correlation exists between students' achievement and participation in online learning. According to this, students actively engaging in peer-to-peer online learning are more likely than non-participating students to meet the predetermined learning objectives. Ishtaiwa and Aburezeq (2015) have observed that collaborative tools like Google Docs can enhance

learning, encourage student involvement and active participation, and boost knowledge development.

Authentic assessment helps students become more competent in their learning and future employment by enabling them to practise newly acquired abilities actively (Sotiriadou et al., 2019). Using authentic assessment to improve student learning can significantly contribute to students becoming aware and skilled in their field of study (Raymond et al., 2013). Therefore, students can apply the skills they have learned and build their competencies in various areas of the field or profession by participating in authentic assessment activities.

Another benefit of authentic assessment is that it guarantees more realistic learning because the evaluations imitate real-life or professional settings (Mohamed & Lebar, 2017). According to Fox et al. (2017), higher education institutions' evaluation procedures should consider real-world circumstances and be consistent with the workplace. Learning becomes engaging and relevant when connected to the workplace and given a more realistic feel, as does the assessment that goes along with it. Knowledge is now obtained to solve difficulties in one's discipline rather than for knowledge's sake.

2.5 Challenges of utilising authentic assessment in virtual environments

Online students typically work alone, and as Rotar (2022) points out, one of the most critical factors in their success is support. Proactive student support systems for online distance students, as opposed to reactive ones, are becoming increasingly demanding to be institutionalised. Technology should be included in these methods since, according to Zawacki-Richter and Anderson (2014:23), "*the online world itself affords new tools for communication, knowledge and skill acquisition, and peer and group support that was not available to earlier generations of distance students*." When a student has difficulties completing online tests, there should be a mechanism to provide the necessary assistance to continue unhindered forward.

The goal of authentic assessments is to help students attain higher-order learning objectives. They are designed to be engaging and time-consuming. The term "authentic assessment" refers to the evaluation of learning carried out through "real world" tasks requiring students to demonstrate their knowledge and skills in meaningful circumstances (Swaffield 2011: 434). In contrast to a straightforward traditional test that can be completed in class within

a set amount of time, it is the process of proving knowledge and abilities in assessment tasks that may be overly involved and demanding of the student's time.

Digital competence, as opposed to merely digital literacy, is crucial for the students' online activities, including their participation in authentic assessment (Borthwick & Hansen, 2017). Digital competence is at a higher level and encompasses more than just using devices and apps. In contrast, digital literacy only involves correctly utilising digital tools, resources, and services (Janssen et al., 2013). Digital learning tools are used in online education and are paid for by the students. Students are expected to use technology, some of which they may be unable to buy. According to Dhawan (2020), there is no digital equity in most nations, and certain teachers and students could require the right gadgets for online instruction and internet access. Some students can engage in online learning fully and, in the process, take advantage of learning opportunities like authentic assessment if they have the necessary gadgets and internet connectivity. Engagement in online authentic assessment activities could be hampered by several problems, including poor network connectivity in some places, expensive data plans, outdated technology, and some course instructors' incapacity to offer continuous online help.

2.6 Theoretical Framework

The study is based on the connectivism theory developed by Siemens (2006). According to Siemens (2006), connectivism is a contemporary learning theory that encourages students to connect their ideas, theories, and general knowledge constructively. According to this theory, technology plays a significant role in education, and our continuous connectedness allows us to judge what we want to study (Siemens & Downes, 2009). Connectivism promotes group learning, student-to-student communication, and various viewpoints and methods for fact-based decision-making and problem-solving.

By incorporating web 2.0 apps, online databases, social media, and Internet connections, connectivism fosters a positive learning environment. By the student-teacher interaction model supported by connectivism, a student may post a question on the board if he has any queries about something he is unsure of and needs clarification on; connectivism promotes communication amongst students.

Figure 1

Elements of connectivism linked to authentic assessment

Source: Authors own adaptation based on Siemens (2006).

According to connectivism, learning occurs when people have different points of view. Students should be permitted to collaborate online by using the various online tools to generate, gather, debate, and settle upon ideas. Once the information sources are connected, students should be able to work with various online information databases, such as Open Educational Resources (OER), to find pertinent material while completing assessment assignments. When students operate non-human appliances and the various technology instruments and software used in the learning process, their technological proficiency becomes essential. Learning involves seeing, nurturing, and relearning knowledge and human interactions essential to improving learning. Making decisions is essential to both the learning and assessment processes because students are given assignments that require them to consider the directions, the work at hand, and the process of finishing it.

3. Research Methodology

3.1 The context of the study

The study is based on an online course in a professional development programme preparing teachers to teach online. All of the instruction for this six-week course was done

online using the Moodle learning management system. The students were taught four activity-based modules, including online course design, creation of digital learning material, facilitation, and evaluation. The goal of the first online course design module was to introduce students to the fundamentals of the field and involve them in the process of actually creating online course elements. Authentic assessment is a component of course design because assessments allow students to participate in certain areas.

Students gained knowledge and proficiency in generating digital learning resources for online teaching and learning from the second module on the subject. As part of this module's assessment, students created digital learning resources such as H5P products. The online facilitation skills module gave participants a theoretical foundation in the field and practical know-how in managing synchronous and asynchronous discussions, organising and carrying out live online classes, and using voice-over PowerPoint and digital whiteboard presentations. In the process of assessment, students also created lesson plans and presentations. Students were also introduced to the many forms of authentic online assessments, as well as the planning and execution of these forms of online evaluations, during the authentic online assessment module.

3.2 Research paradigm

Research paradigms come in various forms, including positivist, interpretivist, postpositivist, and pragmatic paradigms. The present study was located in the interpretivist paradigm. This paradigm was relevant to this study because it focuses on the attributes of the circumstance, the reality behind these details, personal meanings, and motivating actions (Saunders et al., 2019). Interpretivists believe that data is linked to its context. Hence, they encourage knowledge creation, origination, and construction (Denzin et al., 2017). In the context of the proposed study, the researchers sought to explore the students' experiences of authentic assessment in an online course.

3.3 Research approach

In this study, the qualitative research approach was used. Qualitative research employs various data-gathering strategies to investigate phenomena in their native habitats (Cohen et al., 2013). It looks into how people behave in social and human contexts and perceive their experiences while using storytelling to teach emergent literacy skills. Verbatim statements and

participant opinions collected in the participants' natural settings are used as data in qualitative research. Because qualitative research is very inquisitive and aims to analyse things thoroughly, it fits well with the interpretivism paradigm. Triangulation is used to collect data and generate textual and thematic analyses using descriptions and categories (Creswell & Poth, 2017).

3.4 Research design

The study employed a case study design. Marshall and Rossman (2014) note that a case study design allows a researcher to examine an issue in a particular setting. The intended study will concentrate on a specific instance of course participants' real-world evaluation experiences. Yin (2013) highlights the importance of using a case study approach to help a researcher understand entirely a phenomenon.

3.5 Data generation methods

The study used a questionnaire as a research instrument administered during the course evaluation exercise. The questionnaire consisted of open-ended questions designed to gather comprehensive data about the participants' experiences with authentic assessment in the online teaching course. It began with a section collecting demographic information including gender, age, current professional role, and years of experience in the profession. Following this, a series of open-ended questions explored participants' perceptions about the types of authentic assessments, benefits, and challenges encountered during the online course. The questions yielded rich qualitative responses.

3.6 Research participants

Twelve purposively selected course participants participated in the study. This technique uses predetermined criteria and focuses on participants with a wealth of information (Creswell & Poth, 2017). Purposive sampling targets information-rich sources, and the participants were deemed information-rich as they had participated in and completed the six-week online course. Table 1 describes the twelve participants in the short online course whose responses were selected for the study.

Table 1

Description of research participants

Participant	Gender	Age (years)	Profession	Number of years of experience in the profession	LMS used
Participant A	Male	38	Teacher	10	4
Participant B	Female	42	Lecturer	16	2
Participant C	Female	28	Teacher	2	2
Participant D	Female	32	Lecturer	6	4
Participant E	Female	31	Teacher	7	3
Participant F	Female	41	Teacher	11	2
Participant G	Female	40	Teacher	12	4
Participant H	Female	38	Teacher	12	2
Participant I	Female	39	Teacher	13	2
Participant J	Male	40	Nurse Educator	4	2
Participant K	Male	48	Trainer	8	3
Participant L	Male	45	Nurse Educator	10	4

The study participants were predominantly female and all over twenty-seven years of age, with the oldest being 48. All the participants were involved in teaching at different levels and had at least two years of experience using a Learning Management System.

3.7 Data analysis

The qualitative data from the open-ended questionnaires were analysed using the thematic content analysis method. Detecting, analysing, organising, characterising, and reporting the recurring and frequent themes in a data set is known as thematic content analysis (Nowell et al., 2017).

3.8 Data quality

Measures such as expert opinion and debriefing were utilised to enhance data trustworthiness in the study.

3.9 Ethical considerations

The study addressed all ethical considerations, such as confidentiality, anonymity, and informed consent. Ethical considerations were addressed in this study to protect participants' rights and ensure the integrity of the research process. Informed consent was obtained through a dedicated section in the online questionnaire where participants were provided with clear

information about the purpose of the study and procedures. Participants were required to voluntarily indicate their willingness to take part in the study by selecting an option that confirmed their consent. This approach ensured that participation was entirely voluntary. Anonymity was maintained by not requiring participants to provide their names or any identifying information in the questionnaire responses. Confidentiality was upheld by restricting access to the data to only the researchers directly involved in the study and using the data solely for this study. All data was stored in a password-protected file.

4. Findings

Table 2 summarises the qualitative findings in line with the three research objectives of the study.

Table 2

Summary of the qualitative results

Theme	Sub-Themes	Related Issues
Types of authentic assessment tasks course participants were exposed to	Creating artifacts	• assessed on creating videos • created and shared H5P products
	Scenario-based tasks	• taking up different roles in assessment • demonstrating a skill in a particular role
	Designing and planning	• planning lessons • designing assessment rubrics
	Discussion forums	• deep involvement in discussion • participation in posting and responding
Benefits participants derived from undertaking the authentic assessment activities	Working collaboratively	• working with others on a standard task • online tools such as Google Docs, Wikis
	Applying skills learnt	• putting learnt skills into practice • ascertaining how learnt skills work
	Practising skills	• chance to practise what is learnt • involvement in actual online teaching situations
	Learning made more realistic	• practical involvement • working in real-life contexts
Challenges faced by the participants as they engaged in the different authentic assessment activities	Time	• Struggle to meet tight deadlines • Limited time for online tasks
	Connectivity and Internet charges	• Erratic and slow connection • High cost of data
	Support issues	• Need for instruction clarification • Assistance while working on a task
	Technical ability and appropriate devices	• Struggle to manipulate technological devices • Lack of technical know-how

4.1 Types of authentic assessments

Creating artifacts. The participants indicated that they were involved in assessment activities that allowed them to create some digital products, and the following excerpts from some of the participants support this viewpoint;

> *In the course on creating digital learning material, I was assessed on creating a video and posting a link to the video on the LMS*. (Participant H)

> *Creating an H5P product and being assessed on it was exciting as it was pretty involving.* (Participant A)

> *Developing a presentation on a digital whiteboard was one of the assessment tasks I did in the module on developing online facilitation skills*. (Participant J)

The verbatim quotations show that the course participants were involved in meaningful assessment activities, creating tangible digital products.

Scenario-based tasks. The course participants also revealed that they were involved in scenario-based assessment tasks that allowed them to work on issues related to course content and apply what they had learned. The following excerpts from some of the participants provide insights into the claim.

> *There was an assignment in which we assumed the role of online course designers and were involved in applying what we had learnt*. (Participant B)

> *We were tasked to be online instructors and requested to develop a five-minute presentation and present it with a PowerPoint voice-over. This entailed preparing the PPT and recording oneself presenting*. (Participant G)

> *In the module on creating digital learning materials, I would be a material developer and develop helpful material for online teaching.* (Participant D)

> *Developing a whiteboard presentation enabled me to assume I was teaching a group of students online and present and demonstrate while explaining a concept to students*. (Participant E)

The excerpts showed that assessment tasks were realistic and linked to the application of knowledge and skills in the actual contexts in which they would be used.

Designing and planning. The course participants also indicated that they were involved in designing and planning as part of some assessments. The following verbatim quotations from their participants exemplify the point;

> *I was involved in designing an assessment rubric that I would utilise in assessing a particular activity. The actual rubric was presented for assessment*. (Participant E)

> *In online course designing, we were tasked to design part of a course using the given design template. One would think of a course and design its components*. (Participant G)

> *We designed a discussion plan to show how one would undertake online discussions with students using the discussion forum tool on the LMS*. (Participant C)

> *In one of the courses, we had to plan for a live online lesson, showing all the steps of the lesson, from the introduction to the conclusion*. (Participant D)

The examples make it abundantly evident that the assessment assignments were authentic and involved the participants in creating and organising pertinent and practical course elements.

Discussion forums. As a requirement for some of the assessments, the course participants also disclosed that they had participated in some online discussions through forums. The point of view is best illustrated by the following quotes from the participants, verbatim:

> *I would research the given discussion topic and post on the discussion forum, and in one of the discussion activities, we exchanged views on the role of an online instructor*. (Participant J)

> *Discussion forums assisted me in learning how to respond to my online colleagues and engage with them in an academic and friendly manner*. (Participant F)

> *Some participants would ask thought-provoking questions, and they would have to think through the questions before making a meaningful response*. (Participant I)

> *Marks were allocated for posting, responding to other participants' comments, and responding to instructors' comments. It made the whole thing so accurate in terms of exchanging knowledge*. (Participant B)

The quotes, taken verbatim, demonstrate how the course participants engaged in chat rooms and were assessed in authentic and significant ways to exchange information on specific topics.

4.2 Benefits participants derived from undertaking the authentic assessment activities

Working collaboratively. As they performed authentic assessment activities in the online course, the participants also mentioned that they gained from working cooperatively with others. The point of view is best illustrated by the following quotes from the participants, verbatim:

> *There was always a chance to work with others, especially when completing the Google Docs documents. I collaborated well online with my partners*. (Participant K)

> *Exchanging ideas on the discussion forum allowed me to learn from other participants and contribute my thoughts*. (Participant L)

> *Working on Wikis allowed us to collaboratively modify content and structure directly from our web browsers, and we assisted each other with changes*. (Participant H)

The excerpts show that the participants' engagement in different online authentic assessment tasks enabled them to benefit from collaborative learning in numerous ways.

Applying skills learnt. The views of the course participants indicated that they benefited from engaging in authentic assessment by applying the skills learnt in the different modules. Some of the views are captured in the excerpts below;

> *Most of the assessment tasks enabled me to put into practice what I had learned in the course. It was not an assessment related to what had been learnt*. (Participant C)

> *The learning theories task on Google Docs allowed me to apply the theories to online teaching and learning by providing relevant examples from the courses that I currently teach.* (Participant J)

> *After learning an assessment rubric, I had to be assessed by developing a usable rubric.* (Participant F)

> *In designing an H5P product, I applied knowledge and skills, which was interesting*. (Participant D)

The participants in the online course confirmed that engaging in authentic assessment activities benefited them by allowing them to apply the different skills they had been exposed to. The ability to apply skills learned is the hallmark of authentic assessment.

Practising skills. The online course participants also indicated that they benefited from authentic assessment by being provided with opportunities to practise skills learnt, as captured in the following excerpts from some of the participants;

> *What was also good about the assessment tasks we did in all the modules was that they allowed us to practise skills learnt*. (Participant B)

> *The module on developing digital learning materials had almost all assessment tasks on practising different skills and producing things*. (Participant G)

> *Working on developing PowerPoint digital whiteboard presentations was much practice in teaching online*. (Participant D)

> *After learning about online assessment and how to do it, I had a chance to plan for assessment activities*. (Participant I)

The course participants confirmed that practising the skills learnt is an aspect of the benefits derived from engaging in authentic assessment tasks. Through this practice, they produced digital learning materials, teaching materials, and assessment tools.

Learning made it more meaningful and realistic. The course participants showed that they benefited from engagement with authentic assessment tasks as learning was made more meaningful and realistic. The following excerpts from some of the participants are evidence of the view;

> *The different assessment activities clarified that all the learning was related to teaching online*. (Participant H)
>
> *Assessment activities were based on something other than theoretical issues but on more practical ones related to online teaching*. (Participant F)
>
> *The assessment tasks developed specific skills required to be a competent online instructor*. (Participant A)

It is clear from the excerpts that the participants benefited from engagement with authentic assessment tasks, making online learning in the course relevant to their needs with a more practical approach to issues.

4.3 Challenges faced by the participants as they engaged in the different authentic assessment activities.

Time. The course participants revealed that time was a challenge they faced as they engaged in different authentic assessment activities. The following excerpts confirm the observation;

> *Some of the tasks were quite challenging and required much time to complete.* (Participant K)
>
> *The issue of time was a challenge as it took much work to balance between other commitments and the demands of the course*. (Participant C)
>
> *Deadlines could be very tight, with many tasks to work and very little time at one's disposal, and it* took much work. (Participant H)
>
> *Whilst most of the assessment tasks were very good and helpful, we needed more time to work on them effectively*. (Participant L)

It was clear from the course participants that the issue of time was a challenge to their effective engagement in authentic assessment tasks in several ways.

Internet connectivity and charges. The course participants also viewed Internet connectivity and data charges as challenges faced as they engaged in the different authentic assessment activities, and this was confirmed by the following excerpts from some of the participants;

> *I joined the course from a remote part of the country where internet connectivity was a challenge, which affected the completion of assessment tasks.* (Participant G)
>
> *Some activities required us to download materials from the Internet, and there were times when connectivity was very slow.* (Participant B)
>
> *One must have much data to participate fully in assessment activities, which is very expensive.* (Participant J)
>
> *This cost of data is just too much, and there was a need always to be online to participate in assessment activities.* (Participant C)

The course participants reported that Internet connectivity and data charges negatively impacted their practical engagement with authentic assessment tasks in the online course. The participants had to endure slow and erratic internet connectivity and incur huge data costs as they engaged in the assessment activities as part of online learning.

Support issues. The following verbatim quotes from the course participants illustrate their confirmation of lack of support as a challenge in their engagement with authentic assessment tasks in the online course:

> *Instructions on some assessment tasks could have been more precise, and getting assistance on time was difficult.* (Participant D)
>
> *I would get stuck on some aspects of the assessment task and would not get help even after requesting help through social media.* (Participant H)
>
> *Working online can be a very lonely and frustrating exercise when one requires help to proceed with an assessment task, and there is help.* (Participant F)
>
> *We worked with the assistance of e-tutors and technical staff, but assistance was only sometimes provided when required.* (Participant A)

The participants' contributions demonstrated how a lack of support frequently had a detrimental impact on students' involvement with authentic assessment activities in the online course. It was essential to make sure that assistance was easily accessible when needed because participants worked remotely.

Technical ability and appropriate devices. The following quotes from the participants verbatim reflect the shared opinion of the course participants that a lack of technical proficiency and adequate devices caused difficulties in participating in authentic assessment activities in the online course;

> *Success in some assessment tasks depended on one's ability to use technical tools; without this ability, it was easier. (Participant E)*
>
> *I took time to master different technical tools; I struggled before I had mastered them. (Participant H)*
>
> *I struggled to develop my H5P because I was using an old smartphone; I would have done better and faster with a laptop. (Participant G)*
>
> *Some tasks cannot be accomplished by using a smartphone, so there is a need to have the correct device. (Participant C)*

The participants' contributions made it clear that their inability to use the right equipment or possess the necessary technical skills may have hindered them from participating effectively in the online course's authentic assessment activities.

5. Discussion

The study found that the course participants were engaged in authentic assessment activities that allowed them to create artefacts. The finding is consistent with views that authentic assessment promotes the attainment of higher-order learning outcomes. According to Page (2022), the new Bloom's Taxonomy places creation at the top for educational goals. Students should be able to create tangible objects or digital goods to meet higher-order objectives (Kenney, 2020). Thus, evidence of authentic assessment in action may be found in the course participants' actual design and development of digital goods as part of their assessments.

The study also established that the course participants were involved in scenario-based activities as part of the authentic assessment undertaken in the course. This result supports the opinions of Bardach et al. (2021), who argue that scenario-based learning—also known as case-based learning or problem-based learning—must be used by course instructors to expose students to a range of expected and unexpected scenarios and to give them the chance to

practice their newly learned skills in real-world settings. When given scenario-based assignments, students learn to hone their talents to function in actual job settings.

The study additionally found that cooperating with other participants allowed participants to benefit from authentic assessment. This result supports claims made by Nieuwoudt (2018) that authentic assessment-integrated online learning should allow students to work in groups. Students should actively participate in online learning because it is an essential feature of collaborative learning. Working well with others is a crucial soft skill for employment (Karimova, 2020). The results are consistent with the connectivism theory, which guides the investigation and emphasises the significance of connections in learning (Siemens, 2005).

The study revealed that the chance to put what they had learned into practice helped course participants. The result validates the idea that providing students with opportunities to practice newly acquired skills through authentic evaluation actively makes them more competent students and workers in the future (Sotiriadou et al., 2019). Moreover, authentic evaluation in learning can significantly enhance students' awareness and proficiency in their field of study (Raymond et al., 2013).

It was established in the study that course participants encountered challenges with a need for adequate support as they worked on authentic assessment tasks online. The finding confirms an assertion by Rotar (2022) that one of the most critical factors in their success is support, student support, and that effective student support systems for online distance students should be in place. Technology should be included in these methods since, according to Zawacki-Richter and Anderson (2014), technological tools and affordances should be utilised to support online students as individuals or as groups. Online students need adequate support to progress well with authentic assessment activities.

It was also established that participating in online authentic assessment presented difficulties related to technical proficiency and device ownership. The results validate the opinions of Borthwick and Hansen (2017), who stated that students' successful involvement in online activities, such as authentic assessment, was significantly influenced by digital competence rather than just digital literacy. While digital literacy entails correctly using digital tools, resources, and services, digital competence is more advanced and includes more than

just using devices and applications (Janssen et al., 2013). Students are the ones who pay for the digital learning resources that are used in online learning. Students are expected to use technology, some of which they might be unable to purchase.

This study recommends that online short courses that aim to develop participants' professional competencies should extensively utilise authentic assessment to assist participants in honing the required skills. It is crucial to implement systematic and sustainable student support systems that leverage available technologies to proactively support online students as they work online and engage in authentic assessment activities. To ensure that online students benefit from working with others, opportunities for interaction and collaboration in online learning and assessments should be enhanced. Additionally, technological support is essential for online students, as some may not possess the required levels of digital competence, which could negatively impact their performance and attainment. One limitation of this study is the use of only a questionnaire to collect data. The inability to probe and seek clarification in a questionnaire could lead to less comprehensive data. Future studies could use interviews. Mixed-methods technology-based studies could investigate the role of specific technologies in facilitating authentic assessment.

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ORCID
Cosmas Maphosa - https://orcid.org/0000-0002-7818-4271

Eunice Mthethwa-Kunene - https://orcid.org/0000-0002-7489-0830

Talent Rugube - https://orcid.org/0000-0003-4759-2317

Patience Samukelisiwe Dlamini - https://orcid.org/0000-0002-2201-6076

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Utilising educational technologies to support inquiry-based learning in natural science

[1]Benkosi Madlela & [2]Ramnarain Umesh

Abstract

The study explored the technologies that can be used to support Inquiry-Based Learning (IBL) in Natural Science (NS) in Ekurhuleni schools, Gauteng. An interpretivist research philosophy, qualitative research approach and a case study design were employed. Data were collected from participants through interviews and focus group discussions. Findings revealed that the use of IBL methods motivates learners and enables them to understand scientific concepts. However, it is constrained by untrained teachers and lack of resources and time in schools. It was further revealed that some schools have invested in educational technologies that support IBL while some schools have inadequate or lack the required technologies. It is recommended that the Department of Basic Education and schools should train teachers and mobilise material and technological resources that are needed for the implementation of IBL in the science class. In addition, schools should embark on fundraising and income generating projects to raise money for the needed materials and educational technologies. Schools that do not have educational technologies should collaborate with libraries, education institutions and other institutions with available technologies that can be accessed by the learners.

Keywords: *educational technologies, inquiry-based, natural science, Ekurhuleni schools*

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About the authors:
[1]Corresponding author. Faculty of Education, Department of Science and Technology Education, University of Johannesburg (UJ). Kingsway Avenue, Auckland Park, Johannesburg, 2006, South Africa. Email: benkosimadlela@gmail.com

[2]Faculty of Education, Department of Science and Technology Education, University of Johannesburg (UJ). Kingsway Avenue, Auckland Park, Johannesburg, 2006, South Africa. Email: uramnarain@uj.ac.za

1. Introduction

Most education studies have highlighted limitations of traditional teaching methods where the teacher is the central figure, and have encouraged the use of contemporary teaching and learning methods that focus on learner engagement and learning activities that are learner-centred (Muianga et al., 2018). The paradigm shift from a teacher-centred to a learner-centred approach made Inquiry-based learning (IBL) received a lot of attention and consideration as a modern instructional method. IBL is an instructional approach that invites learners to explore academic content through investigation and answering questions. It puts learners' questions at the centre of the learning process, and places much value on research skills and understanding of content.

In acknowledging the importance of IBL in science education, most countries have established programmes and projects that promote inquiry-based science education pedagogy like Scientix in Belgium, Fibonacci in France, SiS Catalyst in the United Kingdom, and Primas in Germany (Kazeni & Mkhwanazi, 2021). In South Africa, the Curriculum and Assessment Policy Statement (CAPS) of 2012 advocates for the adoption of inquiry-based approach in science classrooms. In fact, the National Curriculum Statement Grades R-12 is based on the principle of active and critical learning, encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths. The aim of the Natural Science (NS) National Curriculum Statement Grades R-12 is to produce learners who are able to identify and solve problems and make decisions using critical and creative thinking, collect, analyse, organise and critically evaluate information, use science and technology effectively and critically. Both the aim and principles of the NS curriculum advocate for the use of a learner-centred approach that promotes inquiry-based methods in the teaching and learning of NS.

The study of Ramnarain and Hlatswayo (2018) found teachers had a positive attitude towards inquiry in the teaching and learning of Physical Sciences. Despite the positive belief towards IBL, teachers were less inclined to enact it in their lessons. They claimed that its implementation was fraught with difficulties, such as availability of laboratory facilities, teaching materials, time to complete the curriculum, and large classes, which created tension in their willingness to implement IBL. Samuels and Dudu (2017) highlight that South African schools have a high learner to teacher ratio, which makes it difficult for teachers to implement certain strategies including IBL when teaching science subjects. This is supported by Ncala

(2016) reporting overcrowding in life sciences classrooms. The abnormally large classes in a township public school results to the difficult administration of IBL inclined lessons. Researchers argue that although there are benefits associated with the use of IBL in science education, and strong advocacy and growing consensus among researchers that it should be adopted, this approach is rarely adopted in South African science classrooms due to several challenges (Kazeni & Mkhwanazi, 2021; Ramnarain & Hlatshwayo, 2018).

According to Williams et al. (2016), technology can be used to support and enhance IBL by reducing some of the challenges encountered in its implementation and motivating teachers to adopt it and sustain its implementation. The 21st century has seen a massive advent of technologies that can be used to support and enrich teaching and learning (Madlela, 2022). There is a wide range of web-based technologies that support sharing, co-construction and communication of ideas among learners, teachers and community experts inside and outside the classroom. Such technologies have a potential of encouraging student ownership of their learning while at the same time enriching their understanding of concepts. Hence, this study explored the use of educational technologies to support IBL in the NS subject.

2. Literature Review

2.1. Theoretical framework

Lev Vygotsky, a Russian psychologist regarded as the father of social constructivism, believes that whatever children learn together in a given time can be independently done in the future (Rohman & Fauziati, 2022). Knowledge is socially constructed through dialogue and interaction with others (Churcher, Downsb, & Tewksburya, 2014) and it is co-constructed in a social environment through the process of interaction using language as a tool to construct meaning. According to Akpan et al. (2020), language and culture are frameworks through which humans experience, communicate, and understand reality.

According to the teaching of social constructivism, social learning actually leads to cognitive development. All learning tasks irrespective of the level of difficulty can be performed by learners under adult guidance or with peer collaboration. Students can collaborate with the teacher or peers to construct knowledge and understanding (Akpan et al., 2020). Social construction of knowledge could be achieved through team work, group discussion or any instructional interaction in an educational setting (Kapur, 2018). Social

constructivism allows a variety of groupings and interactive methods which include class discussions, small group discussions or learners working in pairs on given tasks. The core factor of the theory is that learners work in groups to brainstorm, share ideas trying to discover cause and effect, answers to problems or to create something new to add to existing knowledge (Akpan et al., 2020).

With the advent of technology in education, social constructivism became the most suitable theory to guide the incorporation of digital technologies into pedagogy. The landscape of education is swiftly changing due to technological improvement (Secore, 2017). As teaching and learning gradually migrate to online platforms, contentious debates have arisen on the models to be adopted for implementation. Research often points to social constructivism as the preferred delivery mode of online learning technologies (Secore, 2017). If used properly, online technologies can strengthen IBL strategies that call for active learner participation and sharing of ideas with peers. IBL, as rooted on the principles of constructivism, make emphasis on learner involvement and participation in class. Social constructivism corroborates the principles of IBL because central to both social constructivism and IBL is the view that social interaction is a vital aspect of learning (Ncala, 2016). Hence, technological gadgets and software can facilitate learner interaction in an IBL classroom.

2.2. Types of inquiry-based learning

Inquiry occurs at four levels; confirmatory inquiry, structured inquiry, guided inquiry and open inquiry. These four levels are distinguished by the amount of teacher involvement in learning and teacher involvement decreases with the increasing inquiry level (Artayasa et al., 2018).

In ***confirmatory IBL***, the teacher develops questions and methods for learners. Learners are guided through an activity with known results. The aim of the investigation is to confirm the known results rather than to construct new knowledge, which makes it the lowest level of inquiry. Meanwhile, in ***structured inquiry***, learners are given the question to be investigated and the procedure to be followed to answer the question, but they are not given the outcome (Whitworth et al., 2015). Learners then investigate the teacher-presented question through a prescribed procedure. The teacher is involved in this process through giving step-by-step guidelines at each stage. The limitation of this method is that learners do not acquire the ability to think autonomously, since they do not have the opportunity to set their own

questions and to generate their own processes to seek answers to the questions. On the other hand, in ***guided inquiry***, learners are given a question, and they determine their own method of gathering data. They are responsible for the interpretation of the results and drawing up of conclusions (Ncala, 2016). The teacher's role is to prepare material for the lesson, design activities that will enable learners to discover and gain necessary experiences, and also develop questions that learners should focus on to search for answers (Warner & Myers, 2020). When using this approach, the teacher gives the material and a brief introduction. While learners are involved in the discovery process, the teacher moves around the class providing limited assistance through asking further simplified questions or providing hints. It is advisable for the teacher to encourage learners to discuss with each other throughout the process and avoid giving learners answers (Warner & Myers, 2020). Lastly, ***open inquiry*** is the most complex level which provides learners with a high degree of autonomy. Learners pose their own questions that guide inquiry activities (Pontinen et al., 2019). This way, learners take charge of their own learning. After posing questions themselves, they conduct scientific investigations to generate data to answer questions autonomously (Van Uum et al., 2017). Teachers give support to learners, particularly in the early stages of the inquiry process, referred to as scaffolding (Van Uum et al., 2017). The four strands of inquiry and the level of teacher scaffolding are illustrated in table 1.

Table 1

The four strands of inquiry and the level of scaffolding

Level of inquiry	**Type of inquiry**	**What the teacher provides the learner**		
		Question?	**Methods?**	**Solution?**
1	Confirmatory inquiry	X	X	X
2	Structured inquiry	X	X	
3	Guided inquiry	X		
4	Open inquiry			

Source: Adapted from Ncala (2016)

The table illustrates that at the lowest level of inquiry, the teacher is more involved to provide scaffolds to learners. As levels of inquiry go up, the level of teacher involvement diminishes and learners start to work autonomously.

2.3. Inquiry-based teaching methods

Ncala (2016) posits that IBL shows significant efficacy in the retention of scientific knowledge by learners in all science disciplines. It enables learners to utilise their current knowledge to construct new knowledge (Bevins & Price, 2016) and motivates learners to understand abstract scientific concepts (Ramnarain & Hlatswayo, 2018). IBL emphasises most on critical thinking, problem solving, and communication abilities. According to Gholam (2019), when students learn by discovery and investigation in authentic settings, they improve their critical thinking skills. In IBL, learners take full responsibility of their own learning and participate in the production of knowledge that is used to solve identified problems.

Guido (2017) identifies seven benefits of IBL as reinforcing curriculum content, warming up the brain for learning, promoting a deeper understanding of the content, making learning rewarding, building initiative and self- direction, offering differentiated instruction and capable of working in almost any classroom. However, at times, minimally guided forms of inquiry do not work, and learners may take longer to complete tasks, since no guidance is given to them (Bevins & Price, 2016). While learners are not all capable of carrying out self-directed learning without the teacher's assistance (Artayasa et al., 2018), open-ended learning environments are also challenging for teachers. The lack of support, inquiry-based teaching material, facilities such as laboratories, instructional time (Ramnarain & Hlatswayo, 2018; Gutierez, 2015) and overcrowded science classrooms (Ncala, 2016) contribute to the non-implementation of IBL in science classrooms.

2.4. Educational technologies that support IBL

In primary and secondary education, technology-enhanced learning applications are becoming an everyday practice (Smith et al., 2020). For instance, multiple e-tools (i.e. WebQuest, virtual laboratory, computer simulations) have been developed either as freeware or as commercial products that can be obtained for a monthly fee, which have changed the perceptions of learners towards natural sciences and have boosted their interest for science domains such as biology, chemistry, physics, mathematics and astronomy (Smith et al., 2020). Hakverdi-Can and Sonmez (2012) describe WebQuests as suitable for an environment where learners are expected to solve a problem, which allows learners to go beyond collecting information and requires them to synthesise information and draw their own conclusions.

Similarly, Singhai (2018) suggests virtual laboratory (V-lab) be used to save schools from time and resources in setting up science laboratories, which most schools cannot afford. In fact, studies showed that V-labs can be efficient tools for engaging STEM learners in authentic learning experiences, fostering conceptual understanding, stimulating self-paced learning, and offering practical problem-solving experience (May et al., 2022; Brinson, 2015). On the other hand, computer simulations, computer-generated dynamic models, present theoretical or simplified models of real-world phenomena, components, or processes (Abdullah et al., 2021). They can include visualisation, animations, and interactive laboratory experiences enabling users to change particular sets of variables or parameters, which then builds a virtual environment using those variables or parameters (Wilson, 2016).

In a study conducted by Abdullah et al. (2021), the inquiry-based computer-simulated lesson in Physics allowed learners to review the concepts and see relationships between the variables in graphical forms when a selected independent variable was manipulated and all the corresponding values were keyed into the Excel table. Computer simulations have been very engaging for learners, provided the learner is the one asking questions and driving the investigation (Wilson, 2016). It also provides a viable alternative to physical science laboratories that exist in only a small proportion of South African schools (Dunn & Ramnarain, 2020). Through visualisation, learners acquire an understanding of such phenomena.

3. Methodology

The study's data collection process was guided by interpretivism research philosophy, which is viewed by Creswell (2014) as appropriate for qualitative research. Unlike positivism, interpretivism aims to include richness in the insights gathered rather than attempting to provide definite and universal laws that can be generalised and applicable to everyone regardless of some key variables and factors (Saunders et al., 2012). According to Kivunja and Kuyini (2017), the central endeavour of interpretivism paradigm is to understand the subjective world of human experience. This made it possible to get the viewpoint of participants in Ekurhuleni schools about how educational technologies could be used to support IBL in NS. It also enabled the researcher to use a qualitative research approach whose goal is to have a

deep understanding of the phenomenon, describe and interpret it systematically from the point of view of individuals being studied (Haradhan, 2018).

A case study design made it possible to focus on four selected schools and collected rich and detailed information from participants' natural settings in schools (McMillan & Schumacher, 2014). Four NS Heads of Departments (HODs) and three NS teachers were interviewed while other four NS teachers participated in focus group discussions. A total of eleven purposively selected participants who implement IBL in NS took part in the study. Data were analysed in a narrative format under themes that emerged from data interpretation (McMillan & Schumacher, 2014).

The ethical guidelines were upheld in this study. The participants' names and identities were not disclosed, and participation in the study was voluntary and through informed consent (McMillan & Schumacher, 2014). Code names were used to protect the identity of participants and schools. Similarly, participants signed consent forms with ethical guidelines before taking part in the study. Data were kept safe and used for a comparative study that will be conducted on the same topic in Eswatini. After finalisation of the comparative study, data in hard copies will be destroyed through shredding and data in soft copies will be deleted. Permission to conduct the study was granted by Gauteng Department of Basic Education.

4. Findings and Discussion

4.1. Inquiry-based learning

Though some participants struggled to give an overview of IBL, most participants managed to.

> *For me inquiry-based learning is where the learner is asking questions based on their knowledge and experiences so that they learn more from their experiences* (HOD 1 from school C).
>
> *Inquiry-based learning happens when learners use their initiative to find information about a topic* (HOD 2 from school C).
>
> *Inquiry-based learning happens when learners learn through experimentation* (HOD school B).
>
> *Inquiry-based learning is hands on. It is a learner-centred approach where learners are actively involved in inquiry rather than a teacher-centred approach where information is transferred by the teacher to the learners* (Teacher 1 school B).

Participants' responses show that they understood that in IBL, learners play an active role in their learning through experimentation and seeking information on a given topic than only relying on information from the teacher. As an instructional practice, learners are at the centre and take ownership of their own learning by posing questions, investigating and answering questions (Suarez et al., 2018), enabling learners to conduct research to solve problems that they encounter (Korkman & Metin, 2021).

4.2. Types of IBL teaching and learning methods used in science

Findings revealed that most teachers used experiments as an inquiry-based method in the science classroom. Though some participants said that they used field trips, individual and group research, experiments seemed to dominate other inquiry-based methods.

> *We use experimentation to support knowledge that learners are taught in theory. Experiments help learners to have a practical view and experience of what they learnt on theory. This helps them to see it in practical form than in text form. Some of us knew the test tube through text books. Learners of today are privileged because they see the actual test tube in the laboratory. They conduct experiments using apparatus in the laboratory and see actual results than being told. Some learners are textile and visual, they understand concepts better through practically participating in experiments and seeing results (*HOD School B*).*

> *Mmm! We have practicals. After teaching 2 or 3 topics we do practicals so that learners can see what is taught in a practical way. For example, when teaching about density you can pour substances like sunlight liquid, spirit and sun flour liquid inside the cylinder. The one that goes to the bottom indicates that it is dense than the one that remains at the top. If learners see this practically they tend to understand it better than when it is explained to them in theory (*Teacher 1 School B).

> *We use practicals to investigate scientific concepts, and students use normal lab equipment. This is hands on. They manipulate and collect data of their own. They develop hypothesis and aims and manipulate the equipment to see whether the results match the hypothesis. If the results do not match they have to explain* (HOD1 School C).

As primarily used by the teachers, experiments are vital instructional delivery method as they enable learners to manipulate objects, test hypothesis, and work together to solve a problem or to prove something exciting (Shamsudina et al., 2013). Similarly, they are

perceived as an enlivening element in physics lessons, and they help with understanding the subject matter and are also an interesting complement to theory (Marounova & Kacovsky, 2024).

Some participants said they used field trips and also allowed learners to conduct research themselves about a given topic.

> *As learners go about their research, other topics and questions open up. This results in enrichment and better understanding of concepts by learners* (HOD 2 School C).

> *After covering a topic, I give learners work sheets with questions that require them to carry out research individually or as a group. After researching they present their findings to the whole class followed by discussions* (Teacher 4 School A).

The group research and presentations are encouraged in social constructivism, which could be achieved through team work, group discussion or any instructional interaction in an educational setting, according to Kapur (2018). This also includes variety of groupings and interactive methods, namely class discussions, small group discussions or learners working in pairs on given tasks (Akpan et al., 2020). In addition to the methods identified by the participants, literature shows some inquiry-based teaching and learning methods such as project-based learning, demonstrations, problem-based learning and case studies (Joseph et al., 2022; Shamsudina et al., 2013).

4.3. Benefits of IBL

Participants shared that IBL teaching and learning methods have vast benefits.

> *Inquiry-based learning and teaching methods help learners to gain interest and understand concepts better when they see or do things practically in the field than being told in theory. When learners are taken to the field to be shown what they have been taught in class, they become interested and start asking questions. Learners' confidence is boosted if they understand what they are learning* (Teacher 2 School D).

> *Inquiry-based methods connect what is in the book with the outside world. This promotes self-study and helps learners to understand and remember the topic and the content* (Teacher 3 School A).

> *When using inquiry-based methods learners do not only hear, but they also see. During experiments when substances are mixed, they practically see this instead of being told. They see the effect of temperature on the rate of reaction and record their observations. They can observe and record the reaction of acid, metals and materials. Seeing sticks in the learners' minds and enables them to understand what is being taught better than when they are told by the teacher* (HOD School B).

The narratives shared by the teachers are congruent with empirical evidence. For instance, Zalloum (2018) and Ncala (2016) state that IBL increases retention of scientific knowledge by learners in all science disciplines. Learners who are involved in inquiry learning recall the activities that they practice with their peers. This is also similar with the study of Shana and Abulibdeh (2020) that there is a positive correlation between practical work and the academic attainment of most learners in science. Learners understand concepts better when they are practically involved and see things for themselves than when they are told theory by the teacher. Congruent with Raymond and Wong (2018), experiments provide learners with firsthand experience and are effective in stimulating learners' interests and improving their understanding of concepts.

> *Inquiry based methods make the lesson interesting and less boring. It stimulates interests and discussions on the part of learners. This promotes learner engagement and consolidation of concepts* (teacher 1 School B).

> *If inquiry methods are well used, learners are not supposed to be left behind, because these methods ignite interests, debates, and questions that compel all learners to be involved and participate* (HOD1 School C).

These assertions by participants are explained by Ramnarain and Hlatswayo (2018) that IBL motivates learners and help them understand abstract scientific concepts. In a similar study by Minner et al. (2010), IBL stimulate learner interest during the lesson and it promotes deeper understanding of content through offering differentiated instruction (Guido, 2017). Gardner's Theory of Multiple Intelligences sees the necessity of acknowledging the diversity of learners' intelligences and not confining learning to specific profiles (Julita, 2022). This

way no learner is supposed to be left behind when diverse IBL methods that cater for learners' different intelligences are used.

> *Inquiry-based methods enable learners to develop critical thinking skills which are high order in Bloom's taxonomy. This makes entry from school level to tertiary level much easier. Experiments that we did at university were the same as those we did at school. This assisted to smoothly move into tertiary level. Practical assessments account for 60% high order questions which is investigative high order learning, and 40% is low order learning. This happens at both external and school based assessments* (HOD 2 School C).

> *Inquiry-based teaching methods stimulate learners to ask questions than to take things at face value. This allows them to think out of the box* (HOD1 School C).

These assertions are supported by Gholam (2019) that IBL emphasises critical thinking and problem solving as well as Duran and Dokme (2016) that learners instructed through IBL methods improve their critical-thinking skills and achieve better.

4.4. Challenges of IBL

Participants noted that though inquiry based learning has benefits, it also faces some challenges in the science classroom.

> *The first challenge is that inquiry based teaching and learning methods are time consuming. Some few learners do not pay attention or participate in given group tasks, while some ask irrelevant questions (Teacher 1 School B).*

> *The number of children in class makes it impossible to discuss and to give individual learner attention* (Teacher 1 School A).
> *Learner teacher ratio is supposed to be 20 – 25, but on the ground it is 30 – 40. In some schools it is even 60 learners in one class* (Teacher 2 School A).

> *The Department of Basic Education emphasises on writing exercises and does not take note of teaching. They interpret writing of exercises as teaching and lack of written exercises as lack of teaching. They demand 5 exercises a week. This consumes more time for lesson delivery. The teacher sometimes is supposed to see learners 4 times per week and administering 5 exercises a week becomes impossible. There are other activities that consume time e.g. sports and other administrative activities. In addition, due to power outages and water shedding*

> *children end up being sent home instead of learning. This consumes instructional time and makes the use of inquiry based methods difficult, because they require more time* (Teacher 2 School A).

> *There is no enough time to complete the syllabuses. A topic which is supposed to be covered in 3 weeks ends up being squeezed in 2 or 1 week, because of time constraints* (Teacher3 School A).

> *Exam time is not factored into the Annual Teaching Plan (ATP). Then exams in May infringe on instructional time. During exam period learners stop learning as you can't teach when children are writing exams* (HOD School A).

> *Due to time consumed by exams, you are forced to have afternoon, evening and weekend lessons to catch up with the syllabus. Lack of time therefore affects inquiry based learning which needs more time. You also need time to deal with challenged learners through coming up with interventions, while at the same time enriching fast learners. In addition, the Department of Basic Education expect teachers to do extra mural activities e.g. ruby, netball and the like which also consume instructional time* (Teacher 3 School A).

All the assertions by participants point to lack of adequate time and high learner teacher ratio as major challenges encountered in the implementation of inquiry-based teaching and learning methods in the science class. It was highly characterized in the empirical studies that South African schools have high learner to teacher ratio (Samuels & Dudu, 2017), overcrowded science classrooms in townships public schools (Ncala, 2016) and lacks teaching time completing the curriculum (Ramnarain & Hlatswayo, 2018). Since the school has numerous activities including examinations and core-curricular activities, the use of inquiry-based methods that require a lot of time in most cases ends up posing a challenge to teachers.

> *Lack of resources needed for practicals e.g. lack of a school laboratory, chemicals and apparatus prejudices learners from conducting practicals* (Teacher 2 School D).

> *Large numbers of learners result in class result in recycling of apparatus that need to be washed when you go to another class. When the apparatus are not properly cleaned and remain with traces of acid they tend to give different results that are not expected. The teacher has to explain and repeat the experiment. If*

> *results are not accurate because of improperly washed apparatus they tend to contradict what is in the text book. The teacher has to be alert, because if experiment results contradict what is written in the text book learners would start doubting the teacher* (HOD School B).

These assertions show that resource constraints in schools act as another barrier to the implementation of IBL. This was characterized in the empirical studies that most schools lack support, inquiry-based teaching material and facilities such as laboratories (Ramnarain & Hlatswayo, 2018; Gutierez, 2015). Hence, IBL is only possible when schools provide the necessary resources, time and assistance (Joseph et al., 2022).

> *There are some primary school teachers who are not qualified to teach Natural Science (NS), and they don't know how to use inquiry based methods. This creates gaps when learners progress to high school as they will not be familiar with inquiry based methods. The Department of Basic Education should provide training programmes for such teachers to equip them with modern teaching methods* (HOD 1 School C).

This assertion is supported by Barrow (2006), identifying limited teacher preparation as a challenge to the implementation of IBL. The open-ended learning environments are challenging for teachers (Inoue & Buczynski, 2010), especially to those who do not have proper training. Participants also noted that untrained teachers did not know how to use inquiry-based teaching and learning methods in class.

4.5. Educational technologies used to support IBL in schools

Some schools had inadequate technological resources while others were better equipped. Participants noted other educational technologies not available in their schools, but were of the view that those technologies were essential for instructional delivery in science.

> *Ya, we use quite a lot of technology in Natural Science in our school. It is difficult to teach other topics without technology. In our school there are projectors in every science class so that visuals are used. Learners are used to technology. If you give them a piece of paper, black and white it won't interest them. They need visuals. One visual can teach the whole lesson. Other schools have interactive boards and children can come and work on the board, but we don't have that in our school* (Teacher 2 School A).

> *We used to have tablets, but children stole them, or sometimes they were off battery. The tablet needs learners to scroll around as it shows a piece of the page unlike the textbook that shows the whole page and picture. This is an inconvenience especially on diagrams where you are supposed to go up and down. Students play games on tablets and sometimes they break the tablet or steal each other's tablets* (Teacher 3 School A).

> *Learners can be given gadgets like tablets, but this was tried by the Department of Basic Education and failed because gadgets got stolen and some got broken. There were different stories about tablets (Teacher 1 School B).*

> Despite challenges associated with some types of technologies like tablets, Secore (2017) spells out that in social constructivism learning technologies are preferred in instructional delivery. These types of technologies allow learners to use their sense of sight and sense of hearing during the learning process. This leads to better understanding of the information being taught.

> *In our school we do use technology. We are moving towards technology in the classroom. Teachers use lap tops that are connected to the internet in the classroom to access information, and we are able to display accessed information using smart boards and projectors* (HOD 2 School C).

> *There is free Wi-Fi for all educators. Laptops are provided to educators by the school. These laptops however remain the property of the school* (HOD School B).

> *Primary level has virtual reality (VR) Google. It uses applications that show videos of information being taught. It can walk the learner through the museum* (HOD 1 School C).

> *The challenge is that the VR google does not have enough information for all the topics taught, so the teacher factor cannot be underestimated. We have a lot of videos and teaching content, but abstracts of what is taught cannot be done effectively through the use of technology only (HOD 2 School C).*

Some participants also revealed that their schools did not invest much in educational technologies. As a result, they had inadequate technologies that support IBL in the science classroom.

> *Our school does not place importance of the use of educational technologies in class. They only talk about its use in theory, but practically there is nothing available. The school only allows learners to use their cell phones, but this has its own challenges as learners tend to do other things on cell phones during the lesson. This disturbs their focus on the lesson and not all learners have cell phones* (Teacher 2 School D).

> *The school has only one projector, interactive white boards are expensive and prone to theft. Internet at the school is localised to one point at the admin side. In other places like classrooms and at staffrooms there is no internet. This makes it difficult for teachers and learners to use technology in class that requires internet connectivity* (Teacher 1 School D).

Participants viewed lack of management commitment in investing on technological equipment and budget constraints as inhibiting the use of educational technologies in their schools. From participants' narratives, it can be noted that some schools placed importance on the use of educational activities in science while other schools invested less in the use of technology in the science class. There are however other technologies that can be used in the science class such as WebQuest application, virtual and online laboratories (Hakverdi-Can & Sonmez, 2012; May et al., 2022) and V-lab (Singhai, 2018; Brinson, 2015).

4.6. The use of educational technologies to support IBL in science

> *If practical experiments do not work you google and use YouTube experiments so that learners can see the results of experiments. Schools that do not have laboratories and apparatus like township schools are encouraged to use YouTube experiments. Suburb/model C schools that have well equipped laboratories can use both practical experiments and YouTube experiments. Township schools have one beaker, one Bunsen burner. Once these break, they are not immediately replaced. Maybe they are replaced after 3 months. In model C schools replacements are done after 2 days* (HOD School B).

> *The teacher can take lessons from YouTube and show them to learners while he/she facilitates the lesson* (Teacher 1 School D).
> *Projectors and laptops can be sued to project YouTube videos, and other useful text and visuals* (Teacher 1 School B).

The use of projected YouTube videos in class has been supported by empirical studies (Pratama et al., 2020; Almurashi, 2016; Pratama et al., 2020; Madlela & Ngakane, 2024).

> *Simulations of concepts can also be used e.g. when teaching about the engine or gears, you can use the software that simulates the changing of gears. Practicals can also be simulated and results shown. This brings the laboratory into the class. The drawback is that it is not as perfect as doing an actual experiment and it doesn't promote psychomotor skills and affective domain. It doesn't give learners a chance to touch, feel and smell the chemicals, and get skills of performing those practicals physically* (Teacher 1 School D).

> *We use simulations if the experiment is time consuming or dangerous, but most practicals are not dangerous. At times due to time constraints you leave out practicals and try to push the syllabus* (HOD1 School C).

> *Simulations reduce expenses needed for physical resources, laboratory material and stationary, because of the use of software copies. Time for the preparation of experiments is saved. The teacher also learns from lessons and simulations presented on videos. There is a large pool of e-resources. Learners can always refer to the video or recorded lessons at any time and space as per their convenience (Teacher 1 School B).*

> Participants viewed the use of simulations as a way of mitigating lack of time and non-availability of resources needed to conduct practical experiments. Wilson (2016) argues that computer simulations are engaging for learners especially if learners are the ones asking questions and driving investigation. Dunn and Ramnarain (2020) spell out that computer simulation may provide a viable alternative to physical science laboratories that exist in only a small proportion of South African schools. Simulations enable visualisation of the phenomena, and through visualisation learners acquire an understanding of such phenomena (Dunn and Ramnarain, 2020).

> *I ask learners to come up with Tiktok videos of what has been taught* (HOD 1 School C).

Asking learners to produce and present Tiktok videos of what has been learnt consolidates their understanding of concepts and enhances their creativity. In constructivism, actively involved learners can build their own knowledge structure based on their cognitive level (Rohman & Fauziati, 2022).

> *Assignments can be sent through WhatsApp groups where parents are also there. So parents can monitor and check the learners' progress* (Teacher 1 School D).

> *WhatsApp can be used for communication and sending video links and home work* (Teacher 2 School D).

The use of WhatsApp for communication and sending assignments, can also be extended to sending videos, text and audio to learners (Ngakane & Madlela, 2022). Learners, under the guidance of the teacher, can use WhatsApp to collaborate, interact and share learning material and findings of their investigations. As learners collaborate and interact, they tend to create new knowledge through dialogue and interaction with others (Churcher et al., 2014). Constructivism believes that learners can collaborate with the teacher or peers to construct knowledge and understanding (Akpan et al., 2020). Hence, the use of WhatsApp and other educational technologies like LMS enhances collaboration of learners with their teachers and peers.

> *Technologies can be used to make emphasis after teaching e.g. playing a video to emphasise and summarise content that have been taught. Some learners understand better when they watch a video or videos after the actual teaching. The teacher should not rely much on the video, but should use it to emphasise and summarise, and to pin point certain concepts. This should be done after the teacher has taught the topic* (Teacher 2 School B).

Videos benefit learners a lot if they are properly chosen and used in class. They serve as dynamic medium of delivering information to learners because of combined several elements such as text, audio and visual (Syaripuddin et al., 2019). While the video is suitable for application in the teaching process, its selection should be match with the learning goals, content, classroom environments and infrastructure facilities. Although the participants alluded to the use of the video only to emphasise and summarise the lesson, it should be noted that the video can be used in all stages of the lesson.

Participants also suggested some technologies that schools should use to support IBL.

> *Schools can also use clickers. These can be used by learners to answer questions on the digital board. Doing so encourages learners to concentrate. The digital boards can be linked to the application which can personalise learners. Then after answering questions through clickers each learner's work is digitally marked, and*

> *marks automatically added to their student portal. This gives instant feedback to learners and teachers, and improves learner motivation* (Teacher 2 School A).

Since IBL is time-constrained (Ramnarain & Hlatswayo, 2018), the expanded use of clickers by learners to answer questions on the digital board where work is digitally marked can mitigate this challenge. As tasks would be marked automatically by the system, teachers will then use the allotted time to prepare and do other activities with the learners.

> *In mathematics they have visualisers. The teacher writes information on paper and the visualiser camera projects it on the board through the projector. This technology can also be used in science. The teacher can record the lesson on the visualiser and post it to learners through WhatsApp groups* (Teacher 2 School A).

> *Lessons can be conducted through Google classroom. Such lessons can be recorded and learners can refer to them at their convenient time as necessary* (Teacher 4 School A).

> *Google classroom lessons should be recorded because of data issues. Not all learners have data at the same time. Having lessons recorded enable learners to access them at the time when they have data and network availability* (HOD School A).
>
> *Digital measuring probes can be used to measure for example temperature, heart beat and blood pressure. This kind of equipment is expensive, and it is difficult to have it due to budgetary constraints* (HOD 2 School C).

Participants noted that although they needed to use technological gadgets in their schools, budgetary constraints were limiting them. As this has been raised in the previous studies (Ramnarain & Hlatswayo, 2018; Gutierez, 2015), Ebri and Oben (2022) suggest public schools to embark on fundraising and income generating projects to raise resources to fund some of their operations. If schools can fundraise, they can supplement their budgets and manage to buy materials and technological equipment necessary for the implementation of IBL.

> *Solar energy can be used to support the use of educational technology* (Teacher 4 School A).
>
> *Kids learn differently. If electricity goes off and the projector is off you lose learners' concentration. As you write on the board they start misbehaving because you are no longer facing them* (HOD School A).

Investing in solar energy can help schools during load shedding when there are electricity outages. Solar energy can power projectors, internet and computers if electricity goes off. Hence, Madlela (2022) suggests investing in solar energy to enable the use of educational technologies even without electricity.

> *Schools that are not well equipped can go to schools with apparatus and technology to use them for a day or two days. These schools can also turn certain text into a song and record it. Learners like songs. They are able to memorise songs. Learners can rap certain scientific definitions and concepts and have them recorded using available technology. This can help learners to learn through songs* (HOD School B).

As suggested by the participants, collaborations and sharing of resources between schools is a progressive strategy. Schools with lack of educational technologies can collaborate to visit schools with access to technology (Madlela, 2022). They can also collaborate with centres and libraries that have technology. With the available technology in other schools, the learners will not be deprived of the use of latest technology in the classrooms. However, school leadership is necessary to come up with the proper agreement on the collaboration.

5. Conclusion

The implementation of IBL in schools is constrained by the lack of time, materials and facilities like laboratories, as well as deployment of unqualified and unfamiliar teachers with inquiry-based teaching and learning. Despite these challenges, IBL has vast benefits such as enabling learners to grasp and understand concepts better through active involvement in their own learning. While some schools place importance on the use of educational technologies that support IBL, other schools are deprived. Meanwhile, aside from practical experiments, the schools can also use commonly available technologies such as computer simulations and YouTube videos, WebQuest, V-lab and open source LMS. While the schools raise concerns on time constraints, the use of online laboratories, LMS and clickers to deliver instruction and administer assessments can mitigate this challenge.

Since IBL is constrained by lack of resources and time, the Department of Basic Education and schools should support mobilization of needed resources for the implementation of IBL. There should also be training for teachers on the use of different methods and technologies to implement IBL. In order to generate funds to support the purchase of necessary

technology, schools can embark on fundraising and income generating projects. With the current lack of available technology to support IBL, the schools are encouraged to make use of free and available technologies. They can also initiate collaboration with other institutions on the use of available technology.

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ORCID
Benkosi Madlela – https://orcid.org/0000-0002-0720-5549

Ramnarain Umesh – https://orcid.org/0000-0003-4548-5913

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Exploring internal school quality assurance teams' readiness to supervise instruction in Tanzanian secondary schools

[1]Abich Omollo, [2]Rose Matete & [3]Paul Loisulie

Abstract

The purpose of this study was to explore the readiness of the Internal School Quality Assurance Teams (ISQATs) to supervise instruction in Tanzanian public secondary schools. The study employed a qualitative approach, and data were collected through semi-structured interviews and documentary reviews. A purposeful sampling technique was used to select 18 participants from the Kilimanjaro Region of Tanzania. The findings indicate that many Internal School Quality Assurance Officers (ISQAOs) had limited professional profiles despite having adequate teaching qualifications. Their supervisory practices included regular checking of academic records, reminding teachers of their responsibilities, and recommendations on academic matters. It was also found that ISQATs faced challenges such as heavy workloads, poor cooperation from teachers, a lack of supervision guidelines, and different perspectives regarding lesson planning. This study concludes that ISQATs were not fully ready to supervise instructions as professionals, implying that the existing ISQAOs need to receive professional training and that a supervision policy that requires possession of instructional supervision skills as a pre-requisite for teachers' promotion to an instructional supervision role be implemented.

Keywords: *instructional supervision, school quality assurance, readiness, internal supervision teams*

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About the authors:
[1]Corresponding author. PhD Candidate, The University of Dodoma. Email: abich.omollo@udom.ac.tz
[2]Doctor of Philosophy, The University of Dodoma. Email: rose.matete@udom.ac.tz
[3]Doctor of Philosophy, The University of Dodoma. Email: loisulie.paul@udom.ac.tz

1. Introduction

Instructional supervision is directly related to the improvement of teaching and learning (Zepeda & Ponticell, 2019). Through instructional supervision, teachers are supported to ensure that they are adhering to the principles of good teaching, and those who perform well are given positive reinforcement to ensure that they continue to do so. However, if a teacher fails to apply effective teaching principles, the supervisor must provide remedial support by explaining and modeling appropriate teaching practices, setting improvement benchmarks, and monitoring and supporting the teacher's efforts to improve (Glickman, et al., 2013; OECD, 2013).

Instructional supervisors are expected to adhere to the principles of effective supervision, including fault-free problem solving, collaborative processes, and a dedication to the advancement of teachers' professional development, among others (Glickman et al., 2013; Zepeda & Ponticell, 2019). This has necessitated the establishment of professional instructional supervisors from outside the school. Unfortunately, most external supervisors behaved inconsistently with the original purpose and principles of effective instructional supervision (Maisyaroh et al., 2021; Zepeda, 2017). For example, some visited the schools without prior notice, a style associated with guerilla tactics of attacking unsuspecting enemies and fleeing away immediately. This style of supervision instilled fear and tension among teachers (Ngwenya, 2020). Some approached teachers as enemy with a "cold war" strategy in which neither side has any faith in the other (Ebele & Olofu, 2017; Matete, 2021; Zepeda, 2017).

In Tanzania, the state of instructional supervision has been more serious. Studies demonstrate that external supervisors did not have access to reliable modes of transport or sufficient funding to enable them to visit schools. Their workload was heavy due to the overabundance of schools and the shortage of supervisors (De Grauwe, 2001; Matete, 2021). Others provided hurried and superficial supervision to a few teachers in an effort to cover as many schools as possible (Matete, 2021). It was also more challenging for them to follow through on the recommendations they made in inspection reports due to insufficient coordination and collaboration with other authorities. As a result, poor teaching practices remained unsolved as supervision did not yield the anticipated improvement in the quality of instruction (United Republic of Tanzania [URT], 2021; Ministry of Education, Science, and

Technology [MoEST], 2017a). Given reports of a significant decline in the quality of instruction, the overall conclusion is that the impact of the instructional supervision service provided to Tanzanian schools is insufficient to improve teaching and learning (De Grauwe, 2001; MoEST, 2017b; 2017a; Mosha, 2012; Tonini, 2012).

In view of this situation, the Government of Tanzania was to follow either of the two popular solutions for improving instructional supervision. First, to replace external supervision and visits with total decentralization of supervision at the school level, like in Finland. Second, to strengthen the internal instructional supervision capacity in order to counterbalance the weaknesses of external supervision visits (De Grauwe, 2001; UNESCO, 2011). Fortunately, the Tanzanian Government chose option number two in January 2018, replacing the school inspection system with the school quality assurance system (SQAS), which resulted in the establishment of both external school quality assurance (ESQA) and ISQATs to support instructional improvements at the school level (MoEST, 2017a, 2017b; URT, 2018).

Despite the necessity of introducing ISQATs at the school level, it is still unclear whether they are prepared to make any difference in teachers' instruction. Nevertheless, there have been limited studies investigating ISQATs' readiness to support instructional improvement, as recent research has primarily focused on external instructional supervisors. For example, Mcheka et al. (2022) examined the role of ESQA, Agapiti and Kitula (2022), and Secilia and Mwila (2022) investigated the impact of external supervisors on teachers' efficacy, and Medard and Mwila (2022) focused on the guidelines for school quality assurance (SQA). The extent to which ISQATs are ready to bring about change in secondary schools in Tanzania is not well studied and documented. Thus, this study explored the readiness of the ISQATs to conduct instructional supervision in secondary schools in Tanzania. The key research question was: Are the ISQATs ready to supervise instructional activities in secondary schools? The study did not focus on the supervision of school financial resources and teaching and learning materials, although these play a great role in effective classroom instructional practices.

2. Literature review

2.1. Rationale for the Internal School Quality Assurance Teams

In many countries, middle management teams, such as ISQATs, dedicated to pedagogical improvement are emerging as the ideal form of school management (Ngwenya, 2020; OECD, 2008). This paper presents five rationales for ISQATs. First, ISQATs provide

sustainable improvement of instruction because they are close to the point of instructional delivery. This makes it even more for them to monitor what occurs in schools and to provide consistent support to teachers (De Grauwe, 2001; Ngwenya, 2020; Zepeda, 2017). Second, ISQATs serves as a link between internal school improvement processes and externally initiated reform. They help their teachers match their pedagogical approaches to the established external performance standards (OECD, 2008). Instructional improvement cannot be achieved solely by the external or internal supervision teams; rather, a combination of both is likely to produce better results than either strategy alone (Hargreaves, 1995; UNESCO, 2011). Third, ISQATs promote a culture of self-assessments and self-correction in schools. Thus, ISQATs help schools to solve their problems, rather than relying on external actors (UNESCO, 2011). Through ISQATs, teachers are given more professional autonomy to engage in self-quality assurance practices that allow them to utilize each other's expertise for improvement (De Grauwe, 2001). Fourth, delegating leadership roles to ISQATs helps to prepare teachers for higher-level positions requiring a high degree of leadership expertise as they get the opportunity to diffuse leadership-decision making skills (OECD, 2008; Zepeda, 2013). Fifth, ISQATs help reduce the span of control of the head of the school. This implies that the head of the school has less work to do at the school level, which makes the headship role more manageable (OECD, 2008; Zepeda & Ponticell, 2019).

2.2. Pre-Requisites for Effective Instructional Supervision

The goal of instructional supervision is to facilitate teachers' instructional improvement. To achieve this goal, supervisors need to have supervision skills, have a manageable workload, use professional guide, practice intensive supervision, and use appropriate supervision approach (Southworth, 2002; Zepeda & Ponticell, 2019). Supervisors need technical skills because instructional supervision activities involve technical tasks like assessing the application of student-centered pedagogies in lesson preparation and facilitation (Glickman et al., 2013; UNESCO, 2011). Supervisors must also have interpersonal skills, like communication skills, to interact and collaborate with a diverse range of teachers on a daily basis while addressing their instructional challenges at the school. In contrast, a lack of it leads to constant conflict with teachers, the emergence of negative attitudes among teachers toward instructional supervision, and unimproved instruction (Glickman et al., 2013; Southworth, 2002; Zepeda, 2017). It is important for instructional supervisors to undergo professional training for them to develop new competencies, including technical and interpersonal skills.

Newly appointed supervisors can benefit from induction programs that prepare them to begin instructional supervision practices while existing supervisors can receive continuous in-service training to help them adjust to changing conditions in their roles (UNESCO, 2011). The implication is that teaching alone cannot produce effective instructional supervisors (OECD, 2008).

It is also important that instructional supervisors have a manageable workload, so that they have more time to engage in instructional improvement activities (Panigrahi, 2012). Too much involvement by supervisors in activities unrelated to instructional improvement in schools decreases not only their commitment and ability to supervise instruction (UNESCO, 2011; De Grauwe, 2001). It is critical that if teachers are required to perform supervisory duties, their excessive workloads, which prevent them from focusing on instructional improvements, be reduced. Without this, supervision is frequently reduced to meaningless checklists, resulting in missed opportunities for meaningful instructional supervision (UNESCO, 2011; Zepeda, 2006). Supervisors also need professional guidelines and manuals to objectify and depersonalize supervision. Using an observation protocol, for example, enables the supervisor to concentrate observation on the tangible evidence found during the teaching and learning process in the classroom rather than the observer's normative position or personal attributes of the teacher (Elmore, 2008). According to the OECD (2005), standardized supervision with detailed performance indicators facilitates a shared understanding between the supervisor and the teacher regarding the qualities of effective teaching. Santiago et al. (2013) added that supervision guidelines not only support supervisors in assessing teachers' work but also guide teachers in evaluating themselves.

Supervisors should also practice intensive supervision, which entails devoting enough time to engaging teachers in in-depth discussions about effective teaching and using multiple data sources and strategies to improve both general and specific aspects of teachers' professional practice as a whole (Owan et al., 2023; Santiago et al., 2013; UNESCO, 2011; Zepeda & Ponticell, 2019). Supervisors must avoid traditional supervision that focuses on ensuring compliance with rules and regulations that require them to check off extensive checklists of easily measurable items such as the number of lessons taught and write related reports (UNESCO, 2011; Zepeda & Ponticell, 2019). Moreover, supervisors have traditionally used a directive supervision approach, in which the supervisor bears a high degree of responsibility while the teacher bears little responsibility. However, evidence from effective

schools indicates that directive supervision is being replaced by collaborative supervision (Glickman et al., 2013). The rationale is that directive supervision is more about controlling teachers than helping them develop professionally (UNESCO, 2011; Glickman et al., 2013). Teachers view directive supervision negatively and with bitterness, as they equate it with the process of finding faults in their teaching. As a result, they are resentful of the process of supervision (Hoque et al., 2020). On the other hand, collaborative supervision has been embraced because it allows the teacher and the supervisor to work together to improve instruction (Glickman, 2002). The approach also treats supervision as an adult learning process where the supervisor consults with teachers as peers on issues related to pedagogical improvements (Glickman et al., 2013; Weinberger & Libman, 2018; Zepeda & Ponticell, 2019).

3. Methodology

It was important for this study to apply a qualitative research approach and an exploratory case study design to explore readiness of ISQATs to supervise instruction in their schools. The qualitative research approach collects participants' views, behaviors, and experiences in responding to the research questions of the hows and whys rather than how much or how many (Tenny at al., 2022). In addition, exploratory case study design employs multiple data collection methods to collect rich data for better understanding the phenomenon under investigation in its natural setting (Crowe et al., 2011; Lincoln & Guba, 2013). It was also critical to reduce common flaws in the findings associated with the use of qualitative approaches and case study designs, such as subjectivity and limited generalization, among others. Thus, this study used a triangulation strategy that employed multiple data sources and collection methods. The study also used thick descriptions so that document passages and words uttered directly by study participants when expressing their views were quoted to support the findings. Allen (2017) and Given (2008) assert that thick descriptions facilitate the transferability of the findings by allowing the reader to assess the relevance of the findings in their context.

This study was carried out in the Kilimanjaro region. The Kilimanjaro region is situated in northern Tanzania. Kilimanjaro is one of Tanzania's top-performing regions in secondary education (NECTA, 2019). Moreover, the Kilimanjaro region has established ISQATs in its

public schools in response to school quality assurance system reforms (URT, 2018). These factors put the Kilimanjaro region in a better position to provide more insight into the ISQATs' readiness to conduct instructional supervision in public secondary schools.

The study employed the criterion-purposeful sampling technique. As stated by Palinkas et al. (2015), this technique is appropriate for identifying and selecting "participants who meet a predetermined criterion of importance". As a result, the sample size of eighteen (18) participants was obtained through saturation. In particular, this study identified and selected ISQAOs (06), heads of schools (06), and teachers (06) from six public secondary schools in Kilimanjaro. It was important to involve ISQAOs, who were the first to form ISQATs in 2018 and had experience with supervision of instruction. It was also important to involve heads of schools as well, as appointed teachers serve as ISQAOs, supervise ISQATs directly, and serve as the chief internal school quality assurance. Teachers were also involved because ISQAOs are expected to help teachers improve instruction.

Data for this study were gathered through document reviews and interviews. In particular, the study employed in-depth interviews because it enables participants to share their experiences related to the readiness of ISQATs to supervise instruction. It also enables the researcher in probing additional information from participants' accounts that is helpful for the analysis (Given, 2008). The school performance evaluation reports (SPERs) and teachers' lesson plans were reviewed. The SPERs are general school performance reports that are prepared by Zonal School Quality Assurance Officers (ZSQAOs) from outside the school, and they include information on ISQATs' job performance. Lesson plans also offered information on ISQAO supervision practices, such as how they attempt to improve teachers' lesson preparations through their comments in the lesson plans.

This study employed thematic analysis techniques, which entail the identification and analysis of meaningful patterns within the qualitative dataset (Braun & Clarke, 2006). In particular, the analysis involved: (i) interview data were transcribed from audio to texts and texts were translated from Swahili to English; (ii) texts were read several times to become familiar with the data pertinent to the research question, and the relevant items were noted; (iii) codes were generated by assigning symbols to text messages that contained recurring ideas to set them apart from other texts; (iv) the previously generated codes were examined and codes with similar meaning were grouped to form broader patterns of meaning known as categories

or sub-themes; (v) the sub-themes were deeply examined, leading to the combination of related themes, and as a result, final themes were developed; and (vi) the research report was written.

All research ethics were complied with, from the conception of the research problem to the report writing (Given, 2008). For example, the institutional research review committee (IRRC) of the university granted ethical clearance for the proposed research. In the field, participants were informed about the goal of the study, the duration of the interviews, the methods and instruments used to collect the data, and how the report would be disseminated. It was also important that participants were to consent to take part in this study voluntarily. Pseudonyms were also used in place of participants' and institutions' real names during reporting to protect their identity. Issues related to plagiarism were highly avoided by ensuring that all materials used in the study were acknowledged.

4. Findings and Discussion

The primary objective of this study was to find out how prepared the ISQATs were to supervise instruction in Tanzania's public secondary schools. Three key themes emerged from the collected data. They include the profiles of ISQAOs, the instructional supervisory practices of ISQATs, and the challenges faced by ISQATs in supervising instruction.

4.1. Profiles of Internal School Quality Assurance Officers

Table 1

Profiles of ISQAOs

Category	Description	Frequency
Sex	Male	04
	Female	02
Teaching experiences	7-10 years	02
	11-15 years	02
	26-32 years	02
Education qualification	Bachelor	04
	Masters	02
Professional training	Prior to the appointment to be ISQAO	01
	After appointment to be ISQAO	-

Note: N=6

The study included six ISQAOs from six public secondary schools. The sex profiles of the six ISQAOs indicates that four were males and two were females. Moreover, the teaching

experience profile shows that each of the six ISQAOs has worked as a secondary school teacher for at least seven years. Furthermore, the education qualification profile indicates that two ISQAOs had master's degrees and four had bachelor's degrees in education (see table 1). This demonstrates that each of the six ISQAOs had the educational background required to teach secondary students effectively. This suggests that ISQAOs were appointed based on their teaching profiles, which include their educational backgrounds and teaching experience.

According to the data on the professional training profile, only one of ISQAOs had gone through professional training before being appointed as an Internal School Quality Assurance Officer (ISQAO). However, the vast majority of the ISQAOs did not possess the professional skills necessary to supervise instruction at secondary schools. The data also shows that none of the six ISQAOs attended any professional training after being appointed. This suggests that there was only one teacher who met the minimum professional requirements for the instructional supervision role. The following is what ISQAO from school "D" said during the interview about professional training:

> "We were simply given a letter informing us that a new unit whose focus would be on quality assurance had been launched and that we would be the quality assurers. Thus, we found ourselves working but like someone who was groping into darkness who is not sure of the next step. So, in similar manner, we have been working but not sure of what we are doing. Sometimes I have been asking myself, what is our scope and limitations of our responsibilities? There are times when you do something and you are told that this was not supposed to be done by you. Then when you abandon that task, you are told this is your task as the quality assurer. If seminars were conducted to orient us on our duties it would be better instead of being just given responsibilities as it is now the case."

Regarding the same issue, another ISQAO from school "A" commented during the interview:

> "No one has received training of quality assurance since we began this work. When we first started, I remember I told the head of the school that these teachers are just inspecting, but they have no idea what they are doing. So, I volunteered and created the inspection guide based on the knowledge I gained from my Master's Degree studies in education supervision."

Data from documentary reviews also indicate that ISQAOs had never received

professional training. Consider the following passage from SPER for school "D":

> "Internal school quality assurance team is in place; however, it needs training on what and how to perform its roles. Members are not familiar with responsibilities handed to them… equip the team with knowledge on what to do as ISQAT so as to assist administration to get feedback on the teaching and learning for appropriate recommendation for action."

The presented narratives indicated that the majority of ISQAOs assumed the role of supervising instruction for quality assurance without a proper professional profile. They never participated in induction or continuous in-service professional development after being appointed. The findings imply that ISQATs were not ready to supervise instructions because ISQAOs had limited professional profiles although they had adequate teaching profiles. These findings are in line with those of Dea (2016) in Ethiopia, who found that instructional supervisors lacked professional training and skills, and thus they tended to focus too much attention on teachers' weaknesses, and they imposed punishments rather than helping the teachers improve instructions. However, UNESCO (2011) and Zepeda (2017) recommend that internal instructional supervisors need professional training for them to succeed in promoting the use of effective teaching and learning techniques while also providing a range of professional development opportunities for their teachers.

4.2. The Instructional Supervisory Practices of ISQATs

Data indicated that ISQATs implemented a number of supervision procedures to improve instruction in their schools. These supervisory practices include checking academic records, reminding teachers of their responsibilities, and provision of recommendations on academic matters.

Checking academic records. Data show that ISQATs supervised teachers' instructions by checking the academic records such as teachers' lesson plans, students' exercise books, log books, and class journals. According to the findings, ISQAOs collected these academic documents every Friday for assessment to determine whether teachers planned and taught lessons in accordance with the number of periods assigned to them. The findings from lesson plans reviewed indicated that ISQAOs just commented 'seen' or "checked", followed by their signatures. ISQAO from School "A" explained during the interview how they supervise instruction by checking a number of academic records:

> "The documents are collected every week and must be reviewed; all the lesson plans, schemes, and log books must be collected every Friday and must be checked and signed to know those who completed their duties and those who are not. We also look through them to see how many periods have been lost in a week. If there is a discrepancy, we discuss with the teacher how he or she will compensate for the missed periods."

During the interviews, ISQAO from school "E" explained the rationale behind the weekly checking of academic records:

> "We check to verify if the lesson plan is compatible with the notes taken by students and the class journals. As you may know, there are some teachers who can write lesson plans without attending the classroom, and some teachers can even teach without a lesson plan. So, we must expose such people. We also check student's notebooks to see if the teacher has given notes to the children, whether the teacher has given them notes and exercises, and whether they are marked."

The findings indicated that ISQATs carried out their duties by checking academic records, including students' exercise books, class journals, and teachers' lesson plans. These findings are consistent with those reported by Fathil et al. (2021) in Malaysia and by The World Bank (2021) in Tanzania, who both found that academic records, such as lesson plans and class journals, were regularly examined to ensure that teachers planned and taught their lessons consistently. Different scholars also agree that regular checking of academic records is important for understanding the quality of teachers' instruction and students' learning, as well as to determine whether the curriculum is being followed (Malunda et al., 2016; Mauliate et al., 2019). The findings suggested that the goal of checking academic records was to ensure that the number of activities completed by teachers matched the number required. However, the literature does not support the practice of simply matching the number of planned lessons to the lessons taught. For instance, UNESCO (2011) argued that supervisors need to move from a traditional approach to supervision that focuses on ensuring compliance and instead focus on more intensive supervision with the aim of improving instructional quality by allocating adequate time to engage teachers in in-depth discussions about how they are teaching. Owan et al. (2023) and Zepeda and Ponticell (2019) suggested that instructional supervisors need to focus on the supervision which supports the holistic improvement of the quality of teaching and learning. To these scholars, engaging in checking of extensive

checklists of easily measurable items such as the number of lessons that are planned is meaningless and waste of time.

Reminding teachers of their responsibilities. The findings indicated that ISQATs were constantly reminding teachers of their primary responsibilities of planning and facilitating classroom instructions. It was also found that ISQATs insisted on teachers to prepare and teach all of their lessons, assess learning, and practice all aspects of good instructions. During the interview, one of the ISQAOs from school "C" explained that they were closely monitoring teachers' performance and notice any flaws, which they used as an example in the staff meeting to remind them to perform their duties properly. Here she explained:

> "We make sure the teachers have a lesson plan and a scheme of work, and if they do not, we take note of it. During staff meetings, which take place every day at tea time, we ask the head master for an opportunity to present the areas of weaknesses identified. We also use that opportunity to remind the teachers that it is their responsibility to the plan lessons, give students notes and exercises."

Another ISQAO from school "B" commented during the interview on how continuous reminders have helped teachers become more accountable. He said:

> "Teachers are aware of their responsibilities, but we simply encourage them to do so. Overall, the quality assurance department strongly encourages teachers to attend all sessions. Sometimes the lessons are lost because the teacher do not attend classrooms. So, by insisting on the same thing from the academic office and the quality assurance department, we are able to reduce the number of lost sessions."

As can be observed from the findings, ISQATs clearly used various opportunities to remind teachers not to neglect their core responsibilities of planning and facilitating instructions in the classroom. This suggests that oral reminders along with written reports are crucial in helping teachers identify their areas of weakness and the need to strengthen them.

Provision of recommendations on academic matters. The findings indicated that the assessment reports from ISQATs highlighted issues that needed improvement and recommended how to address them. The reports were useful in understanding the academic situation in the school for both internal stakeholders (e.g., teachers, heads of academic departments, and heads of schools) and external supervisors (e.g., ward education coordinators, district council education officers, and zonal quality assurance officers). Regarding the use of

ISQATs' assessment report, ISQAO from school "A" stated during the interview:

> "Our main work is to go through every aspect of academics. When external inspectors arrive, they do not start the inspection process directly, but they will start with us so that we can give feedback on what we have done, what shortcomings we have identified, and the solutions we have recommended. We have made it too easy for them to carry out inspections after they have read our reports. External quality assurers and all people who want to carry out inspection must go through us first because what they come to inspect, is what we have already done internally and written a report about it."

Another ISQAO from school "C" stated during the interview that how recommendations assisted in resolving the issue of inadequate physics instruction in Form IV, she explained:

> Form IV students expressed dissatisfaction over their lack of understanding of their Physics teacher. Head master informed me about the situation and I advised the teacher to change his teaching approach by engaging students, giving them notes, and also providing them with exercises. I have been making a follow-up on the issue ever since, and those students have told me that they are now understanding him better than they did before. I can say that the feedback has been encouraging and beneficial.

ISQAO from school "B" also clarified during the interview the extent to which their recommendations are helpful. He commented:

> "We advise the head of the school, or rather, the school in general, when we see that there are academic challenges that can be solved. We also talk with individual teachers about their challenges and help them understand how they can solve them."

As can be seen, the findings indicated that ISQATs' instructional supervisory practices involved giving recommendations on academic situation in the school to education stakeholders, both internal and external and suggesting necessary actions to improve instructions. This implies that one of the key responsibilities of the ISQATs is to provide an advisory role about the academic situation and how to improve instructions in the school. These findings are consistent with the earlier studies that have demonstrated the importance of internal supervisors in linking internally initiated improvement processes with externally

driven reforms to maximize synergy among diverse education stakeholders (UNESCO, 2011; OECD, 2008).

4.3. Challenges Faced by ISQATs in Supervising Instructions

The findings revealed four key challenges that were impeding ISQATs' ability to effectively supervise teachers' instructions: heavy workloads, poor cooperation from teachers, lack of supervision guidelines, and different perspectives on lesson planning.

Heavy workloads. The finding indicated that teachers who were appointed as ISQAOs were not released from their previous responsibilities. As a result, they became so overwhelmed with their teaching responsibilities that they were unable to find time for classroom observations. During the interview, one of the ISQAOs from school "C" made the following complaints:

> "Personally, I have more periods to teach than I can handle. How can I then leave my periods that I have not prepared yet, I have not taught and go to observe another teacher teaching? As you can even see me here now, I have locked myself in here marking, how can then have time to go and inspect my fellow teacher? Therefore, with regard to observing teachers in classrooms I need to be honest and admit that we have not as internal quality assurers done that. Perhaps, we can do it if the number of the periods per week we have now can be minimized."

Another ISQAO from school "E" also stated on the same during the interview that they have not carried out the regular classroom observation and he said:

> "We are required to inspect teachers in the classroom at least four times a year. But as I previously stated, we may only visit the classrooms once a year because there are few quality controllers and we must still teach in classrooms as regular teachers."

On the same issue, heads of schools also agreed that ISQAOs were overburdened with teaching responsibilities. One of the heads of schools from school "E" claimed during interview:

> "The challenge is that these quality assurers are sometimes supposed to go to the classroom. But they often find themselves having many periods, especially science teachers. Thus, they miss that time to visit the classroom to see how and what teachers are doing in reality."

The findings from teachers also confirmed that they had never seen ISQAOs visiting them in the classroom. One of the teachers at School "D" stated that he was aware that the ISQAOs only assess documents, but not classroom observations. He said:

> "It might be possible that they visited my colleague without my knowledge, but in my class, I have not seen them. They often say that they will visit us, but I have never seen them. All I know is that these quality assurers check the lesson plans we submitted to the department head every Friday."

The findings from SPER also supported what was found through interviews on the ISQATs' ability to conduct effective classroom observations. The excerpt from the SPER from school "F" reads:

> "The Internal School Quality Assurance Team (ISQAT) is not well prearranged to make regular class visits to observe teaching and learning process. As a result, teaching is not effective in some classes."

From the findings, it is indicated that heavy workloads prevented the ISQATs from supervision of instructions in the classroom settings. This suggests that heavy workload hampered the ISQATs' readiness in supervising instructions. The finding supports the previous studies' arguments that excessive workload interferes with supervisors' ability to carry out classroom observations (Panigrahi, 2012). Unless their excessive workload is reduced, supervisors are more likely to become less committed to the improvement of instructions in their schools, which results in a loss of opportunities to provide meaningful instructional supervision (De Grauwe, 2001; UNESCO, 2011; Zepeda, 2006).

Poor cooperation from teachers. The findings indicated that teachers did not cooperate well with ISQAOs during supervision time. Some teachers did not submit the academic records required for assessment on time. Others did not show up for classroom observations. One of the ISQAOs from school "A" explained:

> "There is a teacher here who would always be absent from duty whenever it was time for classroom observations. He would always keep himself away by saying that he was sick. I remember one day I wanted to supervise a certain teacher. I entered the classroom with him to check his teaching, and I sat at the back of the classroom. What I noticed is that he completely failed to teach. No words actually came out of him."

The findings also revealed that many teachers were not considering ISQAOs as instructional supervisors but rather as a mere fellow teacher. During the interview, the ISQAO from school "E" commented:

> "The big challenge that we experience from teachers is that they can tell you that my friend, you know the way I teach, is there anything new that you want to know about me? If she or he tells you like that, then everything just ends there. It is true that you may not visited the teacher in the classroom and seen the way he or she teaches. But by telling you that way, it suggests that the teacher does not want you to see how he or she teaches in the classroom."

Based on the findings, it can be said that ISQATs were not receiving adequate cooperation from teachers. Some of the teachers did not submit their academic records for assessment, while others did not show up for classroom observations. These findings are consistent with Nir's (2003) study in Israel who found that some teachers were confident that they had superior knowledge than their supervisors and, thus, they did not want to be instructed. The findings also confirm the argument by Hoque et al. (2020) that unless teachers perceive supervision as a process of improvement, they become resentful toward it. As observed by Glickman et al. (2013) and Zepeda and Ponticell (2019), the ideal supervision practice involves collaboration where supervisors work together with teachers as peers on issues related to instructional improvement. Zepeda (2017) and Southworth (2002) also recommend that supervisors need to possess sufficient technical competencies about teaching and learning, as well as human skills, to work harmoniously with different teachers daily to support teachers' professional growth.

Lack of supervision guidelines. The findings indicated that the ISQATs did not have the supervision guidelines. As a result, some ISQAOs did not conduct classroom observations because they did not know how to go about it. During the interview, ISQAO from school "D" said the following:

> "One of the challenges that I did not mention before is that when we were appointed, we did not receive any guidelines on what would be our key responsibilities and what would guide us in carrying them out. Thus, we are trying to set up some of our own systems that will be uniform internally. We do not know what others are doing out there."

The ISQAO of school "B" commented on the same issue that they did not receive the

guidelines:

> "A guidebook was not provided to us, but rather I received a letter informing me that I had been appointed as an internal quality assurer; however, the letter did not specify how I should ensure quality. However, the headmaster handed me a file containing school assessment reports from the zonal school quality assurance officers and told me to read them so that we could follow their lead."

The findings clearly show that ISQATs were not provided with a supervision guide. This suggests that each ISQAO acted according to his or her own discretion rather than supervising the instructions based on professional standards.

Different perspectives on lesson planning. The study found that ISQAOs were hesitant to assess the quality of the content of the lesson plans due to a misunderstanding of what constitutes a good lesson plan, and contradictory directions from district education officers and ZSQAOs. One of the ISQAOs from school "E" narrated how lesson plans raise heated arguments between teachers and supervisors. She said:

> "If you begin telling them how to plan lessons in a particular way, they usually tend to argue and you find yourselves arguing… You know, not everyone takes the advice from other person to change what he/she believes to be correct and adopt another person's point of view. I came into contact with such a teacher. He was really very argumentative. Finally, I realized that despite his being argumentative he was incorrect although he stood firm to what he believed to be correct."

It was found that each teacher training institution has a different approach in preparing lessons. As a result, teachers had varying perspectives on how lessons need to be planned. Consequently, the ISQAOs were not delving deeper to examine the quality of the lesson plans prepared to avoid endless arguments. One of the head of schools from school "A" commented during the interview:

> "The University of Dodoma will teach their students on how to carry out evaluation; Mwenge University will do the same to their students. Thus, you find that there are a lot of inconsistencies on this issue. If you want to delve into such subject matter, you will find that it is so controversial. But what is obvious is that every teacher writes the lesson plan according to what he or she knows. On the whole, this issue remains highly controversial."

Other ISQAOs reported similar experiences with teachers when attempting to provide the feedback on the lesson plan contents. For example, one of the ISQAOs from school "B" reported:

> "The challenge we have in the lesson plan is, first of all, how to write some components. Each of them went to their own school and even to seminars. There are times when teachers attend different seminars…Someone can just say that: I have been writing like this since I was in college because that is how I was taught. Where did you get the skill to tell me this?"

The findings from documentary reviews also provided similar answers. For instance, passage from SPER for school "E" reads: "*The inconsistency in preparation of lesson plans makes some teachers fail to write a clear statement of specific objectives, a proper statement for assessment and students' evaluation*". This suggests that the preparation of lesson plans has been controversial in schools and that ISQATs are not prepared to help teachers with it. Thus, there is a need to harmonize lesson preparation.

A lack of supervision guidelines and the existence of divergent perspectives regarding lesson planning as it was found in this study hindered the ISQATs' readiness to supervise effectively. These findings concur with those of Ali (2017), who found that less experienced Tanzanian teachers were at a crossroads because the lesson plan format taught during their teacher training colleges differed from those implemented in schools. König et al. (2020) report significant differences and inconsistencies among various lesson planning manuals, theories, and formats used in Germany. This is contrary to the findings by Santiago et al. (2013) in Chile who found that instructional supervisors were provided with standardized lesson planning manuals and guidelines that helped to eliminate variations and contradictions in lesson planning. According to OECD (2005), the standardized lesson planning manual helps both the supervisor and the teacher to have a common understanding of how to prepare and deliver effective lessons.

5. Conclusion

This study explored the readiness of the ISQATs to supervise instruction in secondary schools in Tanzania. The findings indicated that ISQATs were not fully ready to supervise instructions because ISQAOs had limited professional profiles although they had adequate

teaching profiles. The findings further indicated that the heavy workload, poor cooperation from teachers, a lack of supervision guidelines, and different perspectives on lesson planning hindered ISQATs' readiness to supervise instructions.

For ISQATs to be fully ready to supervise instructional practices effectively, they need in-service professional training and standardized supervision manuals and guidelines so that they can monitor the quality standards and instructional practices professionally in schools. There is also a need for implementation of the internal supervision policy that requires possession of instructional supervision skills as a pre-requisite qualification for teachers' promotion to an instructional supervisory role. Moreover, future research should employ quantitative methods, have a larger sample size, and cover a broader geographic area.

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ORCID
Abich Omollo – https://orcid.org/0000-0003-4507-1753

Rose Matete – https://orcid.org/0000-0002-1452-3641

Paul Loisulie – https://orcid.org/0000-0003-4444-2364

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A critique of state-centric multilingual education policy proposals in Myanmar

Ewan Cameron

Abstract

Myanmar is home to a huge variety of languages and yet they have largely been absent from the state school system. Non-state and para-state organisations have initiated their own education systems with unique calibrations of language in education. In the 2010s, a space for policy reform was created and the UNESCO-supported MTB-MLE program became a policy that gained some support as an alleged workable compromise for speakers of non-state languages in regards to education. MTB-MLE was never fully implemented in Myanmar, yet many of its claims remain problematic as it presumes a monolingual state not amenable to change. This paper argues that MTB-MLE is often built on problematic assumptions about the dominance of state languages and the instrumental use of minority languages. This paper also argues that effective language policy must take into account the need for the state to be more flexible in its approach to multiculturalism.

Keywords: *language, development, Myanmar, ethnicity*

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About the author:
University of Edinburgh. The author has worked in Myanmar education for over ten years and is currently a PhD researcher at the University of Edinburgh.

1. Introduction

Transitional programmes are not the only policy option for countries with multiple languages. In Finland, 'language maintenance' has been implemented for the minority Swedish-speaking Finns (Skutnubb-Kangas, 2000). Children from this group may attend Swedish-speaking schools for the entire duration of their schooling life, including universities, while learning Finnish as a second language subject. After graduation, Swedish speakers are accommodated by the Finnish State, which provides government services, legal situations and healthcare in Swedish (Prime Ministers Office, Finland, 2012, p.11). However, such is not the case in Myanmar.

While in years prior to the 2021 coup there were some tentative moves towards decentralisation at the regional state level, Mother-tongue based Multilingual Education (MTB-MLE) was never wholly implemented in Myanmar. By 2022, amendments to the National Education Law ruled out the use of non-Burmese languages as classroom languages at any level (Salem-Gervais et al., 2023). MTB-MLE style transition programs have come under some criticism in the relevant literature. Skutnubb-Kangas (2000) describes transition/exit programs such as MTB-MLE as fundamentally 'weak' models of bilingualism. Similarly, Nolasco (2016), writing in the Philippines context, has written critically of certain MTB-MLE programs that promote a 'fallacy of subtractive education' as opposed to lifelong learning in mother tongues. Transitional language programs seem to orientate toward seeing minority languages as problems, yet a more positive outlook would see them as resources (Ruíz, 1984). These policies run a high risk of treating minority ethnic languages as obstacles to be overcome rather than valuable in and of themselves.

During the 2010s 'transition' period, MTB-MLE was used by a number of high-level actors in the Myanmar context, yet there were problems with the dominant definition propounded by UNESCO that if it had been implemented may have exacerbated tensions between ethnic groups rather than dissolved them. Despite good intentions that aimed to alleviate the struggles of non-Bamar speaking students and graduates, within the MTB-MLE framework, non-state-led education systems were only ever seen as sub-state entities that would converge with the central state system, and in practice, be obliged to sacrifice their autonomy as educators.

Language is among the most controversial and sensitive areas of education policy. The calibration of the medium of instruction in schooling has implications not only for the individual learning outcomes of students but for the relative position of ethnic groups in their relation to the state. Nonetheless, issues of language in formal education will continue to be an issue in Myanmar. Hence, this paper looks at language policy in Myanmar aiming to draw out some of the underlying assumptions regarding such policy as well as their long-term implications for the reproduction of ethnic culture. In particular, this paper looks at the policy of MTB-MLE and discussions regarding its implementation.

2. Methodology

This paper is primarily based on the analysis of power relations between the state and the ethnic minority groups of the region. It begins with an overview of the educational landscape of Myanmar and then moves into a theoretical discussion that looks at work from the region that has de-centred the state within frameworks of power and made space for autonomous entities. This is followed by a discussion that seeks to unpack the implicit assumptions that MTB-MLE makes about a policy and power.

This paper is based on analysis of literature developed in and around discussions on language in education in Myanmar. This is not a systematic review of policy that aims for a comprehensive review of the literature from a bird's eye view, but an inductive approach to theoretical research, one that centres the researcher's own choices and 'process of discovery' in the generation of the central argument (see: Bryman 2016, p.110), taking literature and arguments from a selection of peer review journals, books, NGO reports, and newspaper article. Thus, this paper aims for a diversity of sources rather than a systematic and replicable template. In this, the researcher acknowledges this research to be inevitably incomplete, while at the same time making a valuable intervention in discursive structures (Rose, 1997).

As I am a teacher and active participant in Myanmar education, this has informed my selection of texts and indeed the choice to pursue this topic as a worthy one. Reflecting on the role of researchers in education, Pallas (2001) notes that participation in a community of practice means researchers will 'negotiate' knowledge as it is understood in local terms. My own participation in communities of educational practice in Myanmar means that I have attempted to develop a reflective understanding of local knowledge in my selection of sources, while still acknowledging my role as an outsider. Thus, this paper and its related methodology

is seen as a part of a dialogue rather than an epistemological imposition (see: Maldonado-Torres 2007, p. 261).

3. Findings

3.1. The Myanmar State

Since national independence in 1948, state institutions of Myanmar have been dominated by the majority Bamar ethnicity. This prioritisation, in regards to education, language and various other cultural phenomena, is known as 'Burmanisation' (see: Houtman, 1999, p.53, Thein Lwin, 2011; Walton, 2013). The post-independence state did not erase non-Bamar cultures, but subordinated them within a complex discursive and often violent hierarchy. In the 1960s, the concept of the *Taingyintha*, or national 'races' and the claimed unity between them, became a fundamental political and rhetorical tool in attempts to build a multi-ethnic nation-state (Cheesman, 2017 p. 466). President Ne Win saw minority ethnic groups such as the Kachin and Karen as simultaneously of 'pure blood' but also potentially disloyal to the larger nation owing to their ethnicity (Walton, 2013, p.13).

The National League for Democracy leader, Aung San Suu Kyi, in contrast to the primordialist rhetoric of Ne Win, offered a more constructivist approach that appeared to paint ethnic categories as more fluid and only as strong as the discourse that built them: '*If we divide ourselves ethnically, we shall not achieve democracy for a long time*' (Aung San Suu Kyi, 1991, p.231). While Ne Win and Suu Kyi may come from different political poles, there is also a clear unchallenged assumption of a Bamar-centric State as noted by Maung Zarni:

> *'The dominant Bamas imagine ourselves as a historically cohesive nation, whose organisational integration with minority peripheries only needs to be completed democratically or by force.' (Maung Zarni, 2009)*

Burmanisation, then, may manifest in multiple ways, even ones that appear on the surface to be opposed. Claims of unity from diversity need to be critically probed to see whether they replicate the imbalance of power between Bamar and minority cultures.

3.2. Language in Myanmar Education

In the late colonial period of the 1930s and 40s, state-based education in Burma was a tripartite system based on the language of instruction. Vernacular schools taught in Burmese;

Anglo-Vernacular a mix of Burmese and English; and English schools taught in English (Thein Lwin, 2000; Shah & Cardozo, 2019). The provision was far from universal. For those who did manage to gain access to formal education in the state system, those studying in the small number of English and Anglo Vernacular schools were better prepared to access higher education at the country's only University in Rangoon, which taught in English.

There was a high dropout rate at vernacular schools, with up to 75% of students not progressing past first grade (Hillman, 1946, p.531). Contemporary analysts gave pedagogical and curricular reasons for this, noting it was "something imported and culturally alien" (Hillman 1946, p. 532-533) and that pedagogy was "divorce[d] from active life, its monotonous routine, meaningless disciplines and dead knowledge" (Campbell 1946, p. 441). Simultaneously, the Buddhist Sangha maintained its own schooling system, one with a lineage that dated far back beyond the colonial era. Monastic schooling was largely independent from government oversight and operated far more schools than the central government, teaching in the vernacular (Campbell, 1946; Hillman, 1946, p. 528-9).

After 1948, post-Independence governments in Myanmar made education part of their plans for a universal welfare state. The tripartite system was abolished and all schools were made nominally free to all, with Burmese as the official language, although English was initially maintained as the language of higher education. However, despite a large growth in the number of schools under the Ministry of Education's command, the education system was still under-resourced, making universal education provision an unfulfilled aspiration (Sein, 1957). By the early 1960s, still only around a third of eligible students were accessing primary education in government schools (Nash, 1962, p.138). The 'frontier' areas of Kachin, Shan and Chin were especially lacking in terms of educational resources (Bwa, 1953, p.64). The new system included provision for non-Burmese language with mother tongue education of non-Burmese languages being used as a language of instruction at the primary level with Burmese as a compulsory language (Cho, 1949, p. 81). Thein Lwin (2007) characterises this new system as a centralized one and notes that there had been some alternative, though ultimately rejected, suggestions for a more decentralised system during the planning process.

In the 1960s, the Revolutionary Council under Ne Win brought a decisively more Bamar-Buddhist nationalism to governance. Universities taught in Burmese and all previously private schools, with the exception of Monastic schools, were nationalised. This included ethnic-national Christian and Buddhist schools that had taught in mother tongue (Saw Eh Htoo

2022, p. 58). For instance, Karen medium schools operating in Central regions (i.e. Rangoon and Irrawaddy) were nationalised and Karen-speaking teachers replaced by Burmese speaking MOE teachers (Thako & Waters, 2023). Similarly, in Mon regions, many teachers were obliged to resign from their posts (Thein Lwin, 2002, p.5).

The nationalism of the central government caused a counter reaction among non-Bamar groups. For example, in Kachin regions in the 1960s, a new generation of leaders emerged, many of whom had studied at Rangoon university, propounding a nationalism of their own in contrast to the Bamar-Buddhist, one of the centres (Aung Thwin & Thant Myint-U, 1992, p. 71; Sadan, 2014, p.70). By the late 1980s and 1990s, the education system had declined and by 2000, only 30% of children completed high school and public spending was low (Wingfield 2000, p. 206). At the higher education level, in response to fears of student activism, universities were closed for lengthy periods of time and replaced classrooms with programmes of distance learning (Lin-Liu, 2002) leading to a huge drop in standards (Thet Win, 2013, p.13). At universities, the language of education again switched back to English, making things difficult for teachers and especially some students who spoke non-Burmese mother tongues, as entering higher education meant proficiency in two non-native languages, as they needed to take the matriculation exam in Burmese (Lall, 2020, p.155). During this time, private schools also emerged to serve a mainly middle class market, often in a legally grey area. These schools taught subjects such as English, business and computer skills, as well as preparing some students for higher education study abroad (Lall, 2009). During this time, civil wars had a devastating effect on education for those in affected areas. In Southeastern Karen regions for instance, schools and local education systems were systematically targeted by the military (Karen Human Rights Group, 2018).

The poor state of affairs set the scene for the 2010s, when transition to an elected government, albeit one where the military retained an effective veto, opened the door for policy reform. Top level policy discussion included the Comprehensive Education Sector Review (CESR), The National Education Law (2014/2015), and the National Education Strategic Plan (NESP). However, critics have pointed out that the creation of these laws and high level documents largely excluded actors from conflict areas where alternative education systems are in place in favour of international donors (Lall & South, 2018). The influence of international donors and development agencies on the NESP also appears to have centred human capital above other concerns, “channeling education, above all else, towards economic development”

(Heslop, 2019, p.86). In terms of higher education reform, Sadan (2014) noted the focus of reform efforts on Yangon and Mandalay universities seems to come at the expense of universities in the ethnic regions.

The National Education Law of 2015 was the subject of intense debate that spilled out into the streets. Students, unhappy with the law, organised huge protests which were violently put down by police (Irrawaddy, 2015). One of the key demands of the students was more autonomy for universities and schools to set their own rules, with one implication of this being that schools in regions with non-Burmese mother tongues could teach classes in their mother tongues (Groves & Stapnes, 2023, p.11). In 2016, the government's National Education Strategic Plan (NESP) recognised the need for ethnic languages to be utilised as 'classroom languages' throughout the curriculum, but not languages of instruction (MoE, 2016, p. 14). There was also some implementation of a "Local Curriculum", which allowed different regions to develop their own ethnic language classes for schools (Anui & Arphattananonaa, 2021). Despite this limited recognition, there was little forward motion in realising comprehensive changes to the Burmese dominated system (Shee, 2018, p.5) and language issues were mostly absent from the peace process (Lall & South, 2018).

Overall there are some general themes that emerge from Myanmar government-led education. Firstly, resources have never been sufficient for universal coverage. Secondly, where they do exist, government structures are highly centralised. This has created a highly idiosyncratic and brittle education system where aspirations of control are at clear odds with capacity. With the current government system, alternative forms of education provision have emerged: ethnic, private and religious. Nevertheless, when these alternative forms have come within close proximity to the state, they have been subject to sanctions.

3.3. Non-State Education Providers

There are over a hundred officially recognised ethnic groups in Myanmar, many of which speak their own distinct languages (Bradley, 1999, p.99), though it is Burmese, the language associated with the majority Bamar ethnicity, that is the sole official language of administration and education. The CIA figures claim that non-Bamar ethnicities account for around 30% of the population (CIA, 2023). As the state education system has never been a universal one, many students in Myanmar, particularly those living in territories controlled by quasi-state entities, have attended schools run by different authorities. These organisations are

sometimes referred to in the English literature as "ethnic armed organisations (EAOs) (e.g. South, 2018; Joliffe & Mears, 2016). While these organisations do indeed organise around ethnic markers such as language, flags and a sense of nationhood, and draw their territorial power from armed struggle, to call them "ethnic armed organisations" begs the questions of why the Myanmar state is not also an "EAO", especially given the well documented Burmanisation strategies it has employed and its use of force directed against other ethnicities. This is not to deny the close relationship of the militaries to the education department, but rather to say that this is not a unique situation for the so-called 'ethnic armed organisations'. This paper uses the term 'para-state' organisation rather than EAG when required to refer to these organisations collectively. Para-state refers to organisations who, through a sense of shared nationhood, have created their own governance regimes in demarcated territories that provide, among other things, health, education and judicial services (South, 2018).

The boundary between para-state governance and civil society is often blurred. Many non-MOE schools in non-Burmese ethnic areas are best described as community schools, and while community-initiated, receive curricula and some financial support from para-state education departments (Joliffe & Mears, 2016, p.14). There are also 'mixed schools', which the Central Government and other authorities work together to provide education services (McCormick, 2020, p.197). Because these para-state regimes are closely connected to military force, it can be difficult to assess the extent to which the official 'departments', represent a democratic will of communities, or having been developed by military institutions, a more minority or elite ideology (McCormick, 2020, p.197). Each department has a different calibration with regards to language. It should be noted that these are not the only mother-tongue education systems in Myanmar, which also includes Shan, Karenni (Kayah), and Chin among others (Thein Lwin, 2002).

While acknowledging the dynamics of civil war and how conflict exacerbates divergence, South and Lall (2016b, p. 150) characterise the KED and KIO education regimes as 'separatist'. They also argue that language in education policy for the para state education departments is a proxy for wider political demands: schools which have a strong focus on mother tongue as the means of instruction are classified as 'separatist' while those with Burmese as means of instruction with some support for ethnic languages as subjects (which broadly aligns with the status quo of government schools) is classified as 'weak federalism'.

Somewhere in the middle is 'strong federalism,' which advocates for a strong focus on both the national and ethnic languages (South & Lall, 2016a, p. 7).

These descriptions of para-state education regimes are based on information from the pre-2021 era.

Karen Education Department. Karen Education Department (KED) schools have developed their own S'gaw Karen curriculum that goes throughout primary and secondary levels (Joliffe & Mears, 2016, p.83). At the primary level, the medium of instruction is S'gaw (a Karen language) and at secondary school the curriculum uses textbooks and material in English while retaining S'Gaw Karen as a language of instruction. Burmese is taught only as a language subject (Shee, 2018, p.4).

Mon National Education Committee. The Mon National Education Committee (MNEC) has implemented a variant of MTB-MLE, teaching a Mon language curriculum in primary before transitioning to Burmese and the State curriculum in middle school (World Education, 2017). Students in the Mon system are able to transition to government high schools (and thus ultimately, government universities) through unofficial agreements with state officials (McCormick, 2020, p.199).

***Kachin Independence Organisation Education Department*.** In parts of Kachinland, an area that encompasses parts of Kachin and Shan State, the para-state Kachin Independence Organisation (KIO) runs a number of schools. During a period of ceasefire with Myanmar, these schools had operated with an implicit agreement that students from KIO schools could transition to MOE Universities, which also meant a curriculum that aligned with the state schools. Textbooks were mainly in Burmese (McCormick, 2020, p.199) Yet after the resumption of civil war in 2011, their school regimes began to distance themselves from the state and moved towards a more independent curriculum teaching in mostly Jinghpaw (the dominant Kachin lingua franca) and English (South & Lall, 2016a, p. 5). There is also a network of Kachin community schools (Mears et al., 2016, p. 36) that are developing their own curriculum, in which the language of instruction is Jinghpaw at primary before switching to English at secondary (with the expectation that Jingphaw will continue to be used as a classroom language for assistance similar to the KED system).

3.4. MTB-MLE- A Compromise?

While the 2010s in Myanmar were associated with a new space for policy making, it was paradoxically a time where the very idea of transition came to 'police and restrict certain demands-from interventions that might help spur democratization' (Prasse-Freeman et al., 2020, p.5). What is argued here is that the MTB-MLE approach that came to be associated with language policy in schools was, in isolation, one such way in which wider demands of democratization came to be restricted.

During the 2010s, the formal peace process in Myanmar, with participants mostly high level actors, did not achieve much progress and language and education issues rarely appeared at the top of the agenda (Lall & South, 2018). Nevertheless, there was a developing policy discourse on a new calibration of languages in schools between the MOE and the para-state Education departments. MTB-MLE is a policy that has come to be associated with UNESCO in language programs in South East Asia (Curaming & Kalidjernih, 2014; Tupas & Lorente, 2014). It is a transitional program where students begin formal schooling with their mother tongue (L1) as the medium of instruction and then eventually switch to learning in the state/dominant language before or around the time they enter secondary schooling (UNESCO, 2016). Myanmar Civil society organisations such as The National Network for Education Reform and Ethnic Nationalities Affairs Center supported its implementation (Salem-Gervais, 2019; ENAC, 2018). During the protests against the National Education Law of 2014, it was among the demands of the student confederations Action Committee for Democratic Education (ACDE) (Takeda, 2020).

Transitional language policies involve learners begin schooling in their mother tongue, before either adding or switching to the state or dominant language at some time during their schooling career. According to a 2013 handbook, the three "non-negotiable" aspects of MTB-MLE are: "effective promotion of oral fluency and literacy in all languages for as long as possible; build upon learners social and cultural knowledge and experience; and empower learners by encouraging students to collaborate and innovate, creating new power relations together" (Multilingual Education Working Group Asia Pacific, 2013). There is plenty of evidence in favour of MTB-MLE that shows that by using mother tongue at early levels, it results in better participation which translates into better overall academic results (MEWG, 2013). However, there is misalignment on what MTB-MLE refers to. The term 'additive' has been used to indicate programs where the mother tongue is not replaced but the dominant

community language is added to the repertoire. For example, Shee (2018) characterises the KED system as 'strong additive MTB-MLE'. Similarly, Nolasco (2016) makes the normative claim that MTB-MLE is an 'additive' programme, meaning that the L2 (i.e. national or link language) should add to the mother tongue not replace it.

The UNESCO's approved definition of MTB-MLE tends to describe it as a replacement programme where the mother tongue is only used as language of instruction at the primary level. UNESCO defines 'early-exit' or 'subtractive' MLE programmes" (seen as less effective) as those that switch to national languages in 'mid-primary'. Conversely, for UNESCO, 'additive' MLE is where mother tongues are supported 'at least to the end of primary school' (UNESCO, 2016, p.7). In UNESCO's formula then, the difference between so-called 'positive' and 'negative' applications is merely a few years. While these few years are crucial for mother tongue learners to develop higher order thinking skills in their L1 (Nolasco, 2016), the MTB-MLE framework advanced by UNESCO does not appear to advocate for space for continued mother tongue instruction at secondary, let alone tertiary, education. It is this formula of MTB-MLE that this paper examines and critiques. Henceforth, references to MTB-MLE will refer to the transitional model not the strong additive one.

Broadly following an MTB-MLE frame, the MNEC's model of language calibration which transitions to Burmese language at the secondary level gives practical advantages for Mon students including competence in the national language and receiving nationally recognised qualifications on graduation (South & Lall, 2016a, p. 37). The Mon system of MTB-MLE has been favoured by international donors and experts as an ideal balance of ethnic culture and integration into national life (McCormick, 2020, p. 199). South and Lall (2016b, p.138-139) describe this 'Mon model' as a 'positive conceptualization of the relationship between a locally owned and implemented education system that preserves and reproduces ethnic national identity and language, and linkages to the central government/Union education system.

For the same reasons that they favour an MTB-MLE approach, Lall and South (2014, p. 318) did not see a future for the Karen or Kachin systems to be maintained as they existed in the 2010s. There are certainly good reasons for this assessment. For instance, due to both a lack of official credentials or employable skills such as Burmese language ability, graduates from the Karen and Kachin systems may have restricted opportunities after schooling. Based on these disadvantages, Lall and South note the direction of the peace process (in the mid-

2010s) will inevitably mean that Karen leaders need to re-think the basis of their school system.

Transitional MTB-MLE approaches to schooling are not simply top down policy, but can also represent pragmatism from the community level. The pressure for government qualifications has resulted in de facto MTB-MLE systems where students in Mother tongue-based primary community schools transfer to State schooling in secondary school. Indeed, the post-war education arrangements with regards to non-Burmese Mother tongue in Burma also involved a transitional program. However, for schools previously autonomous from the government system, a shift to MTB-MLE obligates changes that go beyond language. Community schools in transition have found their own curricula "immediately restricted in their ability to prioritize local languages or locally relevant curriculum" as time is needed to prepare students for government exams and to translate materials from Burmese language (Joliffe & Mears, 2016, p. 83).

3.5. Not Seeing Like a State

Two major themes of Myanmar government education can be seen in relation to the aims of this paper. Firstly, language has always been a contentious issue, with the state alternating between English and Burmese as formal languages of instruction while other indigenous languages in the region remain on the periphery. The second, is that in terms of infrastructure, the MOE has never been able to exert total reach and/or control over the nominal territory that the government claims. Alternative systems, including monastic education, private schooling, and the schools from non-Bamar ethnic groups are not just residual organisations filling in the gaps, but are normal, relatively stable, and autonomous institutions. There is thus a need to better understand these institutions through a lens that does not immediately subordinate them to the state.

In Dean's (2005) study of Kachinland borderworlds, Edward Soja's 'trialectics' of space is applied to the Kachin/Myanmar relationship. The three aspects of reality described are the perceived (the empirical and mundane), the conceived (the normative 'mental images promoted by those at power.' (Dean, 2005, p. 810)), and the lived/third space (divergent and marginal and in opposition to conceived space [Allen, 1999, p. 260]). Dean (2005) shows that the Kachin communities who have been bisected by the China-Myanmar border have been territorially trapped (in conceived space) and yet the lived space lens shows that many

individuals continue traditional pre-border practices such as attending rotating markets that occur on either side of the border. Dean argues that there are simultaneous realities at play, and that if one speaks of these Kachin as 'challenging' or 'defying' the border, one privileges an analysis that 'adheres to the modernist State-centric view'. Instead, a 'thirdspace' perspective allows to recognise the lived experiences of these Kachin: they cross the border not to challenge it, but to maintain cultural and economic livelihoods.

Similarly, Sadan's (2013) study of Kachin identity and history introduces the fractal lens as a way of thinking about communities that are on the periphery of larger powers. While not ignorant of centre-peripheral power relations, the fractal lens is about seeing that societies on the periphery are no less complex than those at the centre of the mandala of power. These societies are defined in and of themselves before they are defined as subordinate. This allows Sadan to paint a picture of Kachin agency that goes beyond their position as an 'ethnic minority' and is instead one of a complex community whose existence is self-legitimising.

According to Prasse-Freeman (2023), resistance and refusal in the context of protests following the 2021 coup in Myanmar is useful in conceptualising the practice of non-state actors. These tactics are not mutually exclusive, but occur in a dialectic: resistance contests the sovereign realm, while refusal is the 'work' that goes on in places outside the reach of the sovereign. Resistance tactics may seek 'capture of hierarchical structures' but by doing so, leave themselves open to attacks. On the contrary, those employing the mode of refusal reject the need for sovereign recognition and thus become absent from the field, literally and ontologically. While Prasse-Freeman's focus is more recent political protest, he notes that these tactics did not begin then, but have a historical heritage that includes the alleged transition period of the 2010s which, owing to the numerous struggles over land, livelihood and education reform, may have been better dubbed the 'time of protests'.

5. Discussion

The theoretical concepts, *thirdspace, fractal, refusal,* share a common theme in acknowledging that while political and cultural asymmetries exist, those who occupy a subordinate position within hierarchical structures should not be defined wholly by this relationship. These concepts do not ignore power relations but refuse to accept they are totalising. Actions by the objects of study are thus not only conceived as oppositional but also maintenance of autonomy and of governance that is simultaneously reproductive and

prefigurative. In contexts of examining groups operating outside of the state, these lenses help see beyond the realm of methodological nationalism (Wimmer & Schiller, 2002) and instead look towards the meaningful cultural markers, lifestyles and aspirations of those who live both within and against the state project.

The education departments of the Kachins, Karens and Mons cannot simply be reduced to a separatist/convergent binary but are complex and multi-faceted. The choice of teachers and parents to educate children in Jinghpaw or S'gaw is not necessarily in defiance of the Myanmar State nor a refutation of Myanmar citizenship, but can also be a pedagogical and cultural choice that reflects their wishes that their children reproduce Kachin or Karen culture (e.g. South & Lall 2016a, p. 23). Decisions on schooling are often pragmatic and at times non-Bamar communities have welcomed government provision in places where provision is poor (McCormick, 2020, p197).

The fractal lens in particular, by seeing complexity at scale, is also useful for reminding that nominal ethnic communities are not homogenous. For instance, the Karen and the Kachin ethnicities are themselves a mix of multiple languages. The Kachin are a confederation of Jinghpaw, Lachid, Lhaovo, Lisu, Rawang, and Zaiwa groups, each with their own language. However, within this group, Jinghpaw has become the common language, highlighting asymmetries of power at a new scale. The differences between the Kachin groups are not merely linguistic but can also manifest in different political attitudes towards the state (Jap, 2021).

Following the lenses of autonomy that de-naturalise the state, there are several assumptions that policy makers and experts have made about the state relationship to those with non-Bamar mother tongues. Generally speaking, the application of the UNESCO MTB-MLE policy makes a number of implicit assumptions about the political framework of Myanmar:

1. That Burmese (and sometimes English) will always be the language of state institutions.
2. That the state of Myanmar does or will eventually assume control over all the nominal territory on the map.
3. That non-Bamar ethnic groups can sufficiently reproduce their culture by learning in that mother tongue only until the end of primary school.

4. That universities in Myanmar will use either English or Burmese and there is no demand or feasibility for other languages of instruction.

In a context where 1 and 2 are true, then it follows that UNESCO MTB-MLE would be a pragmatic and instrumental policy. If the state remains committed to a Burmese-centred culture, then MTB-MLE would allow minority ethnic groups to gain the necessary skills to access state services and market livelihoods. In terms of cultural reproduction, assumptions 3 and 4 with mother tongue instruction at the primary level only would be assumed to be sufficient for minority ethnic cultures to be able to sustain their mother tongue languages from one generation to another.

What makes these assumptions problematic is that they start with an end goal (the universality of Burmese language within a unified state) and orientate policy towards that outcome. Thus, the reasoning behind this version of MTB-MLE is primarily instrumental; mother tongue languages are seen as a stepping stone to competency in the national language, what happens with these languages after primary level instruction remains a private matter outside the state's purview. Such assumptions are long held and not unique to Myanmar. As Ruiz (1984, p. 18) writes of the policy debate in America: "*If [transitional] programs are acceptable at all, they are only to the extent that they are effective as transitions*."

Question these assumptions, however, and a different picture emerges. Using a lens of autonomy, assumptions 3 and 4 may be incorrect and that some ethnic groups may wish to maintain their mother tongue as a language of instruction throughout education. If this is true for these groups, then it follows that assumption 1, that Burmese will always be the language of state, is the point of tension where the autonomy of national ethnic groups meets the obstinacy of the state.

What if there was change to the underlying assumptions of a language policy? To proceed from a different assumption: that the state of Myanmar is able to change its institutions to accommodate and allow for the use of non-Bamar and English languages, then the subtractive mode of MTB-MLE becomes not merely the only possible option, but one of many that could also include language maintenance and/or a genuinely 'strong' additive MTB-MLE. In this system, language maintenance would not be 'separatist', but part of a state whose multicultural nature was made through institutional norms and practice not mere rhetoric. For instance, one step would be to officially recognise regional languages at the relevant state level (Takeda, 2020, p.122).

Language maintenance programs would recognise that supporting mother tongue education in schooling will not allow students to fully flourish unless other state institutions also adapt themselves to the needs of the speakers. This links with Young's (1989, p. 259) concept of 'differentiated citizenship 'which calls not just for equal rights, but for the state to provide 'institutionalised means for the explicit recognition and representation of oppressed groups'.

The main argument in support of MTB-MLE has been that in terms of graduate outcomes, students who can speak in the national language have more opportunities to gain employment/livelihoods. Yet this argument falls down when considering that a language maintenance (or a 'strong additive') approach would deliver such a function too, especially in tandem with progressive policies that would allow speakers of non-dominant languages to function in their mother tongue (i.e., the ability to apply for jobs or access services in their mother tongue). A second argument in favour of transitional MTB-MLE might be made that as a developing country, Myanmar simply does not have the resources for schools to develop entire curriculums for each and every language. With many languages not developed for classroom teaching, creating new curricula would take 'time, enthusiasm, commitment and compromise' (Salem-Gervais & Raynaud, 2019). This argument is also weak, given the breadth and depth of ethnic cultures in the country who have already devised and building curricula that meets their cultural needs. While it's true that new curricula would necessitate new resources, surely the decision to pursue such a project or not must come from the communities themselves rather than a blanket top-down mandate. Thirdly, the most important critique in support of MTB-MLE is that the decision to switch languages in schooling may be the choice of some cultures and communities, for various reasons. This is an entirely valid argument but a truly equitable landscape would allow such choices to co-exist with other communities who choose a language maintenance course. That some communities would choose MTB-MLE does not mean all communities must be compelled to.

6. Conclusion

In the twenty-first century, communities in Myanmar are organising and advocating for the very same linguistic rights that the Bamar demanded from the British. The adoption of MTB-MLE in government schools would certainly be a step forward for recognition and

possibly even a gateway to broader language reforms, but a worst case scenario could see that just as British colonialism froze the territory of the modern nation state with no regard for the pre-existing diverse polities, then MTB-MLE may similarly freeze the development of ethnic languages and make them officially second-class without the capability to be used at anything higher than a primary level. MTB-MLE is not simply a language policy abstracted from other issues of power. Its advocacy has come with baked-in assumptions about the Myanmar State. These include the idea that Myanmar will only ever use Burmese (and perhaps English) as an official state language, as well as the idea that minority languages are not suitable for higher education.

While policies transition programmes may indeed be the choice of some communities who wish to balance cultural reproduction with the pragmatics of navigating a multicultural society, the current understanding of MTB-MLE promotes minority languages only insofar as they allow a bridge to the single national language. The lens sees language in education as a distinct domain and minority languages as problems that need a singular solution. On the other hand, a language maintenance approach sees policy more holistically, identifying that medium of instruction alone will not reproduce culture and language. Rather than forcing minority cultures to adapt themselves to the state, a language maintenance or a strong additive approach could see the state adapting to minority cultures.

This paper does not advocate for any one policy, nor advocate against MTB-MLE. Instead, the presumptions of a state that communicates only in Burmese and English must be confronted before an effective evaluation of MTB-MLE in Myanmar is possible. Education systems represent aspiration. Teachers, leaders and students in these regions are developing systems that teach their Mother Tongue, English and Burmese in a calibration that suits them. If peace is to finally come to Myanmar, then it is not these systems that must be dismantled, it is the State that must begin adapting itself to these vital aspirations.

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Relationship between leadership style and committee effectiveness in secondary schools

[1]Israel Olusegun Adedeji & [2]Sulaimon Adewale

Abstract

This study explores how leadership styles, particularly the principal's approach, influence organisational effectiveness in secondary schools, arguing that structured and supportive leadership fosters committee effectiveness, while laissez-faire or free-reign leadership may undermine collaboration, motivation, and decision-making, ultimately impacting school performance. A quantitative descriptive research design approach was employed. The study used a multistage sampling technique to select 313 participants from secondary schools in Zamfara State, Nigeria. The data collected was analysed using percentage and linear multiple regression analysis to test the hypotheses formulated at a 0.05 significance level. It was found that leadership styles (participatory and free-reign) had a significant negative relationship with the committee system effectiveness, while directive leadership style and committee system effectiveness did not have a significant relationship. Policymakers and educational authorities should address the resource constraints that limit the availability of welfare and feeding committees. School leaders should also adopt balanced management styles that incorporate clear directives and controls while allowing some level of participation and flexibility to foster a positive and effective committee system.

Keywords: *committee system, school leadership, effectiveness, leadership styles*

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About the authors:
[1]School of Education, Department of Educational Foundations, Federal College of Education (Technical) Gusau, Zamfara State, Nigeria. Email: segdeji2014@gmail.com

[2]Corresponding author. Department of Education Leadership and Management, University of Johannesburg, South Africa. Email: sadewale@uj.ac.za

1. Introduction

In recent years, the role of committees has gained significant attention due to the complexity of school governance, community engagement, inclusivity and diversity, the need to build collaboration, the emphasis on transparency and accountability, corporate governance and oversight and digital transformation (Aryanti & Suhardan, 2020; Ayu et al., 2022; Puri & Chhetri, 2024). Like many other organisations, schools adopt a committee system to get their enormous duties delivered. However, effectiveness of committee system in schools has been the subject of scrutiny in social sciences research (i.e. Ferriswara et al., 2024; Owusu-Addo et al., 2024).

Committee effectiveness, characterised by positive response to committee efforts and actions, positively influences school policies, decision-making, and general educational outcomes. In this context, effectiveness is measured by the ability of a committee to foster collaboration, inclusivity and transparency when making informed decisions for the benefit of the entire school community. Despite notable progress, there remains a critical gap in understanding the effectiveness of committees in achieving the primary objectives in secondary schools in Nigeria (Maina et al., 2020; Ogwuike & Iheonu, 2021; Agi & Igwe, 2023), which has implications for both theory and practice. School principals are saddled with many leadership responsibilities that cannot be achieved in isolation from others (Hoque & Raya, 2023). School principals, therefore, need to engage other staff members for optimal performance, efficiency, satisfaction, and development (Suleiman, 2023). One of the ways principals engage other staff in the school's administrative process is through the committee system. The committee system simplifies the functions and activities that school principals must perform to achieve school and educational goals. Therefore, there is a need for committees to make and take valuable decisions in the general interest of the schools. However, as many factors influence day-to-day school management, the main purpose of establishing a committee in school is compromised. One of the identified factors is the leadership style of the school principals (Hafeez & Akhtar, 2022; Fortune, 2020).

As an administrator, the school principal has the arduous task of leading efficiently and effectively in developing and managing school resources (Jaiyeoba & Ojewumi, 2021, p. 254). In all the management functions, the school principal leadership style has a more significant role in coordinating the activities of other supporting members of school management committees (Aryanti & Suhardan, 2020). For instance, the influence of leadership style on

teachers' effectiveness cannot be over-emphasized. An effective teacher could be rendered ineffective if the principal leadership style conflicts with the tasks or roles of the teacher (Agustin et al., 2022; Bada et al., 2024). If the principal leadership style is appropriate, the way and manner the principal disciplines the staff, the human relations and feelings, the consideration to the members of staff, the inspiration to staff and the way of handling staff welfare, it is likely to affect teacher effectiveness (Oyuga, 2023).

Empirical studies on the secondary schools in Zamfara State, Nigeria highlight some negative administrative practices (Sodangi et al., 2023; Dahiru & Almustapha, 2024; Usman et al., 2023; Muhammad & Ashiru, 2021), implying appropriateness of leadership styles in relation to the performance of teachers. Similarly, evidence showed a necessity of re-examining the implementation of committee systems in schools (Ojewumi & Jaiyeoba, 2022; Maina et al., 2020; Aselebe, 2024; Nnebedum et al., 2018). Therefore, it is essential to re-examine both the leadership styles and the committee systems in schools. In addition, there is limited research on the relationship between leadership style and the effectiveness of committee system. Hence, this study explores the relationship between leadership styles and committee systems within secondary schools in Zamfara State, Nigeria. Specifically, the study aims to determine the relationship between participatory, directive, and free-reign leadership styles with the committee system in secondary schools. It seeks to address the research gap by employing quantitative methods to explore the relationships between the leadership style adopted by school principals and the effectiveness of committees in secondary schools.

2. Literature Review and Hypotheses Development

2.1. Theoretical Framework

This study is hinged on distributed leadership theory, which views leadership as a shared and collective process and emphasises the empowerment of various stakeholders within an organisation. In the context of secondary schools, principals who adopt distributed leadership style delegate responsibilities to committee members, recognising and utilising their unique skills and expertise. This empowerment leads to a more dynamic and effective committee system, as it capitalises on its members' collective intelligence and strengths (Spillane, 2006). By distributing leadership roles, principals encourage active participation and engagement, fostering a sense of ownership and commitment among committee members. This inclusive approach ensures that decisions are well-informed and supported by those who will

implement them, enhancing the overall effectiveness and responsiveness of the committee system.

Collaboration and shared decision-making are also fundamental aspects of distributed leadership. Principals who promote these values within their committee systems create an environment where diverse perspectives are valued and integrated into the decision-making process (Leithwood et al., 2009). Open communication channels and encouraging idea exchange among committee members lead to more comprehensive and innovative solutions. In secondary schools, this collaborative culture ensures that decisions reflect the collective insights and experiences of the school community, making them more relevant and practical. By fostering a collaborative environment, principals can enhance the problem-solving capabilities of their committees, ensuring that decisions are made with a broader understanding of the issues at hand and the needs of the stakeholders.

Another critical component of distributed leadership is the emphasis on shared accountability and collective responsibility. When leadership is distributed, all committee members share the responsibility for the outcomes of their decisions (Timperley, 2005). This shared accountability ensures that each member is equally invested in the success of the committee's initiatives, leading to greater commitment and effort from all involved. In secondary schools, this can result in more robust and reliable committee systems, as members feel a stronger sense of duty and ownership over their collective decisions. Principals who cultivate this sense of shared responsibility create a more cohesive and motivated committee, where each member is accountable not only to the principal but to their peers as well. This collective approach enhances the reliability and effectiveness of the committee's work.

Furthermore, distributed leadership also promotes innovation and adaptability within committee systems. By leveraging various committee members' diverse talents and perspectives, principals can foster a culture of continuous improvement and creativity (Harris & Spillane, 2008). This adaptability is crucial in secondary schools, where educational challenges and opportunities constantly evolve. A distributed leadership approach allows committees to be more flexible and responsive to changes, ensuring that the school remains proactive and forward-thinking in its strategies and policies. Including multiple viewpoints and expertise leads to more innovative solutions and practices, as committee members bring different experiences and ideas to the table. This culture of innovation enhances the committee system's effectiveness and contributes to the school's overall growth and improvement.

Distributed leadership theory provides a valuable framework for understanding how principals' leadership styles can impact the effectiveness of committee systems in secondary schools. Distributed leadership fosters a more inclusive, dynamic, and effective decision-making environment by emphasising empowerment, collaboration, shared accountability, and innovation. This approach not only improves the functionality of committees but also contributes to the overall success and adaptability of the school, ensuring that it can meet the diverse needs of its students and stakeholders in an ever-changing educational landscape.

2.2. Hypotheses Development

While Distributed Leadership Theory provides a valuable framework for understanding the relationship between leadership styles and committee systems in secondary schools, it is not without its challenges. The theory's strengths in promoting collaboration, empowerment, and innovation are significant. However, the potential risks of overemphasising shared decision-making, cultural resistance, and the dilution of leadership authority must be carefully managed.

The relationship between the principal's directive leadership style and committee effectiveness in secondary schools has been a topic of significant interest in educational leadership research. Directive leadership, characterised by clear instructions, close supervision, and a top-down approach, is often seen as a way to ensure task completion and maintain order within educational institutions. Recent studies have explored the impact of this leadership style on various organisational outcomes, including the effectiveness of committees, which play a crucial role in decision-making and policy implementation in schools.

Research by Biloa (2023) highlights that directive leadership can positively influence committee effectiveness by providing clear goals and expectations. Their study, conducted in a sample of secondary schools, found that committees led by principals who adopt a directive style were more likely to meet deadlines, achieve set objectives, and maintain high-performance levels. This is particularly relevant in schools where a clear direction is necessary to navigate complex administrative tasks and ensure alignment with school-wide goals. The authors argue that the predictability and structure provided by directive leadership can lead to more efficient and effective committee operations. However, not all findings point to a universally positive relationship. Semedo et al. (2022) suggest that while directive leadership can enhance task efficiency, it may also stifle creativity and reduce the autonomy of committee

members. Their research indicates that committees under directive leadership may become overly dependent on the principal's decisions, which can limit the input from other members and reduce the diversity of ideas. This potential drawback suggests that while directive leadership may drive immediate results, it may also hinder long-term committee effectiveness by suppressing innovation and collaboration.

Diuno (2018) argues that the effectiveness of directive leadership on committees may depend on the context and specific tasks at hand. The study showed that in situations requiring quick decision-making, complex tasks or strict adherence to protocols, directive leadership can be highly effective. Conversely, a more participative leadership style might be preferable in scenarios where creativity, member engagement, and consensus-building are paramount. This perspective aligns with the idea that leadership effectiveness is contingent upon the situation, suggesting that the benefits of a directive approach may vary depending on the nature of the committee's work. Further supporting this contextual approach, Post et al. (2022) emphasise the importance of balancing directive leadership with elements of participative management. Their research on secondary school committees indicates that while a directive style can ensure clarity and accountability, incorporating opportunities for input from committee members can enhance commitment and satisfaction. They propose a hybrid leadership model, where principals can adjust their leadership style based on the committee's needs, fostering both efficiency and member engagement.

The findings of Kongnyuy (2020) and Masaku et al. (2018) showed that some principals were unwilling to delegate and involve teachers in decision-making, while other teachers were not delegated any task at all with the perceptions that some responsibilities are sensitive and making a wrong decision may have severe implications to the smooth running of the school, for example, in cases of examination malpractices and insecurity, the activities of committee members on discipline and security should be conducted in secrecy and strict confidentiality. Nkeobuna and Ugoani (2020) stressed that some matters should not be delegated to just anyone or a committee. This accounted for why many school committees are reduced to mere advisory bodies. Against this background, this study was carried out to examine leadership styles and committee system effectiveness in schools from a conceptual approach. This study therefore hypothesise that:

H1: There is a positive relationship between the directive leadership style and the committee system in secondary schools in Zamfara state, Nigeria.

The relationship between a principal's participatory leadership style and committee effectiveness in secondary schools has garnered significant attention in recent educational leadership research. Participatory leadership, characterised by shared decision-making, collaboration, and active involvement of stakeholders, is believed to enhance the effectiveness of committees by fostering a sense of ownership and commitment among members. Several studies have explored the impact of this leadership style on school governance, indicating that principals who engage in participatory practices often see improved organisational outcomes, including increased committee effectiveness (Bush, 2020; Northouse, 2019). These findings highlight the importance of leadership approaches that prioritise inclusivity and empowerment in fostering effective school committees.

Bush and Glover (2018) emphasise the role of participatory leadership in improving decision-making processes within schools. Their research shows that when principals actively involve teachers, staff, and other stakeholders in decision-making, committees are more likely to effectively achieve their goals. The involvement of various perspectives in decision-making enhances the quality of decisions, leading to better outcomes for the school. This collaborative approach to leadership improves the functioning of committees and promotes a positive school culture where members feel valued and motivated to contribute meaningfully to the school's success. Moreover, Leithwood and Azah (2017) highlight that participatory leadership in schools contributes to higher levels of trust and cooperation among committee members. When principals encourage participation and input from all members, it fosters a culture of trust and collaboration, which is crucial for effective committee work. Their study suggests that this leadership style leads to more cohesive and committed committees, which are better able to navigate challenges and work towards common goals. As committee members feel empowered and trusted, they are more likely to be engaged and productive, ultimately enhancing their effectiveness.

Recent researches by Harris and DeFlaminis (2016) and Mpuangnan et al. (2024) also support the positive relationship between participatory leadership and committee effectiveness, particularly in secondary schools. Their study found that schools with principals who practice participatory leadership see more effective committees that can better implement school policies and programs. This is because participatory leadership allows for a more democratic decision-making process, where diverse viewpoints are considered, leading to more well-rounded and effective decisions. As a result, committees are better equipped to address the

complex issues facing secondary schools and implement solutions that are widely supported by the school community. Generally, the literature consistently supports the notion that a principal's participatory leadership style positively impacts committee effectiveness in secondary schools. By fostering a culture of inclusivity, trust, and collaboration, participatory leadership enhances the decision-making processes and overall functioning of school committees. This review suggests that principals who engage in participatory leadership practices are likely to see more effective and cohesive committees, which contribute to the overall success of the school. Thus, a hypothesis is developed that:

H2: participatory leadership is positively associated with committee effectiveness in secondary schools in Zamfara state, Nigeria

Free-reign leadership, also known as laissez-faire leadership, is characterised by minimal interference from leaders, allowing subordinates considerable autonomy in their decision-making. Recent studies emphasise that leadership style plays a crucial role in determining the effectiveness of teams or committees. According to Bush and Glover (2014), school leadership is central to shaping organisational outcomes, including the performance of committees and other school groups. When principals adopt an effective leadership style, it fosters collaboration, clear communication, and goal alignment among committee members, which is crucial for success. However, free-reign leadership is often associated with a lack of direction and support, which can hinder committee effectiveness (Bwambale et al., 2024; Zhang et al., 2023). This indicates that when principals adopt a hands-off approach, it may negatively affect the performance of committees that require clear guidance and coordination. The literature further suggests that free-reign leadership can lead to ambiguity in roles and responsibilities, negatively impacting decision-making processes within committees. In their study on educational leadership, Zhang et al. (2023) found that laissez-faire leadership often results in disorganised teams, as members are left to operate without clear directives. This lack of leadership presence can lead to inefficiencies and conflicts among committee members, as decisions are made without a unified vision or coordination. In the context of secondary schools, where committees handle important tasks such as curriculum development and student welfare, this leadership style can be detrimental to achieving desired outcomes.

Several studies highlight the relationship between leadership style and the motivation of team members. Research by Allen et al. (2015) and Sokolic et al. (2024) indicate that free-

reign leadership often leads to lower levels of motivation and engagement among team members. In school committees, this disengagement can manifest as decreased participation, lack of accountability, and ultimately reduced effectiveness. When committee members feel unsupported by their principal, they may struggle to meet the expectations placed upon them, further weakening the committee's overall performance. On the other hand, some studies suggest that free-reign leadership may allow for creativity and innovation in certain contexts where team members are highly skilled and require less supervision (Hughes et al., 2018; Kalkan et al., 2020) . In secondary school settings, however, where committees often consist of diverse members with varying expertise, this leadership style might not be appropriate. Committees typically require coordination and a clear direction from the principal to navigate complex issues, making a more involved leadership style preferable to free-reign leadership.

The reviewed literature indicates that a principal's free-reign leadership style is likely to negatively impact the effectiveness of committees in secondary schools. The lack of direction, engagement, and coordination often associated with this style can hinder the committee's ability to achieve its objectives. Therefore, we hypothesise that:

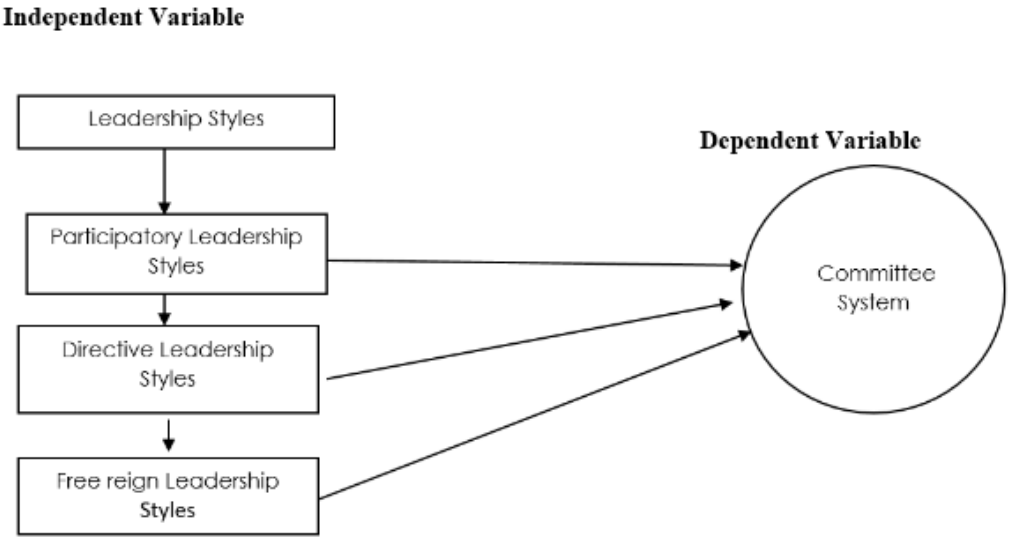
H3: Principal's free-reign leadership style has a negative relationship with committee effectiveness in secondary schools in Zamfara state, Nigeria.

2.3. Conceptual Framework

The framework in this study explains the relationship between leadership styles (independent variable) and committee system effectiveness (dependent variable).

Figure 1

The research framework



This study conceptually explains the connection between leadership styles and committee system effectiveness. As depicted in figure 1, leadership styles determine committee system effectiveness and vice versa. This implies that leadership style correlates with committees' effectiveness, even in a school system. This indicates that man is a gregarious animal; no leader is an island and cannot succeed in isolation. Decision-making and innovative approaches must be held by more than those in formal leadership roles. Therefore, this study establishes a relationship between leadership styles and committee system effectiveness. However, a leader as a factor can encourage or frustrate group members, subordinates, or staff in achieving assigned responsibilities.

3. Methods

This study adopted a quantitative research design of cross-sectional type. This design is chosen to determine the relationship between principals' leadership styles and the effectiveness of the committees in Zamfara state of Nigeria.

The population comprised teaching and non-teaching staff of public secondary schools in Zamfara state. A multistage sampling technique was used to determine the study sample. At first, a stratified technique was used to categorise the respondents into two strata (academic staff and non-academic staff). Afterwards, a simple random sampling technique was used to select 313 respondents for the two strata using Krejcie and Morgan (1970) sample size determinant table. Initially, 400 participants were proposed, but only 313 responded.

Table 1

Participants' demographic characteristics

Variable	Category	Frequency	Percentage
Gender	Male	163	52.0
	Female	150	47.9
Rank	Academic	253	80.8
	Non-academic	60	19.1
Year of Experience	<10 years	125	40.0
	>10 years	188	60.0

Table 1 displays that a total of 313 participants were included in the study, with 163 (52.0%) identifying as male and 150 (47.9%) as female. Regarding their professional roles,

most of the participants, 253 (80.8%), held academic positions, while 60 (19.1%) held non-academic roles within the educational institutions. The distribution of participants based on years of experience revealed that 125 participants (40.0%) had less than ten years of experience in their respective roles, while 188 participants (60.0%) had more than ten years of experience. This information provides insights into the gender distribution and the professional experience of the individuals who took part in the study. The inclusion of non-academic staff and more females in various committee implies principals' inclusive leadership and gender sensitivity. This will also allow for cross fertilisation of ideas and experiences.

The study used researcher-designed "Leadership Styles and Committee System Effectiveness Questionnaire (LSCSEQ)" questionnaire to collect data. Part A of the questionnaire contained participants' demographic information, while part B contained items to measure leadership styles and committee system effectiveness. The instrument was constructed, and the content was validated with the help of educational management and leadership professionals. At the same time, its reliability was ascertained through the Cronbach Alpha reliability procedure, which yielded a reliability coefficient of 0.84, 0.82, and 0.83 for each of the independent variables (participatory leadership style, directive leadership style and free reign leadership styles) and committee system effectiveness yielded 0.77.

To ensure adherence to research ethics, permission was sought from the school principals to access the teachers. The participants' informed consent was sought, and their anonymity was assured before participating in the study. In addition, the participants were asked to read and understand the instructions on the questionnaire. They were allowed to withdraw from the study at any stage.

The data collected for the study was analysed with a statistical package for social sciences (SPSS) IBM version 29. While descriptive analyses (percentage and mean score) were conducted to answer the research questions, inferential statistics (linear multiple regression analysis) was employed to test the hypotheses formulated at a 0.05 significance level.

4. Findings and Discussion

In table 2 presents data related to the existing committees in secondary schools in Zamfara State, Nigeria. This table overviews the participants' perceptions of the various committees. Notably, the committees on admission, sport, and disciplinary committee received relatively high levels of availability with 87%, 93% and 90%, respectively. Similarly, the

Parents Teachers Association (PTA) committee, and examination committees have 76 and 75% availability, respectively. In contrast, the feeding committee and welfare committee faced higher levels of disagreement, with 66% and 62%, respectively because many of the schools in this study did not have these two committees. This could be due to insufficient resources at the disposal of schools.

Table 2

Existing committees in secondary schools in Zamfara State, Nigeria

S/N	Committees	Available		Not available	
		F	%	F	%
1	Admission Committee	271	87	42	13
2	Examination Committee	234	75	79	25
3	Welfare Committee	118	38	195	62
4	Sport Committee	292	93	21	7
5	Feeding Committee	106	34	207	66
6	PTA Committee	237	76	76	24
7	Disciplinary Committee	281	90	32	10

Table 3

Multiple regression analysis of effectiveness of committee system in secondary schools in Nigeria

Variable	Standardised Coefficient Beta	Odds Ratio	P	95% Confidence Interval for B	
				Lower bound	Upper bound
(Constant)			<.001	4.910	6.638
Directive	0.006	1.006	.912	-.193	.215
Participatory	-0.141	0.868	.018	-.411	-.040
Free-Reign	-.299	0.742	<.001	-.979	-.424

Notes: a Dependent Variable: Effectiveness

R^2=.142, F (3, 313) = 17.070, P< .001

As shown in table 3, linear multiple regression analysis was conducted to determine the best linear combination for principals' directive, participatory, and free-reign leadership styles for associating with committee system effectiveness among secondary teachers. This combination of variables significantly predicted committee system effectiveness, F (3, 313) = 17.070, P< .001. It accounted for approximately 14.2% of the variance in the effectiveness,

with only two variables (participatory leadership style and free-reign leadership style) significantly associating with committee system effectiveness.

The directive leadership style had a positive but non-significant effect on effectiveness (β=0.006,t=0.111,p=0.912\beta = 0.006, t = 0.111, p = 0.912β=0.006,t=0.111,p=0.912). The confidence interval for B (-0.193 to 0.215) includes zero, suggesting that this leadership style does not significantly impact effectiveness within this model. For every unit increase in the beta coefficient of 0.006 corresponds to an odds ratio of 1.006 for directive leadership, the odds of the outcome increase by about 0.6%. This means that with each additional unit increase in directive leadership, the odds of achieving committee effectiveness increase by approximately 0.6%. This small but positive increase suggests that a directive leadership style slightly enhances the likelihood of committee effectiveness in secondary schools. Although the impact may appear modest, it implies that as school leaders employ more directive leadership, characterised by clear guidance, structured decision-making, and specific instructions, the committees they oversee are incrementally more likely to be effective. Thus, while the effect of directive leadership on committee effectiveness is not overwhelmingly large, it is positive, indicating that leadership strategies emphasising direction and control can contribute to the successful functioning of school committees.

Meanwhile, the participatory leadership style had a significant negative effect on effectiveness (β= −0.141, t= −2.387, p= 0.018\beta= -0.141, t= -2.387, p= 0.018 β= −0.141, t= −2.387, p= 0.018). The confidence interval for B (-0.411 to -0.040) does not include zero, indicating a significant negative impact. This result suggests that as participatory leadership increases, effectiveness decreases. For every unit increase in the beta coefficient of -0.141 for participatory leadership, the odds ratio is approximately 0.868. An odds ratio of less than 1 suggests a negative relationship between participatory leadership and the likelihood of the outcome, which in this case is committee effectiveness. Specifically, this odds ratio indicates that for each unit increase in participatory leadership, the odds of achieving committee effectiveness decrease by approximately 13.2%.

This means that as the degree of participatory leadership increases, the likelihood of committee effectiveness decreases. In other words, in secondary schools, a more participatory leadership style, where leaders involve committee members more in decision-making processes, is associated with a reduction in the effectiveness of these committees. This could

suggest that involving more people in decision-making might introduce complexities or inefficiencies that hinder the committee's overall effectiveness.

Similarly, the free-reign leadership style also had a significant negative effect on effectiveness (β= −0.299, t= −4.980, p<.001\beta= -0.299, t= -4.980, p< .001β= −0.299, t= −4.980, p<.001). The confidence interval for B (-0.979 to -0.424) does not include zero, indicating a strong negative impact. This suggests that higher levels of free-reign leadership are associated with lower effectiveness. The relationship between free-reign leadership style and committee effectiveness in secondary schools can be interpreted by examining the provided beta coefficient and its corresponding odds ratio. A beta coefficient of -0.299 indicates a negative relationship between free-reign leadership and committee effectiveness. Specifically, the odds of achieving committee effectiveness decrease for every unit that increases in the free-reign leadership style (as measured by the beta coefficient). The odds ratio associated with this beta coefficient is approximately 0.742, which means that for each additional unit increase in free-reign leadership, the likelihood of committee effectiveness drops to 74.2% of what it would be without that increase.

To put it differently, the odds of committee effectiveness decrease by about 25.8% with each unit increase in free-reign leadership. This suggests that the more a leader in a secondary school adopts a free-reign leadership style, the less likely it is that their committee will be effective. The free-reign leadership style, which typically involves minimal direction and a high degree of autonomy for group members, may lead to reduced coordination and effectiveness in committee work within the secondary school context.

Discussion

This study examined the relationship between principal leadership styles and committee system effectiveness in secondary schools. The findings reflect a varied emphasis on different aspects of school management and student welfare. The high availability of sports committees is consistent with studies highlighting the importance of physical education in schools (Bang et al., 2020). They found that participation in sporting activities improves self-esteem, and self-esteem reduces depression. The lower availability of welfare and feeding committees aligns with research indicating resource constraints in Nigerian schools (Nwarie & Nwakudu, 2019).

The variation in the availability of committees in Zamfara State secondary schools highlights differences in priorities, resource availability, and policy requirements. The high

availability of committees focused on admissions, examinations, sports, and discipline indicates a strong emphasis on academic and extracurricular activities and maintaining order. The substantial presence of admission and examination committees aligns with the emphasis on academic standards and processes in Nigerian secondary schools (Adewale, 2017). However, the limited availability of welfare and feeding committees suggests potential gaps in holistic student support, which could affect general student well-being and academic performance (Johnson & Afolabi, 2019). The strong presence of PTA and disciplinary committees suggests active community involvement and a focus on maintaining discipline, which is crucial for creating conducive learning environments (Eze, 2015).

The findings suggest that the type of committee system employed significantly influences the effectiveness of the committee system in secondary schools. The directive leadership style of the principals did not have any significant relationship with the effectiveness of the committee system in secondary schools. Clear instructions and close supervision characterize directive leadership. While this can ensure tasks are completed as specified, it may stifle creativity, reduce motivation, and hinder the flexibility needed for committee members to address issues dynamically. Committee members need to be autonomous and motivated to function effectively (Sarmah et al., 2022). The non-significant effect of the directive committee system suggests that simply having a directive approach does not necessarily enhance the effectiveness of the committee system. This may be due to the potential rigidity and lack of flexibility associated with directive management, as noted by Adeyemi (2017).

The negative impact of participatory and free-reign committee systems aligns with studies highlighting decentralised management's challenges in educational settings. For instance, studies have reported that overly participatory approaches can lead to inefficiencies and conflicts, which may explain the negative association observed (Grace & Oladejo, 2020; Wang et al., 2022). Moreover, the significant negative effect of the free-reign committee system is consistent with research by Emmanuel (2022), which emphasised that lack of structure and control in school management often results in poor organisational performance and unethical behaviour of teachers and students. The strong negative beta coefficient for the free-reign system underscores the importance of having clear directives and controls in place.

5. Conclusion

This study concludes that leadership styles have a significant relationship with the committee system in terms of meetings, quality of decisions and level of decision-making and implementation. Also, leadership styles and school committee systems had a positive significant relationship. Different committees existed, but they needed to be more effective in secondary schools of Zamfara State, Nigeria, based on leadership styles in place. This study also concludes that non-availability of feeding and welfare committees in many schools calls for concern. It is therefore important to further investigate the rationale behind it, probably due too insufficient resources.

5.1. Limitations and suggestions for further studies

A quantitative approach was used in the study. Thus, further research can be conducted using a qualitative approach to have an in-depth understanding of leadership styles and the use of committee systems. Other analyses can be conducted to strengthen the constructs of the leadership styles model and committee system effectiveness used in this study. The conceptual framework of leadership styles and the use of the committee system in this study can be used to correlate overall school effectiveness. Similarly, future research can be done to establish the nexus between the leadership styles and the use of committee system effectiveness with the moderating effect of the school type. In addition, in order to provide more actionable insights, further studies should use qualitative study to explore the root causes of resource constraints to welfare and feeding committees in Zamfara State, Nigeria. This will enable policymakers and educational authorities to offer specific strategies for improvement.

5.2. Theoretical implications

The study's results contribute to the existing body of knowledge by highlighting the differential impact of various management styles on committee effectiveness. The negative effects of participatory and free-reign management systems underscore the need for balanced approaches that combine structure with some level of flexibility. This aligns with contingency management theories, which posit that management styles' effectiveness depends on the context and specific circumstances (Shala et al., 2021).

The varying availability of committees, particularly the lower availability of welfare and feeding committees, suggests a theoretical alignment with the organisation's resource-based views (RBV). This perspective emphasises that the availability of resources significantly influences organisational structure and processes (Mwai et al., 2018). The findings support the

RBV by demonstrating that resource constraints in Nigerian schools limit the formation and operation of specific committees.

The significant negative effect of the free-reign committee system supports organisational control theories, which argue that a lack of structure and control can lead to poor performance and unethical behaviour (Klein et al., 2019). This finding reinforces the theoretical understanding that effective management must balance autonomy and control to maintain organisational integrity and performance.

5.3. Practical implications

School administrators should prioritise establishing and maintaining structured committees, such as admission, examination, PTA, and disciplinary committees, which are shown to be prevalent and essential for maintaining academic standards, discipline, and community involvement. These committees are critical for ensuring a well-organized and disciplined school environment. Policymakers and educational authorities should address the resource constraints that limit the availability of welfare and feeding committees. Ensuring schools have the necessary resources to support student welfare can enhance student well-being and academic performance. This may involve increased funding, resource allocation, and support from government and non-governmental organisations.

While participatory and free-reign management approaches may seem appealing in promoting inclusivity and autonomy, the findings suggest that these approaches can lead to inefficiencies and conflicts. School leaders should adopt balanced management styles that incorporate clear directives and controls while allowing some level of participation and flexibility to foster a positive and effective committee system. There should be continuous professional development for school leaders and committee members on effective management practices. Training programmes with integration of more females in committees (Adewale & Potokri, 2023) can focus on the importance of structured management, the pitfalls of overly participatory or free-reign approaches, and strategies for resource optimisation. The strong presence of PTA and Disciplinary Committees indicates the importance of active community involvement. Schools should continue to engage parents and the broader community in school management processes to create a supportive and collaborative environment that enhances student outcomes. The study's implications suggest that policymakers and educational authorities should address resource constraints, particularly concerning welfare and feeding committees.

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ORCID
Israel Olusegun Adedeji - https://orcid.org/0000-0001-6440-7991

Sulaimon Adewale - http://orcid.org/0000-0003-2271-7443

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