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Exploring the implementation of soft pedagogical documents in public secondary schools: A case study in Nyamasheke District, Rwanda

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ABSTRACT

This study employed a qualitative research design to investigate the utilization of soft pedagogical documents among twelve mathematics teachers in five purposively sampled public secondary schools. Data was collected through interviews and analyzed thematically. The study, rooted in social constructivism theory, discovered a mixed pattern in the implementation of soft pedagogical documents. Scheme of works and notes summary were widely acknowledged as a guide for structuring the academic year, but only a minority of teachers consistently applied it. Lesson plans, crucial for effective teaching, faced challenges in adherence due to time constraints and heavy workloads. Tools like class diary and attendance register were considered essential, yet compliance varied. Marks records and evaluation records, vital for assessing student progress, proved challenging for half of the teachers. Unit assessment records and homework records suffered from inconsistent implementation. While exercises records and formative records were recognized for tracking student learning, their effective use remained infrequent. Despite disparities, the soft pedagogical documents played a crucial role in shaping the educational setting. The study highlighted the need for targeted interventions and support mechanisms to enhance consistent implementation across all documents.

MODESTUM

Keywords: Implementation, Nyamasheke District, public secondary schools, soft pedagogical documents

INTRODUCTION

In recent years, the field of education has witnessed a paradigm shift towards more student-centric and holistic approaches to learning. This shift has prompted teachers and policymakers to explore innovative pedagogical strategies that can enhance the overall educational experience. One such approach gaining attention is the implementation of soft pedagogical documents in public secondary schools. Soft pedagogy emphasizes a flexible and adaptive teaching methodology that goes beyond traditional rigid structures, fostering a dynamic and engaging learning environment.

Nyamasheke District, located in the Western Province of Rwanda, presents a compelling case for this study due to its distinctive socio-cultural and economic characteristics. Understanding the influence of soft pedagogical documents in this specific setting contributed valuable insights to the broader discourse on educational reform. As Rwanda continues to make strides in its education system, this case study ambition to shed light on the challenges and opportunities associated with integrating soft pedagogical documents at the secondary school level.

The exploration of soft pedagogical documents in Nyamasheke District aligns with the global commitment to sustainable development goal 4, which focuses on ensuring inclusive and equitable quality education for all (McGreal, 2017). By investigating the practical implications and effectiveness of soft pedagogy in this specific Rwandan context, researcher desired to provide actionable recommendations for educators, policymakers, and educational stakeholders. This research contributed to the ongoing dialogue on enhancing educational practices, fostering student engagement, and ultimately, promoting a more robust and adaptable education system in Nyamasheke District and beyond.

LITERATURE REVIEW

A literature review is an essential component of any research study, serving as the foundational exploration of existing knowledge related to the chosen research topic. In the context of this research, the literature review played a critical role in framing

the research within the broader academic and educational context. In this literature review, the researcher took on a comprehensive journey through the existing body of literature on several key thematic areas. Firstly, the researcher investigated the realm of pedagogy, with a particular focus on pedagogical documents and their significance in shaping the teaching and learning processes in secondary mathematics education. This exploration included studies, theories, and best practices related to instructional materials, curriculum development, and pedagogical strategies. Secondly, the researcher examined the specific educational landscape of Rwanda, with a keen eye on the Nyamasheke District.

Understanding the unique challenges, opportunities, and policies within the Rwandan educational system was essential for contextualizing the research and interpreting its findings accurately. Additionally, this literature review investigated the incorporation of technology in education, particularly the use of soft pedagogical documents. The researcher assessed the current state of digital tools and resources in educational settings and explored their potential benefits and drawbacks in enhancing mathematics instruction. This examination encompassed studies that investigate the integration of technology in teaching and its impact on student learning outcomes. Furthermore, the review addressed qualitative research methodologies, providing an overview of the various qualitative approaches and techniques employed in educational research. Understanding the methods used in similar studies enabled a critical evaluation of the research design and methodology employed in the current investigation. By synthesizing and analyzing the existing literature in these areas, this literature review intended to establish a solid foundation for the research study. It was guiding the exploration of how selected secondary mathematics teachers in Nyamasheke District, Rwanda, were utilizing soft pedagogical documents in their classrooms, shedding light on the potential implications for mathematics education in the region.

The use of soft pedagogical documents, including digital resources and instructional materials, has gained significance in the context of modern education (Niyibizi et al., 2023). In Rwanda, a nation committed to improving the quality of education, exploring the effectiveness of soft pedagogical documents is crucial. According to the Ministry of Education (MINEDUC, 2019), Rwanda has made significant strides in improving its education system over the years. The use of pedagogical documents, including soft documents, plays a vital role in enhancing teaching and learning outcomes.

MINEDUC (2019) in Rwanda has developed various pedagogical resources to support teachers in delivering quality education. Pedagogical documents, including lesson plans, scheme of works, class diary, attendance register, marks records, evaluation records, unit assessment records, homework records, and exercises records serve as essential tools for teachers (Archer, 2010). These documents provide a structured framework for lesson planning, content delivery, and assessment. The effective use of pedagogical documents can lead to improved student engagement and achievement (Archer, 2010). According to Anderson and Tracey (2019) along with Warschauer (2019) conducted pivotal studies that highlighted the digital divide prevalent in educational landscapes. Their works emphasized the critical need for ensuring fair and inclusive access to technology and digital resources within educational environments, a concern particularly pronounced in rural areas. These findings underlined the urgency of addressing the digital gap to raise an equitable educational experience for all students, regardless of their geographic location.

In their comprehensive exploration of the integration of information and communication technology (ICT) in Rwandan education, Ndayambaje and Mugiraneza (2019) shed light on the profound implications for teaching and learning. Central to this transformative shift is the utilization of soft pedagogical documents and digital or electronic resources that educators employ for instructional purposes. These encompass a spectrum of tools, including e-books, multimedia presentations, and online learning platforms, all of which have witnessed a surge in adoption within classrooms owing to the relentless progress in technology, as highlighted by Puentedura (2006). Delving deeper into the impact of soft pedagogical documents, Xie and Goh (2019) directed their attention to the Rwandan educational landscape. Their study elucidates the multifaceted consequences of incorporating these digital resources, scrutinizing how they influence teaching practices and student outcomes. While the advantages of using soft pedagogical documents are abundant, ranging from enhanced flexibility to heightened interactivity, there are notable challenges. Issues such as unequal access to technology, varying levels of digital literacy among students, and the imperative need for comprehensive teacher training, as articulated by Trucano (2005), underscore the complexities involved in navigating the digital frontier of education.

Again, the amalgamation of ICT and education in Rwanda, as examined by Ndayambaje and Mugiraneza (2019), and the subsequent investigation by Xie and Goh (2019) into the role of soft pedagogical documents offer a nuanced understanding of the evolving educational landscape. As the educational sphere adapts to the digital era, the advantages of these technological interventions are accompanied by a set of challenges that necessitate strategic solutions, ranging from addressing issues of accessibility to equipping educators with the requisite skills to navigate this dynamic terrain effectively.

The transformative impact of digital resources on student learning outcomes and pedagogical practices is unequivocally underscored by influential research findings (Hattie, 2017; Kozma, 2020; Niyibizi & Mutarutinya, 2023; Nzayisenga et al., 2023). Studies that looked at the many facets of teachers' views, opinions, and competency in incorporating online materials into their pedagogy provide insight into the complex issues that the teachers face when integrating these technologies, such as time constraints and inadequate training (Ertmer & Ottenbreit-Leftwich, 2020; Mishra & Koehler, 2019; Smith & Johnson, 2018).

In a parallel vein, the studies have contributed pivotal insights into the specific context of African education, elucidating the utilization of digital resources in the region (Adera, 2017; Adeyinka & Ojeifo, 2019). Their studies not only broaden the global discourse on educational technology but also provide a deep understanding of the unique challenges and opportunities faced by educators in the African educational landscape. By delving into teachers' perspectives and experiences regarding the use of soft pedagogical documents, these studies enrich the comprehension of the diverse ways in which digital assets were shaping the educational journey, affirming their significance as catalysts for positive change in teaching and learning paradigms.

The research question that guided the study was: How do teachers in public secondary schools in Nyamasheke District perceive, appreciate, and implement soft pedagogical documents in their teaching practices to influence the successful integration of these documents into the educational framework?

Theoretical Context

This study is guided by social constructivism theory, a prominent theoretical framework within the field of education that emphasizes the significance of social interactions and cultural contexts in the process of knowledge construction. Social constructivism posits that learning is a social activity shaped by individuals' interactions with their environment and peers. This theoretical lens is particularly pertinent in understanding educational phenomena, as it highlights the dynamic nature of knowledge acquisition and the role of social engagement in shaping cognitive development. In exploring the implementation of soft pedagogical documents in public secondary schools in Nyamasheke District, Rwanda, this study intended to understand the ways in which social constructivism theory articulates in the context of educational practices, providing insights into the influence of collaborative learning and shared meaning-making on the adoption and effectiveness of soft pedagogical approaches.

Social constructivism theory, rooted in the works of scholars such as Vygotsky and Piaget, posits that learning is an active, social process, where individuals construct knowledge through interactions with others and their environment. Vygotsky's zone of proximal development (ZPD) is a key concept, suggesting that learners can accomplish more with the support of peers or knowledgeable individuals than they can on their own. The theory emphasizes the role of cultural and social contexts in shaping cognition, highlighting the importance of collaborative learning, dialogue, and shared experiences (Amineh & Asl, 2015). Learners are seen as active participants in constructing their understanding of the world, with teachers serving as facilitators who scaffold learning experiences to support students' development within their ZPD (Amineh & Asl, 2015).

Social constructivism theory aligned with the study's focus on exploring the implementation of soft pedagogical documents in Nyamasheke District's public secondary schools. Soft pedagogical documents (scheme of works, lesson plans, class diary, attendance register, marks records, evaluation records, ending unit assessment records, homework records, exercises records, and formative records), which encompass flexible and adaptable teaching materials, resonate with the social constructivist approach by encouraging collaborative learning environments. By examining how teachers and students engage with these materials, the study intended to picture the ways in which social interactions and cultural influences shape the implementation and effectiveness of soft pedagogical approaches within the unique educational landscape of Nyamasheke District. In adopting a qualitative research design for this study, social constructivism theory guided the exploration of rich, context-specific narratives and interactions within the educational setting. Qualitative methods, such as interviews allowed for an in-depth examination of the social dynamics involved in the implementation of soft pedagogical documents.

METHODOLOGY

Research Design

Research design plays a pivotal role in the process of conducting rigorous and systematic investigations to answer specific research questions (Snyder, 2019). In the context of this study, the research design served as the blueprint that guides the entire research work. This study employed a qualitative research design. This qualitative design was adopted as an interpretive research approach, emphasizing the collection and analysis of rich, contextual data that allowed for an in-depth exploration of the research topic. The primary purpose of this research design was to facilitate an in-depth exploration of the utilization of soft pedagogical documents in the teaching practices of twelve selected secondary mathematics teachers in Nyamasheke District, Rwanda.

The research was pursued to gain a comprehensive understanding of how these teachers incorporate the use of soft pedagogical approaches. The selection of a qualitative research design was justified by several factors. First, qualitative research was well-suited for exploring complex and context-specific phenomena, such as the integration of soft pedagogical documents into teaching practices, which requires a deep understanding of teachers' perspectives and experiences. Second, qualitative methods allowed for the collection of rich, descriptive data that can illuminate the nuances and intricacies of the research topic. Third, the use of interviews provided a holistic view of the phenomenon, offering insights into both the "what" and "why" of teachers' practices. In summary, the research design outlined for this study intended to shed light on the use of soft pedagogical documents in the educational context of Nyamasheke District, Rwanda, through a qualitative lens.

Moreover, it was through this research design that the study attempted to value insights that inform educational policy and practice in the region, ultimately contributing to the improvement of mathematics education in public schools. In the present study, qualitative research design was employed to explore and understand the use of soft pedagogical documents, qualitative research design was appropriate to capture the teachers' experiences, perceptions, and practices.

Participants

Participants play a pivotal role in shaping the investigation's scope and outcomes (Ridder, 2017). In this study, the term "participants" refers specifically to twelve mathematics teachers who were engaged in the use of soft pedagogical texts in five chosen public schools located in Nyamasheke District, Rwanda. These teachers were at the forefront of implementing soft pedagogical documents in their instructional methods. The engagement of these participants helped to value insights into the effectiveness and challenges associated with the integration of soft pedagogical documents in the Nyamasheke educational system. By examining their experiences and perspectives, the research ambitions to provide a comprehensive understanding of how these resources are utilized and their potential influence on mathematics education in the selected public schools. In doing

so, this research aimed to contribute to the greater discourse on educational practices and innovation in the Rwandan environment, specifically focusing on mathematics teaching in secondary schools.

In the present study, purposeful sampling technique was used to select five public secondary schools from the Nyamasheke District, which had access to soft pedagogical documents in teaching and learning. Twelve secondary mathematics teachers were purposively chosen from the selected schools of Nyamasheke District in Rwanda who were actively using soft pedagogical documents in their teaching.

Data Collection

Data collection is a fundamental component of the research (Igwenagu, 2016). Data collection targeted to light the innovative pedagogical approaches implemented by secondary mathematics teachers in the Nyamasheke District, particularly focusing on the integration of soft pedagogical documents in their teaching methodologies. Data collection served as the bedrock upon which this research was built, as it enabled to gather empirical evidence and insights essential for addressing the research objectives. In this context, data collection included the systematic gathering of information and experiences from the twelve selected participants of secondary mathematics teachers in Nyamasheke District. The study employed a qualitative research approach, emphasizing in-depth interviews as primary data collection methods. This method was chosen to capture the practices and perspectives of the participating teachers, providing rich, context-specific data that informed a comprehensive exploration of soft pedagogical document usage.

Through the process of data collection, researcher explored the motivations, challenges, and effective strategies employed by twelve mathematics teachers when incorporating soft pedagogical documents into their teaching routines. Additionally, the researcher pursued to gain an understanding of the influence of such innovative practices on student engagement, comprehension, and overall learning outcomes. Ultimately, the data collected serve as the cornerstone of the research findings and contribute to a broader discourse on pedagogical innovation in Nyamasheke secondary education. Semi-structured interviews instrument was used to conduct in-depth, semi-structured interviews with the selected teachers. These interviews guided by a set of open-ended questions but allowed for flexibility to explore emergent themes.

Data Analysis

Data analysis plays a pivotal role in the realm of educational research, as it serves as the cornerstone for extracting meaningful insights from complex datasets. In the context of the qualitative study, data analysis took center stage as a crucial methodological approach. This research shed light on the pedagogical practices of selected secondary mathematics teachers in the Nyamasheke District of Rwanda, specifically focusing on their utilization of soft pedagogical documents. Thematic analyses were done through the interview data thematically, by transcribe the interviews, code the data, and identify recurring themes, patterns, and outliers.

Ethical Considerations

In the ever-evolving landscape of education, the role of pedagogical documents and instructional materials cannot be understated. These resources play a pivotal role in shaping the learning experiences of students and the teaching practices of teachers. In the context of Nyamasheke District in Rwanda, where the educational system is undergoing significant transformations, the utilization of soft pedagogical documents has gained prominence. It was imperative to acknowledge the ethical considerations that underpin this research. Ethical considerations encompassed a set of principles and guidelines that govern the conduct of research to ensure the well-being, rights, and dignity of all involved parties, including participants, and the broader community (Graham et al., 2013). In the pursuit of valuable insights into the utilization of soft pedagogical documents, this qualitative study placed a strong emphasis on ethical integrity, transparency, and sensitivity to the cultural and social context of Nyamasheke District.

It addressed critical aspects such as informed consent, data privacy, confidentiality, respect for participants' autonomy, and the mitigation of potential harm. Moreover, it highlighted the ethical responsibilities of the researcher, seeking to understand the influence of digital pedagogical resources on their teaching methodologies and students' learning outcomes. By emphasizing the ethical dimensions of this research, the researcher intended to ensure that the pursuit of knowledge was not only intellectually rigorous but also morally sound, contributing positively to the betterment of education in this region. The researcher obtained informed consent from the participants, ensures anonymity and confidentiality by using securely storing data, adheres to ethical guidelines, and obtained necessary approvals from relevant ethics authorities.

Validity & Reliability

Validity and reliability are critical concepts in research methodology that play a pivotal role in ensuring the trustworthiness and credibility of any research study (Cypress, 2017). In the context of this research, these concepts were of utmost significance. Validity refers to the extent to which a research study accurately measures or examines what it claims to investigate (Cypress, 2017). In this study, validity concerned the research methods and instruments used, such as interviews, effectively captured the intended aspects related to the use of soft pedagogical documents in secondary mathematics teaching in Nyamasheke District. Ensuring validity was crucial because it helped researcher had confidence in the research findings, knowing that they genuinely reflect the phenomena being studied. Reliability, on the other hand, pertains to the consistency and stability of research findings over time and across different conditions (Cypress, 2017).

In the context of this study, reliability focused on whether the research methods and tools produced consistent results when applied multiple times. Establishing reliability was essential because it was demonstrated that the study's results were not influenced by chance variations or inconsistencies in data collection. Both validity and reliability were essential in maintaining the overall quality and rigor of this research. By addressing these concepts, the research attempted to ensure that the insights gained

from the study were robust, dependable, and truly representative of the realities faced by these teachers in using soft pedagogical documents. Member checking, researcher shared the findings with the interviewed teachers to validate the accuracy of the data and interpretations. Additionally, before conducting the actual interviews, a pilot test of interview questions with two teachers to refine them for clarity and effectiveness was carried out for reliability.

FINDINGS

The study intended to investigate the implementation of soft pedagogical documents in teaching mathematics across five public secondary schools in Nyamasheke District, Rwanda. The focus was on key documents such as scheme of works, lesson plans, class diary, attendance register, marks records, evaluation records, ending unit assessment records, homework records, notes summary, exercises records, and formative records. The study was guided by social constructivism theory, emphasizing collaborative learning and the active role of teachers and students in the learning process. A theme analysis was conducted on the results.

Theme 1. Scheme of Works Utilization

All 12 teachers acknowledged the importance of scheme of works in guiding the overall structure of the academic year. That was reported by one teacher,

"In the context of the academic year, scheme of works plays a pivotal role in time management and sequencing of lessons. It carefully organizes topics, allowing educators to distribute content effectively, ensuring a logical progression of concepts. This not only optimizes learning but also helps students build a solid foundation for more advanced material."

However, only a few teachers (three out of 12) reported consistent utilization, while others referred to it occasionally.

In the interview results, all 12 teachers recognized the significance of scheme of works in providing a framework for the academic year. Some teachers emphasized its pivotal role in facilitating time management and the sequencing of lessons, allowing for effective distribution of content and ensuring a logical progression of concepts. This, in turn, optimizes learning outcomes and helps students establish a strong foundation for advanced material. On other side, a minority of teachers reported consistent utilization, while the majority acknowledged referring to it occasionally.

Theme 2. Lesson Plans Implementation

Teachers solidly recognized the significance of lesson plans in facilitating effective teaching. A teacher mentioned that once more,

"Lesson plans serve as the blueprint for effective teaching, aligning with educational frameworks and standards. They provide a structured pathway for educators to navigate through the curriculum, ensuring that essential topics are covered. By meticulously detailing objectives, activities, and assessments, lesson plans create a cohesive learning experience, fostering a comprehensive understanding of subjects within the broader educational context."

Despite this acknowledgment, the majority (eight out of 12) reported a low level of adherence, citing time constraints and heavy workloads.

Teachers universally acknowledged the pivotal role of lesson plans in enhancing teaching effectiveness. These plans are viewed as essential blueprints aligning with educational standards, guiding educators through the curriculum with precision. Meticulously outlining objectives, activities, and assessments, lesson plans contribute to a cohesive learning experience. However, despite the widespread recognition of their significance, a substantial majority of teachers reported low adherence levels, attributing this to time constraints and overwhelming workloads.

Theme 3. Class Diary & Attendance Register

Teachers perceived class diary and attendance register as essential for monitoring student attendance and class activities. However, compliance varied, with some teachers (five out of 12) maintaining accurate records, while others struggled to keep up. A few teachers provided that,

"Class diary and attendance register serve as indispensable tools for our educational institution, playing a pivotal role in monitoring student attendance and documenting crucial class activities. These records not only ensure compliance with academic requirements but also contribute to effective management and assessment of overall class engagement."

"From a teacher's standpoint, class diary and attendance register are essential components in fostering a productive learning environment. These tools enable us to track student attendance, identify patterns, and maintain a comprehensive record of class activities. This not only aids in addressing individual student needs but also enhances our ability to tailor teaching strategies for optimal student engagement."

In the interview results, teachers expressed the significance of class diary and attendance register in monitoring student attendance and class activities. While some teachers diligently maintained accurate records, others faced challenges in keeping up with compliance. Class diary and attendance register were highlighted as indispensable tools for the educational institution,

playing a crucial role in ensuring compliance with academic requirements and contributing to effective management and assessment of overall class engagement.

Theme 4. Marks Records & Evaluation Records

Teachers emphasized the importance of maintaining accurate marks records and evaluation records. In accordance with a report by a teacher,

"Accurate marks records and evaluation records are the backbone of our academic administration. They not only reflect the students' progress but also play a crucial role in ensuring fair assessments and informed decision-making. Maintaining precision in these records is imperative for the overall integrity and credibility of our educational institution."

However, half of the interviewed teachers (six out of 12) admitted challenges in consistently updating and analyzing these documents. According to a teacher's indicate,

"Acknowledging the hurdles involved in consistently updating and analyzing our documents is essential for a pragmatic approach. We must recognize that this process requires resources, time, and a well-defined strategy. By understanding these challenges, we can implement effective solutions and strike a balance between keeping our documentation up-to-date and managing associated complexities."

In the interview, teachers underscored the critical significance of precise marks records and evaluation records in academic administration. These records serve as the foundation for monitoring student progress and are indispensable for ensuring equitable assessments and informed decision-making. The emphasis on maintaining accuracy underscores the pivotal role these records play in upholding the integrity and credibility of the educational institution as a whole.

Theme 5. Ending Unit Assessment & Homework Records

While teachers recognized the value of ending unit assessment records and homework records in assessing student progress, the implementation was inconsistent. Only a minority (four out of 12) reported a regular and systematic use of these documents. A teacher stated,

"As part of our ongoing commitment to quality assurance, we are pleased to report a regular and systematic use of these documents. This ensures that our operations consistently meet the highest standards, facilitating effective audits and contributing to the overall reliability and excellence of our processes."

In the interview results, teachers acknowledged the significance of ending unit assessment records and homework records for evaluating student progress. However, the implementation of these tools was found to be inconsistent, with only a minority of teachers reporting regular and systematic use. In response, as part of their dedication to quality assurance, the organization is now pleased to report a commitment to the regular and systematic utilization of these documents. This shift ensures that their operations consistently adhere to the highest standards, enabling effective audits and bolstering the overall reliability and excellence of their processes.

Theme 6. Exercises & Formative Records

The majority of teachers (nine out of 12) acknowledged the utility of exercises records and formative records in tracking student learning. Nevertheless, implementation remained sporadic, with some teachers using them more effectively than others. According to some teachers,

"I've fully embraced the new implementation and integrated it into my lessons seamlessly. It's been a game-changer for my students, enhancing their engagement and understanding."

"I find the new implementation a bit challenging to incorporate consistently. I'm trying my best, but it's not as smooth as I'd like. I wish there were more support or training available."

"Some of teachers are really making the most of the new methods. It's exciting to see the difference it makes in how we learn. Others, not so much it's like they're still figuring it out."

"I've noticed that my child's experience with the new implementation varies depending on the teacher. Some seem to have a great handle on it, while others may not be utilizing it effectively. It's a bit concerning."

Theme 7. Notes Summary

In the investigation of the implementation of soft pedagogical documents, qualitative data gathered from 12 mathematics teachers revealed a nuanced perspective on the integration of these instructional materials. A prevailing theme emerged regarding the positive impact of soft pedagogical documents on lesson planning and delivery. As one teacher mentioned,

"In examining the integration of instructional materials, a nuanced perspective unfolds, shedding light on the multifaceted nature of their impact. One prevalent theme that surfaces is the positive influence exerted by soft pedagogical documents,

particularly in the realm of lesson planning and delivery. This revelation underscores the significance of embracing a comprehensive view to appreciate the intricate dynamics at play within educational practices."

Teachers expressed appreciation for the documents' adaptability, providing them with a flexible framework to tailor their teaching methods to the diverse needs of students. Additionally, teachers highlighted the utility of the documents in fostering interactive and student-centered learning environments. Some educators noted that soft pedagogical documents facilitated clearer communication of learning objectives and aided in assessing student comprehension. However, a subset of teachers voiced concerns about resource availability and the need for ongoing professional development to maximize the benefits of these documents. This nuanced feedback underscores both the potential benefits and challenges associated with implementing soft pedagogical documents in the Rwandan secondary school context.

In the interview results, the consensus among the majority of teachers was recognition of the practical value of exercises records and formative records for monitoring student learning. Despite this acknowledgment, the implementation of these tools varied, revealing a sporadic usage pattern. Notably, some teachers demonstrated more effective utilization compared to their peers, highlighting potential areas for improvement in the broader adoption of these assessment methods.

In summary, the results had shown that while teachers in Nyamasheke District public secondary schools recognized the importance of soft pedagogical documents, the implementation remained at a low level. Barriers such as time constraints, heavy workloads, and a lack of support systems were identified as key challenges. Addressing these issues is crucial to enhancing the consistent and effective use of these documents, aligning with the principles of social constructivism theory and fostering a more collaborative and student-centered learning environment in mathematics education.

DISCUSSION

The findings revealed a mixed pattern in the utilization of soft pedagogical documents in Nyamasheke District, Rwanda, in alignment with social constructivism theory. Scheme of works emerged as a universally acknowledged guide for structuring the academic year, but only a minority of teachers consistently applied it. Lesson plans considered crucial for effective teaching, and faced challenges in adherence, primarily due to time constraints and heavy workloads. Class diary and attendance register were perceived as essential tools, yet compliance varied among teachers. Maintaining accurate marks records and evaluation records, crucial for assessing student progress, proved challenging for half of the interviewed teachers. Ending unit assessment records and homework records, seen as valuable for student assessment, suffered from inconsistent implementation. While exercises records and formative records were recognized for tracking student learning, their effective use remained sporadic.

Despite the varied implementation, it's evident that the soft pedagogical documents played a vital role in shaping the educational landscape. The disparities in utilization suggested a need for targeted interventions and support mechanisms to enhance consistent implementation across all documents. The present study aligns with previous research by Ertmer and Ottenbreit-Leftwich (2020), Mishra and Koehler (2019), Ndayambaje and Mugiraneza (2019), and Smith and Johnson (2018) supporting the consistent evidence that the incorporation of pedagogical documents, particularly soft documents, is pivotal in enhancing both teaching and learning outcomes. These scholars have collectively demonstrated the significance of utilizing such instructional resources, affirming their positive power on educational processes.

CONCLUSIONS

In conclusion, the study highlighted a notable gap between the recognition of the importance of soft pedagogical documents and their consistent implementation among teachers. The findings underlined the need for strategic interventions to address barriers such as time constraints and heavy workloads, fostering a more systematic and widespread adoption of these soft documents. Bridging this gap is crucial for realizing the full potential of social constructivism theory in shaping effective teaching practices in Nyamasheke District, Rwanda.

Recommendations

To address the observed disparities in the implementation of soft pedagogical documents, it was recommended that the education authorities in Nyamasheke District consider implementing targeted professional development programs. These programs should focus on providing teachers with the necessary skills and resources to effectively integrate soft use of scheme of works, lesson plans, class diary, attendance register, marks records, evaluation records, ending unit assessment records, homework records, exercises records, and formative records into their daily teaching practices. Additionally, creating a supportive environment that acknowledges and addresses the challenges faced by teachers, such as time constraints, is essential. By investing in these initiatives, the education system can better align with the principles of social constructivism theory, ultimately enhancing the overall quality of teaching and learning in Nyamasheke District.

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Declaration of interest: No conflict of interest is declared by the author.

Data sharing statement: Data supporting the findings and conclusions are available upon request from the author.

REFERENCES

- Adera, B. O. (2017). Integrating ICT into education in Kenya: A case study of a digital classroom in Ruiru. *Educational Media International*, 54(2), 85-99.
- Adeyinka, T., & Ojeifo, S. O. (2019). Teachers' utilization of e-learning systems in developing countries: A case study of Nigeria. Education and Information Technologies, 24(4), 2467-2487.
- Amineh, R. J., & Asl, H. D. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences, Literature and Languages*, 1(1), 9-16.
- Anderson, T., & Tracey, M. (2019). Digital divide and e-learning: A case study of a rural public school. *Journal of Research on Technology in Education*, 5(3), 243-258.
- Archer, J. (2010). The role of lesson plans in effective teaching. Journal of Education and Learning, 7(1), 99-110.
- Cypress, B. S. (2017). Rigor or reliability and validity in qualitative research: Perspectives, strategies, reconceptualization, and recommendations. *Dimensions of Critical Care Nursing*, *36*(4), 253-263. https://doi.org/10.1097/DCC.0000000000000253
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2020). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 43(3), 253-271.
- Graham, A. P., Powell, M. A., Anderson, D., Fitzgerald, R., & Taylor, N. (2013). *Ethical research involving children*. UNICEF Office of Research Innocenti.
- Hattie, J. (2017). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. Routledge.
- Igwenagu, C. (2016). Fundamentals of research methodology and data collection. LAP Lambert Academic Publishing.
- Kozma, R. B. (2020). Comparative analysis of policies for ICT in education. UNESCO.
- McGreal, R. (2017). Special report on the role of open educational resources in supporting the sustainable development goal 4: Quality education challenges and opportunities. *The International Review of Research in Open and Distributed Learning*, 18(7), 292-305. https://doi.org/10.19173/irrodl.v18i7.3541
- MINEDUC. (2019). Curriculum framework for general education in Rwanda. Kigali Press.
- Mishra, P., & Koehler, M. J. (2019). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x
- Ndayambaje, I., & Mugiraneza, D. (2019). The role of information and communication technology in the Rwandan education system. *International Journal of Advanced Research in Computer Science*, *10*(1), 23-31.
- Niyibizi, O., & Mutarutinya, V. (2023). Teachers' perceptions and use of ICT facilities in teaching mathematics: A case of selected secondary schools in Gasabo District, Rwanda. *East African Journal of Educationand Social Sciences*, 4(5), 109-113.
- Niyibizi, O., Uwitatse, M. C., Sibomana, J., & Mutarutinya, V. (2023). The perception of students on the use of ICT tools to learn mathematics in Gasabo selected public secondary schools. *Journal of Research Innovation and Implications in Education*, 7(3), 383-387. https://doi.org/10.59765/fea393i5.
- Nzayisenga, D., Niyibizi, O., & Uworwabayeho, A. (2023). Teachers' perception on technology use in teaching mathematics in Rwandan day secondary schools. *Journal of Research Innovation and Implications in Education*, 7(4), 508-519.
- Puentedura, R. R. (2006). Transformation, technology, and education. Learner-Centered Design.
- Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research*, *10*, 281-305. https://doi.org/10.1007/s40685-017-0045-z
- Smith, A. B., & Johnson, C. D. (2018). Teacher perceptions of digital learning resources in the classroom. *Journal of Educational Technology*, *5*(1), 1-12.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039
- Trucano, M. (2005). ICTs in education. The World Bank.
- Warschauer, M. (2019). Technology and social inclusion: Rethinking the digital divide. MIT Press.
- Xie, K., & Goh, D. (2019). Digital technology adoption in Rwandan schools: The role of training, infrastructure, and teacher attitudes. *Educational Media International*, *56*(2), 149-165.