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Original Article

Barriers to Effective Blended Learning for Consumer Science in Eswatini's Rural High Schools

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Attitudes.

Blended learning was implemented during the COVID-19 crisis in Eswatini. Learners were forced to adopt a blended learning approach but this might have exacerbated the situation in rural-based Consumer Science schools. The study's objectives were to determine challenges faced by Consumer Science teachers when conducting practical lessons. This study employed the mixed method research and adopted the pragmatism paradigm approach and descriptive survey research. Consumer Science teachers in the Manzini and Shiselweni regions were the target population. A census was used for quantitative data (N =100) and purposive sampling was used for qualitative data (N=10). SPSS (20.1) was used to run frequencies, as well as mean and standard deviation, to analyse the data. The findings of the study are difficult to demonstrate online when conducting practical lessons, and school curriculum should adopt blended learning, The lack of gadgets and the internet for teaching and learning was a challenge with blended learning and with regards to strategies for the solution of blended learning teacher and students needs to be trained in blended learning. In conclusion, a policy for blended learning should be formulated so that blended learning is more supported. A similar study can be done that will involve students.

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INTRODUCTION

Schools all around the world are increasingly using blended learning approaches that combine online

and face-to-face teaching and learning (Horn, & Staker, 2011). The standard of education in most rural schools worldwide has been reported as low,

owing to the geography of the rural areas and the rural-based dynamics which conflicted with learning endeavours (Coombe, 2017). Various scholars have reported learning at rural schools as not being effective. The lack of effective learning at rural schools was thus attributed to the host of challenges that were characterising schools in rural areas. These challenges, which relate to persistent poverty, lack of parental commitment and inadequacy of resources, need to be noted so that educational stakeholders understand how these challenges influence learning, and how best these challenges can be dealt with.

Consumer Science education is the only subject area that focuses on everyday life and meeting basic needs because students learn practical and critical thinking skills that equip them to handle the increasing complexities of daily life (Smith, & Zwart, 2010). Research on blended teaching and learning indicates that blended approaches involve a range of benefits that, however, come at a cost that rural schools find difficult to access. Adediji, & Olaniyan (2011) reveal that the provision of quality and accessible education to rural communities is a worldwide challenge. There is a relative lack of research within rural educational contexts. This necessitates a need for research focusing on rural settings to address this research gap.

In Eswatini teaching and learning activities that have been performed using traditional face-to-face methods have now been shifted to online and or blended learning. All educational institutions in Eswatini were temporarily shut down to contain the spread of the COVID-19 pandemic. The question has been how learners would be able to make up for the period of lockdown since educational systems in the country are structured with definitive calendars. Alternative methods of teaching such as blended learning became useful means to ensure learners access to learning activities during the period of national lockdowns. Lessons were introduced through radio, television and newspaper. While this was a good and innovative response for the country, there remain many students from poor households without digital tools or access to radio or television.

Statement of Problem

The blended learning approach was imposed by the government regardless of the subject, level of study and students' capability to provide required learning materials. This problem aggravates Consumer Sciences as it is a practical subject. The Ministry of Education, Consumer Science teachers and learners were not ready to conduct practical lessons online hence practicals were not part of the radio, newspaper and television lessons. Students from marginalized backgrounds are faced with quite many challenges with blended learning methods (Sheet, 2018). Even with the provision to teach theory lessons online and in other media such as newspapers and radio, challenges were reported. However, one would expect adverse challenges in the practical lessons. Nonetheless, a research gap exists about the effectiveness of blended learning in rural-based Consumer Science high schools in Eswatini, particularly the application of skills that need demonstration and monitoring.

Purpose and Objectives of the Study

The purpose of the study was to explore the impact of blended learning in rural-based Consumer Science high schools in Eswatini.

- Determine the challenges faced by Consumer Science teachers when conducting practical lessons through blended learning in rural-based high schools in Eswatini.

LITERATURE REVIEW

Blended Learning in Eswatini

The Ministry of Information and Communication Technology Strategic Framework (2018) aims to introduce blended learning in all learning areas in the long run (MoET, 2018). Tapera et al. (2023) established that "The coronavirus pandemic has disrupted our way of life and more particularly interrupted our access to education. I am very grateful to the Ministry of Education and Training for their concern about our education and providing us with a new opportunity to learn through radio, TV and newspapers as we prepare for the external Examinations," These were the sentiments of 17-year-old Temakhonkosi a Form 3 student of

Ngcoseni High School, Cana, Eswatini. United Nations Children's Fund supported the Ministry of Education and Training in implementing distance learning through various media including radio, television and other digital learning platforms to mitigate the impact of COVID-19.

Challenges of Blended Learning when Conducting Practical Lessons

Mathews (2019) mentioned that problems when conducting practicals are a lack of flexibility concerning navigation and interface, time-consuming resource development, competence of tutors in technologically aided educating tools and factors affecting the engagement of digital residents. Some performing arts mainly rely on a one-to-one teaching basis and real-time interaction, the conduciveness or necessity for blended learning may be limited because of the additional burden on time for preparation as reported by Colombi & Knosp (2017). Identifying the challenges to learning using learner characteristics, in particular skill requirements, offers the teacher the chance to evaluate the requirements for adjusting learning activities and supporting students (Zhao, & Song, 2021). According to Riel et al. (2016), the results of their study found that the challenges of blended learning are teachers' technological anxiety, complexity and illiteracy, and students' technological illiteracy as the challenges teachers encounter in using online technology for instruction.

Accessibility of Online Lessons in Rural-Based Schools

According to Khanal (2021), in rural areas, internet access experienced by students is not the same. It is tough in all rural areas, they may have access to radio and television but internet access is next to impossible given the kind of environment they are in. He further mentioned that only 17% can access a base (WIFI) and that is too primary in the urban areas and further suggested that education must be uniform in all regions. The change to distance learning suddenly brought more challenges in disadvantaged and rural areas since they have less infrastructure, access, skills to utilize technology and limited guidance from parents and teachers (Indrawati et al., 2020).

Theoretical Framework

This study is anchored on complexity and behaviourism theories. According to Ravitch & Riggan (2012), a theoretical framework is considered to be a systematic way of thinking through and articulating what you plan to study and how you plan to study it. It concerns itself with environments, organizations, or systems that are complex in the sense that very large numbers of constituent elements or agents are connected to and interact with each other in many different ways (Mason, 2008). Complexity theory offers possibilities for thinking about the challenges and opportunities inherent in teaching and many other networked systems in teacher education (Martin et al., 2019). This study is based on blended learning which brought a curriculum change in education from the perspective of complexity theory. Introducing blended learning to teachers who might not be familiar with it might cause possible challenges and changes in behaviour. An insight of complexity theory is this notion of emergence which implies that given a degree of complexity in a particular environment, new behaviours emerge in that environment. The theory of behaviourism claims learning by observation students apply what they viewed or observed and imitate the behaviours as they are presented to them (Pritchard, 2017). Learning occurs resulting from direct experiences by observing teachers' behaviour.

Complexity theory is also based on development and adaptation, so in this study solutions towards addressing the challenges faced with blended learning will require teachers and students to adapt to curriculum change. Further, challenges encountered by teachers when conducting practical was based on the theory of behaviourism. The theory asserts that students learn by observing and then imitating the behaviour presented to them. This can present a challenge with online learning if students are unable to observe the teacher's demonstrations.

METHODOLOGY

This study adopted a mixed methods research approach, which integrates qualitative and quantitative methodologies within a pragmatist paradigm (Gravlee, 2022). This approach enhanced

the study's validity by fostering a deeper and more comprehensive understanding of the effectiveness of blended learning in rural Eswatini Consumer Science high schools. The target population comprised Consumer Science teachers from rural high schools in the Manzini and Shiselweni regions of Eswatini. The sample included 110 participants: 100 teachers for the questionnaire survey and 10 teachers for the interview sessions. For the quantitative component, quota sampling was used to categorize schools into two groups (Shiselweni and Manzini schools). The selection criteria included the school's geographic location (rural area) and the teacher's subject specialization (Consumer Science in high school). Simple random sampling was then employed to select schools from each group for the sample. Purposive sampling was utilized to select interview participants for the qualitative approach.

Phase I (qualitative) employed semi-structured interviews, while Phase II (quantitative) utilized a survey questionnaire to gather data on the challenges faced with blended learning in these rural Consumer Science high schools. Interviews were audio-recorded for data security purposes, with notes taken as a backup. Before the interviews, the researcher contacted potential participants by phone, first to request their participation and then as a reminder the day before the interview. The purpose of the study was also explained during these calls. The recorded interviews were transcribed, with each interview lasting approximately 20 minutes.

A survey questionnaire was developed based on the study's objectives and the literature review. The questionnaires were distributed electronically via WhatsApp to Consumer Science teachers in the selected Manzini and Shiselweni region schools. The online questionnaires were available to the teachers for three days to ensure sufficient time for completion. Mabuza (2025a) discusses Guba's four criteria that he believes qualitative researchers should consider when pursuing a trustworthy study. Data trustworthiness encompasses four key components: credibility, transferability, dependability, and confirmability. Guba's constructs correspond to the criteria employed by positivist researchers: The researcher established credibility by triangulating methods of data collection through

the use of both semi-structured interviews and survey questionnaires. Transferability is established by providing evidence that the research study's findings could be relevant to other contexts, situations, times, and populations. Therefore, the researcher meticulously described the research context and assumptions that were central to the study. To address the issue of dependability, the processes within the study were reported in detail. The researcher ensured in-depth methodological descriptions to allow for scrutiny of the research results' integrity.

In this study, a pilot test was conducted among a group of Consumer Sciences teachers in the Manzini and Shiselweni regions. The reliability coefficient was calculated using Cronbach Alpha $r = 0.92$. The questionnaire was validated by experts from the Consumer Science Department at the University of Eswatini for construct and content validity. Qualitative data was collected through interviews and analysed using thematic Analysis. The researcher closely examined the data to identify common themes, ideas and patterns of meaning that come up repeatedly. Therefore, thematic analysis was useful in this study because it helps to understand the challenges of blended learning in rural-based Consumer Science high schools in Eswatini. For quantitative data, Statistical Package for Social Sciences (SPSS) version 23 was used to compute means and standard deviations.

RESULTS AND DISCUSSIONS

Challenges Faced when Conducting Practical Lessons with Blended Learning

The Consumer Science high school teachers were requested to rate their views on the challenges faced when conducting practical lessons with blended learning in rural-based Consumer Science high schools. The results in Table 1 generally indicate that teachers agreed ($\bar{x} = 4.80$) that there were challenges faced when conducting practicals with blended learning.

Specifically the results indicate that the rural-based Consumer Science high school teachers slightly agreed that the deadlines in blended learning approach projects caused students to fail ($\bar{x} = 4.24$); that their students failed exams because students

could not finish on time with blended learning approach ($\bar{x} = 4.31$); that they got little information on practical lessons through blended learning than through traditional face-to-face learning ($\bar{x} = 4.16$) and that blended learning did not promote self-regulated learning in Consumer Science practical ($\bar{x} = 4.34$)

Furthermore, the Consumer Science teachers agreed that with blended learning government did not have proper channel to broadcast a demonstrated practical lesson ($\bar{x} = 5.22$); that the students did not have access to visuals like YouTube and television ($\bar{x} = 5.07$); that parents were not able to provide ingredients for learners to do practical at home ($\bar{x} = 5.27$); that blended learning approach demanded

students to do practical themselves at home yet they did not have the proper facilities to do practical ($\bar{x} = 5.18$); that assessment of practical was not possible since practical was done at home ($\bar{x} = 5.12$); that the student's interpersonal skills were affected with blended learning ($\bar{x} = 4.54$); that the services that the school provides in blended learning practical lessons were unsatisfactory ($\bar{x} = 4.73$); that the Radio, Television and Newspaper lessons for Consumer Science did not include practical lessons ($\bar{x} = 5.15$) and that the Ministry of Education did not assist in practical lessons with blended learning approach. The overall standard deviation of $SD = 0.832$ indicates that there was insignificant variation in the responses for the Consumer Science teachers.

Table 1: Challenges Faced When Conducting Practical Lessons with Blended Learning in Rural-based Consumer Science High Schools in Eswatini

Challenges	Mean	SD	DE
1. With blended learning the government did not have a proper channel to broadcast a demonstrated practical lesson.	5.22	0.960	A
2. The students did not have access to visuals like YouTube and television.	5.07	0.769	A
3. Parents were not able to provide ingredients for learners to do practicals at home.	5.27	0.839	A
4. Blended learning expected students to do practicals themselves at home yet they did not have the proper facilities to do practical	5.18	0.857	A
5. Assessment of practicals was not possible since practicals were done at home.	5.12	0.757	A
6. The student's interpersonal skills were affected by blended learning	4.54	0.667	A
7. The services that the school provides in blended learning practical lessons were unsatisfactory.	4.73	0.853	A
8. The Radio, Television and Newspaper lessons for Consumer Science did not include practical lessons.	5.15	0.919	A
9. Deadlines in blended learning approach projects caused students to fail.	4.24	0.688	SLA
11. The WhatsApp lessons with my students were mainly theory and did not include practical lessons.	5.11	0.875	A
12. My students failed the practical exams because they could not finish on time with the blended learning approach.	4.31	0.869	SLA
13. I got little information on practical lessons through blended learning than through traditional face-to-face learning.	4.16	0.905	SLA
14. Blended learning did not promote self-regulated learning in Consumer Science practicals.	4.34	0.833	SLA
15. The Ministry of Education did not assist in practical lessons with a blended learning approach.	4.79	0.832	A
Overall Total	4.80	0.832	A
Legend:	Descriptive Equivalent	(DE)	
0-1.4	Strongly Disagree	(SD)	
1.5 -2.4	Disagree	(D)	
2.5 - 3.4	Slightly Disagree	(SD)	
3.5 - 4.4	Slightly Agree	(SA)	
4.5 - 5.4	Agree	(A)	
5.5 - 6	Strongly Agree	(SA)	

The results from the quantitative analysis indicate that teachers agree that there were challenges encountered in the completion of student's projects and practical lessons through the blended learning approach. Similarly, when teachers were interviewed, they also confirmed that they benefited from the use of blended learning. In a way that it was difficult to do practicals online, students' performance in practical lessons was affected, difficult to assist students with practical lessons at home, practical lessons were not part of media lessons, and not all teachers had proper gadgets and platforms to demonstrate and conduct practical online, lack of assistance by school authority when conducting practical online and difficult to assess of practical lessons.

Student's Performance in Practical Lesson was Affected

The findings of the study revealed that with blended learning the student's performance in practical lessons was affected because the practical lesson was not conducted well with blended learning, *"Student's performance in practical lessons was very poor because practical lesson could not be conducted well with blended learning"*, echoed participant 5

Further, teachers pointed out that with blended learning student's performance in practical lessons was affected because time was not enough to do projects so learners could not have enough opportunity to apply practical skills, *"Student's practical performance was tremendously affected because we did not have enough time to do the practical lessons"*, revealed participant 3

Furthermore, teachers share the same experience on students' practical performance being affected by the blended learning approach because there was not enough time to do the practical lesson after lockdown with the face-to-face approach and then due to the inability to conduct practical lessons at home with the online platforms, time factor became a challenge,

"Student's performance in practical lessons was affected a lot, A lot because the practical lessons require more time, you need to first do the theory and then practical so it has affected it in such a

way that they were not done as frequently as they were supposed to be done", expressed participant 9

Lastly, teachers also pointed out that blended learning affected student's performance in practical lessons to the extent that teachers submitted incomplete student's projects as coursework for their final examination which resulted in poor performance in their final examination,

"Yes, it was affected because some of the practical topics were not covered and then the learners had to go for their final examination without having enough practice", submitted participant 10

This study investigated the impact of a blended learning approach on students' practical performance in Eswatini. The findings revealed that practical performance suffered due to the exclusion of practical components from the online learning modules. Students developed negative perceptions towards the online component, likely due to a lack of prior exposure to online learning environments. This aligns with research by Rasheed et al. (2020) who found that students often perceive online learning less favourably compared to traditional face-to-face instruction. Negative perceptions can lead to decreased motivation, persistence, and ultimately, poorer learning outcomes.

The study further identified insufficient time for completing coursework, such as garment construction, as a factor hindering practical performance. Under normal circumstances, students can finalize practical work before deadlines set by the Examination Council of Eswatini. However, rural-based Consumer Science schools faced challenges submitting incomplete student projects due to the blended learning approach, resulting in lower practical exam scores. These schools lacked readily available network connectivity in their areas, further contributing to the performance issues.

The research also highlighted the difficulty students faced in receiving practical assistance from teachers during online learning sessions. This lack of support likely contributed to the observed decline in practical performance. Bowyer, & Chambers (2017) suggest that success in subjects like Consumer Science relies

on shared responsibility between teachers and students to ensure effective online learning. This includes ensuring data availability and fostering open communication channels for students to seek clarification from instructors.

Difficulty to Assist Students with Practical Lessons at Home

The study's findings revealed significant challenges in assisting students with practical lessons during blended learning. A key barrier was resource limitations at home. As Participant 1 stated, *"I was not able to assist students when they were doing practical work at home... I could only assess the theory and not the practical lessons,"* highlighting the inability to provide proper guidance due to a lack of resources. Teachers elaborated on these resource limitations. Participant 2 echoed the difficulty, stating, *"Even if you could [assist], it was not easy... learners could not open [videos] because they did not have enough data... they did not have enough money to buy ingredients."* This quote underscores the combined challenges of limited internet access and financial constraints hindering students' ability to participate effectively in practical components.

Further challenges emerged when utilizing online platforms for instruction. Participant 4 pointed out the difficulty in some students even accessing these platforms: *"It was quite difficult to assist students with their practical lessons... some students could not use and access the online platform."* Finally, the effectiveness of blended learning for practical lessons was called into question due to the lack of necessary resources such as sewing machines and ICT gadgets. Participant 9 summed it up: *"It was not effective... students did not have the gadgets, correct platform to do practical lessons online, and resources such as ingredients and sewing machines."*

The study identified challenges in assisting students with practical lessons conducted at home during blended learning due to the lack of teacher supervision. The home environment often lacks the resources and structure necessary for students to effectively acquire practical skills in Consumer Science, such as cooking and sewing. Mabuza (2020) posits that the learning environment

significantly impacts motivation and learning outcomes. He argues that a well-designed environment fosters a positive learning experience, whereas an unsuitable environment creates barriers. The unsupervised home environment inherently creates such a barrier for teachers to effectively guide students through practical tasks in online Consumer Science lessons. Traditionally, learning occurred in face-to-face settings. However, the emergence of online learning environments presents new challenges, particularly in subjects like Consumer Science where practical skills development is crucial.

The study highlights the difficulty teachers face in assisting students with hands-on activities conducted at home. Furthermore, assessing practical work completed at home presents its own set of challenges. Students may perform these tasks alone or with relatives, without the benefit of direct teacher supervision. Mabuza (2025b) define assessment for learning, or formative assessment, as a collaborative process between teachers and students to gather information on student progress, ultimately used to provide feedback. Blended learning presents difficulties in this area due to the limitations of online instruction for practical lessons. Sending demonstration videos to students requires data access, posing a challenge for both teachers and learners. Data costs in Eswatini are high for both parties, hindering the distribution of instructional videos for home viewing. This aligns with Mabuza's (2018) findings that online learning necessitates resources, such as computers and internet access, which are often beyond the control of educators. While educators may be willing to utilize online environments, affordability remains a significant barrier. The onus of providing necessary facilities typically falls on government and local school authorities. Mabuza further identifies the high cost of data in Eswatini as a major obstacle to online learning. The current study confirms this concern, as the lack of readily available data hinders teachers' ability to share online demonstrations with students during blended learning.

Practical Lesson not Broadcasted in Media Lessons.

The study explored the impact of lockdown restrictions on Consumer Science education in Eswatini. During this period, lessons were delivered through radio, television, and newspapers. However, a significant challenge emerged: practical lessons were not included in these media broadcasts. In Consumer Science, theory typically precedes practical application, allowing students to connect the two for deeper knowledge and skill development. Participant 3 highlighted this issue: *"I noticed that practical lessons in Consumer Science were not part of the radio and newspaper lessons... I had no choice but to just start from where I had ended before lockdown."*

Teachers elaborated on the inherent limitations of media for practical demonstrations. As Participant 4 stated, *"We experienced a lot of challenges... because we did not have time as we had thought that the students had learned the theory from radio and newspapers... only for them to tell you that they never learned practical lessons."* This quote emphasizes the misconception that theoretical knowledge gained through media could substitute for practical experience. Limited access to media platforms further exacerbated learning gaps. Participant 8 revealed, *"We could not consider those lessons [radio/newspaper] because some learners didn't have access... most of them were telling me they don't have a radio, phone, and also that practical lessons were not part of the media lessons."*

The study revealed that practical lessons were absent from the blended learning media modules for Consumer Science. This necessitated a return to in-person instruction to resume practical work interrupted by lockdowns. In subjects like Fashion and Fabrics, sewing a garment to a proper fit is a fundamental requirement for passing the course. Blended learning, as implemented during lockdowns, only allowed students to engage with the theoretical aspects of the subject through media platforms. These platforms delivered home-based learning content specifically designed for external exams in 2021. Elective subjects like Consumer Science were initially published in local newspapers

(Times of Swaziland and Eswatini Observer) before being broadcast on radio and television by Consumer Science teachers. However, all of these learning materials excluded the practical components of the curriculum. The Eswatini General Certificate of Secondary Education - Fashion and Fabrics syllabus (2021) emphasizes the importance of a two-year integrated learning experience encompassing both theory and practical application. The program aims to equip students with practical and theoretical skills, fostering self-reliance and adaptability in a changing society. Knowledge acquisition occurs through formal learning environments like schools, as well as non-formal settings such as family, media, and community (Mabuza, Makhanya, Dlamini & Dlamini, 2024). The abbreviated practical component due to blended learning resulted in some students failing to complete their projects by the deadline, submitting incomplete work to the Examination Council of Eswatini and consequently failing the course. DuPreez et al. (2019) highlight the dynamic and competitive nature of the Consumer Science work environment, which necessitates strong practical skill development.

Teachers Lacked Proper Gadgets and Platforms to Demonstrate and Conduct Practical Online

The study identified limitations faced by teachers themselves in implementing blended learning, particularly for practical lessons in Consumer Science. These limitations went beyond student resource constraints. Participant 5 highlighted the lack of appropriate equipment for themselves: *"There were no proper gadgets... I couldn't conduct practical lessons online... the cell phone is with someone else."* Teachers emphasized the difficulty of demonstrating practical lessons online due to both student and teacher limitations of replicating practical experiences in a purely digital format: *"When we were not at school, it was difficult to demonstrate practical lessons due to improper gadgets for some students..."* Participant 6 said. The high cost of data emerged as a significant barrier. Participant 7 stated, *"The biggest challenge was data... most learners indicated that they were not online because they could not afford to buy data."*

The study identified a lack of student access to gadgets and internet connectivity as a significant

barrier to effective blended learning. Teachers reported that students were unable to bring personal cell phones to school, hindering their participation during online lessons. Furthermore, internet access was limited, with only the ICT department having reliable connectivity. This finding contradicts the results of Mtebe, & Raphael (2013) who found that over 70% of students had access to computers with internet connections. However, their study also identified bandwidth limitations as a challenge for accessing multimedia learning resources (Mtebe & Raphael, 2013). This aligns with Lwoga's (2012) research in Tanzania, which identified slow internet speeds as a major obstacle to adopting technology-enhanced learning. Teachers further highlighted that limited access to gadgets and the internet resulted in low online participation rates. Students cited a lack of internet access, data limitations, or the absence of personal cell phones as reasons for not participating in online lessons. This aligns with Dahmash's (2020) findings regarding students' limited resources for online learning. Students reported a lack of computers and smartphones, indicating that resource limitations negatively impacted their ability to engage in blended learning. Similar challenges were reported by Altunay (2019) who found that students without computers relied on school labs for virtual classes. The study also found that poor internet connectivity presented a significant barrier, consistent with previous research. Studies by Altunay (2019), Hamad (2017), and Ja'ashan (2020) all reported student complaints regarding internet connection issues. Teachers echoed these concerns, highlighting the challenges posed by poor network coverage, limited data availability among students, and unreliable electricity supply. Fluctuations in electricity hindered online access to learning materials, and students reported difficulties keeping their cell phones charged, further impeding their ability to participate in online learning.

Lack of Assistance by School Authority when Conducting Practical Online

The findings of the study revealed that with blended learning there was a lack of assistance by the school authority or Ministry Of Education when conducting practical lessons online, teachers felt like the school authority could have assisted them with data to

enable them to record demonstrations of practical work and possibly share with learners, *"The school authority did not assist me in any way they didn't assist me, I feel like it was going to be fair to be assisted with school Wi-Fi, Laptops and video for practical video recorders"*, expressed participant 1. Further, teachers pointed out they were not assisted by the school authority when conducting practical lessons with blended learning and that they had to fork out money from their pocket to buy data, something that was not in their budget. As the government embraced online learning and further promised to support it, teachers were of the idea that some funds would be reserved for such, *"I did encounter challenges they were not there they were not helping. I did this BL thing from my pocket I didn't get any assistance from the admin even though they promised to help us but it never happened so they were not supportive"*, revealed participant 2

Furthermore, teachers pointed out how they were partly assisted by the school's authority when conducting practical lessons online with blended learning. Teachers revealed that they did receive data from the school principal but only lasted for a week, *"the school principal only assisted us with some few data at the beginning but it was for about a week then they gave up and never assisted us in any way except that data in the first week"*, stated participant 3. Lastly, teachers also pointed out that with blended learning the school administration only focused on the theory lesson and never assisted with the practical lesson, *"In that case, the school was encouraging the theory learning not the practical lessons, they were not helping with the practical lessons"*, echoed participant 10

The study identified a lack of support from school administrators and the Ministry of Education as a barrier to effective blended learning, specifically for practical lessons conducted online. Teachers expressed a desire for assistance with data costs associated with creating online demonstration videos. These videos, if available, could be sent to students' cell phones to enhance their learning experience and potentially improve teaching effectiveness. This aligns with the findings of Skhephe & Mtshatsha (2020) who suggest that

virtual classrooms can serve as a powerful tool for teachers, enhancing their pedagogical skills. Teachers reported a lack of financial support from school administrators for data used during online practical lessons. While a few teachers mentioned receiving data from school authorities, they indicated that the provided amount was insufficient, lasting only a week. This limited data availability significantly hampered the implementation of blended learning in Eswatini. Wilcha (2020) highlights similar findings regarding a lack of teacher support for virtual classroom learning in countries like Canada. This lack of support can contribute to teacher resistance towards adopting virtual learning approaches.

Difficult to Assess Practical Lessons

The study identified significant challenges in assessing practical lessons within a blended learning environment for Consumer Science. Teachers reported an inability to assess practical skills due to the lack of practical components during online learning. Participant 2 stated, *"It was difficult... to assess them [students]... you would end up assessing something that they didn't understand."* Even for projects initiated before online learning, assessment proved problematic. Participant 4 revealed, *"It was very difficult to assess students' practical lessons... some did not finish their projects due to lack of sewing equipment at home."* The study also found a lack of suitable online assessment tools for practical skills. Teachers relied on traditional methods that were not well-suited to the blended learning format. Participant 5 stated, *"There was nothing that we could do because we had to follow the assessment procedure... there was nothing, especially in the food [practical lessons] they were doing."*

The study identified challenges in conducting practical Consumer Science lessons online within a blended learning framework. Demonstrating skills effectively through online platforms proved difficult. Chandraiah (2021) emphasizes that technical subjects like Consumer Science rely heavily on practical skill application, traditionally taught through laboratory demonstrations. However, blended learning limited student access to labs and potentially essential equipment like sewing machines and stoves at home, hindering the teaching

and learning process. This aligns with findings from Safford, & Stinton (2016) who explored the opportunities and challenges of distance education in secondary Family and Consumer Science programs. Their research revealed that Consumer Science instructors, accustomed to teaching hands-on skills, face difficulties in online environments. Certain Consumer Science topics are inherently difficult to teach online and require face-to-face interaction for effective learning. This is further supported by Wangdi et al. (2021) who posit that successful Consumer Science instruction necessitates direct interaction with people or objects, such as lab equipment and machinery. The lack of such integration can significantly impede teaching effectiveness.

SUMMARY AND RECOMMENDATIONS

This study investigated the impact of blended learning on students' practical performance in Consumer Science courses in Eswatini. The findings revealed several challenges that negatively affected learning outcomes. Blended learning modules excluded practical components, hindering students' development of essential skills. This is particularly problematic for Consumer Science, where hands-on experience is crucial. Delivering practical content online proved challenging due to the lack of proper resources and supervision. Teachers struggled to create effective demonstrations, and students faced difficulties accessing and completing practical work at home. Lastly, assessing practical skills acquired through blended learning was difficult. The lack of proper online tools and limited opportunities for practical work made accurate evaluation challenging. Based on the identified challenges, the following recommendations are proposed: the Ministry of Education need to redesign blended learning modules to incorporate practical activities that can be effectively conducted at home. This may involve providing clear instructions, downloadable resources, and alternative assessment methods. There is also a need to provide teachers with training on effectively delivering practical content online. This could include creating engaging video demonstrations, utilizing online collaboration tools, and fostering student communication during practical tasks. And, addressing the issue of limited student access to gadgets and internet connectivity.

Explore solutions such as providing loaner devices, subsidizing data costs, or establishing designated learning centres with proper resources.

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