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AN ANALYSIS OF ATTITUDE OF SENIOR SECONDARY SCHOOL TEACHERS' TOWARDS VIRTUAL MATHEMATICS TEACHING IN KWARA STATE, NIGERIA

BY

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Abstract

Despite the growing importance of virtual teaching as a response to global educational disruptions and the increasing integration of digital technologies in classrooms, the effective implementation of virtual Mathematics teaching in Nigerian secondary schools remains a concern. In Kwara State, where infrastructure and teacher preparedness vary significantly, there is uncertainty about how well senior secondary school teachers have embraced this pedagogical shift. While virtual teaching offers flexible, scalable, and innovative means of instruction, its success heavily depends on the attitude of teachers, who serve as the primary drivers of its adoption. However, there is limited empirical evidence on whether these teachers possess a positive or negative disposition toward teaching Mathematics virtually, especially considering factors such as gender and teaching experience. This study seeks to fill this gap by analysing the attitudes of senior secondary school teachers in Kwara State towards virtual Mathematics teaching and exploring whether significant differences exist based on demographic characteristics. This study employed a descriptive survey design to assess senior secondary Mathematics teachers' attitudes toward virtual teaching in Ilorin, Kwara State. A multi-stage sampling technique was used to select 145 teachers from ICT-equipped schools. Data were collected using a structured questionnaire and analyzed using percentages, t-test, and ANOVA. Result of the finding indicates that the attitude of senior secondary school teachers towards virtual Mathematics teaching was positive. Result further revealed that there was a statistically significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching based on gender. Result shows that there was no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching based on years of teaching experience. Senior secondary school teachers in Kwara State showed a positive attitude toward virtual

Mathematics teaching, with gender differences favoring males, but no variation based on experience. To enhance virtual teaching, stakeholders should provide continuous training, support female teachers with targeted development, and implement inclusive capacity-building for all experience levels.

Keywords: Attitude, teachers, virtual, teaching, mathematics

Introduction

Education's primary goal is to equip students with the knowledge, abilities, and mindsets necessary for success in a changing society. Science, technology, math, and engineering education are essential for achieving this kind of achievement (Odeyemi & Ayilara, 2022). In many branches of science and technology, mathematics is viewed as the vernacular used to depict the problems that are emerging. Because of this, the topic is a core and required course in secondary schools in Nigeria (FRN, 2004; Udofia, et al. 2021). However, students' performance in mathematics exams administered by the Unified Tertiary Matriculation Examination (UTME), National Examinations Council (NECO), West African Examinations Council (WAEC), and National Business and Technical Examinations Board (NABTEB) is not encouraging, despite the significance of mathematics to Nigeria's technological advancement (Babatunde, 2023; Onebunne, 2023; Chinaemerem, et al. 2023). The abstract nature of the topic, the teacher's personality, bad teaching methods, and lack of enthusiasm are some of the main causes of students' subpar performance in mathematics. One solution to the previously mentioned issue of students' subpar performance in scientific classes is the virtual classroom. A virtual classroom is an online learning environment where students and teachers communicate. Nnamdi-Eruchalu (2022), who supported this description, a virtual classroom is one in which students and teachers have visual interaction virtually, simulating in-person instruction. According to Akarika, et al. (2021), it is a setting for teaching that is part of a computer-mediated communication system. Assignment folders, audio features, blogs, chat rooms, video components, simulation tools, grading books, emails, online calendars, tests, and quizzes are some of the features and compositions that make virtual classrooms crucial to teaching and learning processes (Ajamu, et al. 2023; Oladimeji, 2025).

For teaching and learning science-based subjects, virtual environments are thought to be appropriate (Odoh, et al., 2021; Ibrahim, et al. 2024). A well-executed virtual classroom has significant implications for both teaching and learning since it increases teacher productivity and student engagement in the course material. Like a traditional classroom system in the real world, students actively participate in

synchronous instruction in a virtual classroom, which means that both the teacher and students are logged in at the same time. According to Emeka, et al. (2021), a virtual classroom is a teaching-learning environment in which people can communicate online with a tutor and electronic learning resources. It can also be viewed as an online communication between the moderator, who may be a teacher, and the participants, who are students. It is a setting for instructions to be given that is part of a computer-mediated communication system (Akarika, et al. 2021). A virtual classroom is an online platform that enables educators to interact with their students and exchange educational resources. Although both synchronous learning and virtual classrooms encourage individual learning, they are tied to traditional face-to-face instruction (Gherheș, et al. 2021).

Virtual classrooms have been around for decades, especially in industrialised nations where the educational system has successfully incorporated them (Pregowska, et al., 2021). To give students flexible access to education, post-secondary schools in Nigeria that offer distance learning programs frequently use virtual classrooms (Shah, et al. 2022). Nigerian primary and secondary schools have begun using virtual classrooms because of the COVID-19 pandemic. During the COVID-19 epidemic, when all school activities were suspended and privileged kids were taught from home via virtual classroom, the usage of virtual classrooms for secondary and primary school pupils became essential. Many students, particularly those from private schools, were preparing for WAEC through virtual classrooms, even though it was an innovation that was required by the Covid-19 epidemic (Adeyanju, et al. 2022).

Virtual classroom choices are becoming more common to improve teachers' lesson delivery and, eventually, students' performance. Since the pandemic, many schools have embraced virtual teaching more and more (Olanrewaju & Afolabi, 2022). Teachers of mathematics can now select between traditional teaching methods and virtual teaching methods. The COVID-19 pandemic had a big impact on educational systems. To stop the spread of illnesses, schools were shut down, and teachers had to switch to remote learning via online courses (Hassan, 2021). Since the epidemic was unexpected and unplanned, most teachers found it challenging to adjust to using virtual classrooms, particularly those who knew very little or nothing about them. Nevertheless, it is clearly clear that virtual classrooms are here to stay as a teaching and learning tools. As a result, teachers must be well-versed in the ins and outs of using virtual classrooms. To avoid being taken off guard like during the COVID-19 pandemic, this is essential. The pandemic's unanticipated disruption of traditional classroom instruction brought to light the pressing need for adaptable teaching strategies, especially the incorporation of virtual platforms into the delivery of education. In this regard, senior secondary school teachers' attitudes are crucial to the successful implementation and long-term viability of virtual classrooms. How well distant learning can be implemented depends greatly on their

preparation, openness, and willingness to accept technology-driven instruction, particularly in areas like mathematics that have historically relied on in-person interaction.

An additional important component in the study is the way maths teachers feel about using virtual classrooms. The definition of attitude is simply preparedness for reaction, which includes both good and negative thoughts and feelings about a certain thing or concept (Pham, 2021). Because it has a significant impact on their everyday classroom practices, including the choice of teaching strategies, it is imperative to examine teachers' attitudes towards teaching mathematics. In turn, these teaching decisions have a big influence on how students feel about maths (Ukobizaba, et al. 2021). Additionally, teachers' attitudes and the methods they use to educate have a big impact on how pupils feel about arithmetic, especially when it comes to math anxiety. Students are more prone to acquire negative attitudes when teachers' strategies don't address or reduce this worry, which can then affect how well they perform in the topic (Busari, et al. 2023).

However, due to their circumstances, primary school teachers have been the subject of a large portion of the research on teachers' attitudes towards teaching mathematics. These educators oversee instructing students in a variety of areas, not just maths (Tunde, 2021). Because of this, they might not always view mathematics favourably and might even be deficient in the mathematical knowledge and problem-solving abilities needed for efficient instruction (Alhassan, et al. 2024). Furthermore, because it is closely linked to attitudes towards mathematics, the degree of problem-solving proficiency has an indirect impact on teaching strategies in addition to a direct one (Wakhata et al., 2024). Consequently, a lack of passion for mathematics and/or inadequate mathematical knowledge and abilities may have a detrimental effect on secondary school teachers' attitudes towards teaching the subject (Smedsrud, et al. 2022). Additionally, if instructors receive the right training, their attitudes towards mathematics and mathematics instruction might alter (Assem, et al. 2023).

Consequently, Osiesi, et al. (2022) claimed that personal achievements, particularly after professional training, have a significant influence on teachers' attitudes towards teaching mathematics. Additionally, important factors like the gender of the teachers and the number of years they have been teaching moderate the attitudes. Gaining understanding into the ways in which these variables interact will help improve the efficacy of online learning in mathematics instruction in a variety of learning contexts. A key element that could influence the uptake and efficacy of online education in schools is the gender of the teachers. Teachers' judgements and performance in computer-based and traditional manual evaluations have been found to be significantly influenced by gender (Hamzaoui, et al. 2024). This effect also extends to the efficacy of online instruction, as gender greatly influences how educators interact with and encourage learning via digital platforms. In addition to

being a modulator of instructors' self-efficacy, desire for teaching, and attitudes towards virtual learning, gender is thought to be a powerful predictor of human behaviour in social situations. Otutu (2023) argued that women in Nigeria are frequently marginalised in comparison to their male coworkers, a discrepancy that can hinder their ability to grow in their careers. Notwithstanding these difficulties, their attitude towards their profession is not always impacted by this marginalisation. According to Bolzani, et al. (2021), this marginalisation frequently leads to women being perceived as having less professional expertise and competence. Their perceived competence in the job may suffer because of their inability to acquire the same degree of expertise as their male counterparts due to unequal chances and resources.

Teachers' views on virtual learning are often influenced by their years of teaching experience, which is closely linked to the idea of gender. Teachers' confidence in their skills, preferred approaches, and engagement with and adaptation to digital learning environments are often shaped by their cumulative experience (Vergara-Rodríguez, et al. 2022). Therefore, compared to new instructors, seasoned educators are typically more likely to exercise control in the classroom, especially when engaging with pupils and making decisions about education (Akmad, et al. 2025). This inclination results from their wealth of experience, which frequently causes them to give precedence to customs and procedures that they feel are most successful in controlling classroom dynamics and directing student conduct (Burden, 2025). One of the most important things that experienced teachers look for when they visit a class for the first time is the formation of classroom management. It is believed that seasoned educators have amassed many years of experience as well as a wide range of classroom techniques and skills, which allow them to carefully prioritise assignments and concentrate on important facets of classroom management. They can also use strategies like formative assessment and differentiated instruction to meet the needs of different students and improve learning outcomes (Rajak & Dey, 2025).

The educational landscape has changed dramatically, especially in mathematics education, because of the quickening pace of technological breakthroughs and the growing desire for virtual learning. Additional difficulties arise in a virtual learning environment because mathematics is a topic that requires active participation and problem-solving skills. Furthermore, the acceptance and sustainability of virtual teaching techniques are greatly influenced by attitudes towards the practice, which are influenced by training, experience, and perceived benefits. It is challenging to draw broad conclusions about the efficacy of virtual instruction due to these disparate elements. Given the limited studies exploring these interrelated dimensions in Kwara State, this study is justified as it seeks to analysis of attitude of senior secondary school teachers towards virtual mathematics teaching in Kwara State, Nigeria.

Statement of the Problem

Numerous studies have shown that virtual learning environments improve students' academic performance, especially in science-based topics, and their integration into education has accelerated globally. According to research by Mahmoud and Zoltan (2009), Gambari et al. (2014), Falode (2016), and others, students who were taught in virtual classrooms and laboratories outperformed those who were taught in traditional classrooms and labs. The educational efficacy of virtual platforms in improving students' comprehension and memory of scientific concepts is supported by these studies. However, many of these studies were carried out outside of Nigeria or in fields other than mathematics, and they have mostly concentrated on student results. Falode et al. (2015) conducted one of the few studies in Nigeria on the subject in Minna and found that the Virtual Mathematics Classroom Package (VMCP) greatly enhanced students' mathematical performance and was suggested for additional use by both teachers and students. The study mostly focused on student performance and the efficacy of the teaching package, with little attention paid to the attitudes of the teachers towards virtual mathematics instruction, even if it showed the educational advantages of virtual learning in mathematics. It is crucial to comprehend how teachers view virtual mathematics training because they are essential to the acceptance and effective use of any instructional innovation. The opinions of senior secondary school teachers in Kwara State regarding the use of virtual platforms for teaching mathematics are still not well understood. This study, therefore, seeks to fill this gap by analyzing the attitudes of senior secondary school teachers in Kwara State towards virtual mathematics teaching.

Research Questions

1. What is the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria?

2. Is there any difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on gender?

3. Is there any difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on years of teaching experience?

Research Hypotheses

H_{01}: There is no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on gender.

H_{02}: There is no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on years of teaching experience.

Methodology

The research design used in this study was a descriptive survey. The design works well because it enables the researcher to gather information from a sample of respondents to examine their perspectives, experiences, and difficulties with workplace learning in the digital age.The population for this study comprises all teachers in senior secondary schools in Ilorin, Kwara State, while the target population were all the Mathematics teachers in public and private secondary schools in Kwara State. The research involves a multi-stage sampling process to ensure a representative selection of schools and Mathematics teachers across Ilorin, Kwara State. Out of the three Local Government Areas (LGAs) in Ilorin, Kwara State, one was selected for the first phase. Only schools having the requisite technological infrastructure were taken into consideration for additional sampling, and the selection of schools was based on the availability of ICT facilities. In the second phase, secondary schools with ICT facilities within the chosen LGA were found using purposive sampling. This stage was essential for concentrating on educational institutions that could support virtual learning environments. By ensuring that only schools with operational ICT capabilities are included, the purposive sample technique offers a more realistic evaluation of the ways in which these resources affect mathematics instruction and learning. Simple random sampling was used to choose maths teachers when schools with ICT resources were identified, guaranteeing that all qualified teachers had an equal chance. A proportionate sample was taken from among the 145 Maths teachers in Ilorin, Kwara State's public and private schools (Kwara State Ministry of Education & Human Capital Development, 2024). Although the sample size varied by LGA, it included a sizable percentage of ICT-equipped schools, offering insights into the ways in which these resources affected maths instruction and student performance. The final sample of Mathematics teachers was determined based on the number of schools with ICT facilities and the number of teachers in those schools. The questionnaire that was used to collect data on senior secondary school teachers' attitude towards virtual teaching of mathematics in Kwara State was titled "Teachers' Attitude towards Virtual Teaching and Learning of Mathematics Questionnaire (AVTLMQ)". The questionnaire was divided into two sections A and B. The Section A was used to elicit information on the demographic characteristics of the respondents. This section gathered information on respondents' personal information such as basic personal information like gender and years of teaching experience. The second section contained questions that were used to measure teachers' attitude towards virtual learning in mathematics. The section B contain fifteen (15) items based on the research topic. The response pattern for the Section B was based on four points Likert scale of Strongly Agree

(SA = 4 points), Agree (A = 3 points), Disagree (D = 2 points), and Strongly Disagree (SD = 1 point). Percentages were used to answer research question 1, while research hypotheses would be tested using the independent t-test and One-way ANOVA, all at 0.05 alpha level.

Research Question 1: What is the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria?

To answer one question of this research, responses of the teachers to items that addressed attitude of senior secondary school teachers towards virtual Mathematics teaching were collated and subjected to percentage analysis. The minimum score, maximum score and range score of the respondents were 15, 60 and 45. The range was divided by the three attitudes of senior secondary school teachers towards virtual Mathematics teaching (negative, ambivalent and positive) and the cut off was 15. Scores between 15 – 30, 31 – 45, and 46 – 60 are categorized as negative, ambivalent and positive attitude of senior secondary school teachers towards virtual Mathematics teaching respectively. The result is presented in Table 1.

Table 1:

Percentage Analysis of the Attitude of Senior Secondary School Teachers' towards Virtual Mathematics Teaching in Kwara State, Nigeria

Attitude towards Virtual Mathematics Teaching	Range	Frequency	Percentage (%)
Positive	46 – 60	92	63.4
Ambivalent	31 – 45	52	35.9
Negative	15 – 30	1	.7
Total		145	100.0

Source: Researcher Field Study, 2025

The data presented in Table 1 provides a percentage analysis of senior secondary school teachers' attitudes toward virtual Mathematics teaching in Kwara State, Nigeria. Out of the total 145 teachers surveyed, a substantial majority of 92 teachers, representing 63.4%, exhibited a positive attitude toward virtual Mathematics instruction, suggesting a general openness and willingness among teachers to embrace digital modes of teaching. Additionally, 52 teachers, accounting for 35.9%, showed an ambivalent attitude, indicating a level of uncertainty or mixed feelings about virtual teaching, which may stem from factors such as limited technological proficiency, infrastructural challenges, or lack of adequate training. Notably, only one teacher (0.7%) demonstrated a negative attitude, reflecting minimal resistance or rejection of the virtual teaching approach. Overall, the data implies a predominantly favourable disposition among secondary school Mathematics teachers toward virtual learning, with a significant portion remaining on the fence,

potentially requiring further motivation or support to fully adopt virtual teaching methods.

H_{o1}: There is no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on gender.

The result is reported based on the independent variable of gender in Table 2.

Table 2:

Independent t-test Analysis of the Difference in the Attitude of Senior Secondary School Teachers' towards Virtual Mathematics Teaching in Kwara State, Nigeria based on Gender

Gender	N	Mean	Std.	df	Cal. t-value	Sig. (2-tailed)	Decision
Male	79	49.13	5.84	143	2.19	.03	**H_{O1}:** Rejected
Female	66	47.11	5.17				

ρ < 0.05 Source**:** Researcher Field Study, 2025

Table 2 presents the result of an independent t-test analysis examining gender differences in the attitude of senior secondary school teachers toward virtual Mathematics teaching in Kwara State, Nigeria. The analysis compares the mean scores of males (N = 79, Mean = 49.13, Std. = 5.84) and female (N = 66, Mean = 47.11, Std. = 5.17) teachers. With a calculated t-value of 2.19 and a significance level (p-value) of 0.03, which is less than the alpha level of 0.05 ($\rho < 0.05$), the null hypothesis (HO1) stating that there is no significant difference between male and female teachers' attitudes is rejected. This indicates that there is a statistically significant difference in attitude based on gender, with male teachers demonstrating a more positive attitude toward virtual Mathematics teaching than their female counterparts. The result suggests that gender plays a role in shaping teachers' receptiveness to virtual teaching, potentially influenced by differing levels of confidence, exposure, or comfort with digital tools.

H_{o2}: There is no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on years of teaching experience.

The result is reported based on the independent variable of gender in Table 3.

Table 3:

ANOVA Summary Analysis of the Difference in the Attitude of Senior Secondary School Teachers' towards Virtual Mathematics Teaching in Kwara State, Nigeria based on Years of Teaching Experience

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.	Decision
Between Groups	147.10	2	73.55	2.38	.11	H_{O2}
Within Groups	4396.70	142	30.96			Not Rejected
Total	4543.79	144				

$\rho > 0.05$

Table 3 presents the ANOVA summary analysis of differences in the attitude of senior secondary school teachers toward virtual Mathematics teaching in Kwara State, Nigeria, based on their years of teaching experience. The analysis shows that the between-groups sum of squares is 147.10 with 2 degrees of freedom (df), resulting in a mean square of 73.55. The within-groups sum of squares is 4396.70 with 142 degrees of freedom, yielding a mean square of 30.96. The calculated F-value is 2.38 with a significance level (p-value) of 0.11. Since the p-value (.11) is greater than the 0.05 threshold ($\rho > 0.05$), the null hypothesis (HO2), which states that there is no significant difference in attitude based on years of teaching experience, is not rejected. This means that the number of years teachers have spent in the profession does not significantly influence their attitude toward virtual Mathematics teaching. Therefore, regardless of whether a teacher is newly employed or has many years of experience, their disposition toward virtual teaching appears to be relatively consistent across experience levels.

Discussion of the Findings

Result of the finding indicates that the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria was positive. The positive attitude observed among senior secondary school teachers in Kwara State may be attributed to increasing awareness and gradual integration of digital tools in education. Teachers might have recognized the benefits of virtual teaching, such as flexibility, access to diverse resources, and the potential to enhance student engagement. Additionally, professional development initiatives and training programs in the state could have helped build teachers' confidence and interest in virtual teaching platforms. The finding that senior secondary school teachers in Kwara State, Nigeria, exhibit a positive attitude toward virtual Mathematics teaching is supported by several studies. For instance, a study by Salawu et al. (2022) involving 255 Mathematics teachers in Kwara-Central revealed that teachers are aware of and have positive perceptions of ICT resources for teaching and learning Mathematics. The study also found that these perceptions are not dependent on their years of teaching experience.

Similarly, Ebire (2020) examined teachers' perceptions of using ICT as an instructional tool in Science and Mathematics within Nigerian secondary education. The study found that perceived usefulness had the strongest impact on behavioral intention and attitude toward the use of ICT tools by teachers. However, it also

highlighted challenges such as outdated government policies and inadequate skills among teachers in using ICT tools. Contrastingly, a study by Ukah and Odey (2018) in Cross River State found no significant influence of Mathematics teachers' attitude towards ICT facilities on their teaching effectiveness. The study recommended providing basic training and facilities like electricity to stimulate a positive attitude in Mathematics teachers and enable them to utilize available ICT facilities. Result further revealed that there was a statistically significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on gender. The significant difference in attitudes between male and female teachers could stem from differences in exposure, confidence, or familiarity with technology. Male teachers may generally have more access to or interest in digital devices and online teaching tools, leading to a more favourable attitude. Societal or cultural factors might also play a role, where males are often encouraged to explore technological innovations more than their female counterparts. This finding is supported by several studies. For example, Nizoloman's (2019) study in Bayelsa State found that male instructors had more favourable opinions on the use of ICT in the classroom than did their female counterparts. Onwuagboke et al. (2014) found that there was a statistically significant difference in the mean ICT utilisation scores of male and female teachers in Southeastern Nigeria. The study concluded that teachers' levels of ICT use are influenced by their gender.

Gambari et al. (2016), on the other hand, did not discover any appreciable gender disparities in ICT attitudes. Male and female instructors' opinions about using the internet for teaching, for instance, were identical, according to a study conducted in Niger State, indicating that gender may not necessarily be a determining factor. These conflicting results show how complicated the variables affecting instructors' opinions on online instruction are, and they imply that although gender may play a big role in some situations, it might not be the case everywhere. Result shows that there was no significant difference in the attitude of senior secondary school teachers towards virtual Mathematics teaching in Kwara State, Nigeria based on years of teaching experience. The lack of a significant difference based on teaching experience suggests that teachers, regardless of how long they have been in the profession, are equally adapting to virtual teaching. This outcome may indicate that the shift toward digital education is being embraced across all experience levels, possibly due to the widespread impact of events like the COVID-19 pandemic, which necessitated virtual instruction and prompted uniform exposure and adaptation among both novice and veteran teachers. This finding is supported by several studies. For instance, a study conducted by Ikwuka, et al. (2020) in Onitsha North Local Government Area of Anambra State revealed that teachers' attitudes towards the use of Information and Communication Technology (ICT) for

instructional delivery did not significantly differ based on teaching experience. The research indicated that teachers, regardless of their years of experience, were comfortable and skilled in using ICT tools for teaching purposes.

Similarly, research by Kale and Goh (2014) in Orlu Education Zone found no significant difference in teachers' positive attitudes towards the use of digital technologies for capturing students' data, irrespective of their years of teaching experience and location. The study emphasized the importance of organizing ICT-related seminars for teachers to enhance their skills and attitudes towards utilizing digital technologies. On the other hand, a study by Bada and Adebanke (2015) in Ondo State found that there was a substantial variation in secondary school teachers' views towards ICT generally, with factors like age, subject discipline, gender, and years of experience affecting their opinions. This implies that teachers' attitudes towards ICT integration may be influenced by their prior teaching experience in specific situations. These contradictory results demonstrate that whereas some research suggests that teaching experience has no discernible impact on attitudes towards virtual instruction, other studies suggest that experience may matter, contingent on the circumstances and factors at play.

Conclusion

In conclusion, the findings of the study indicate that senior secondary school teachers in Kwara State generally hold a positive attitude toward virtual Mathematics teaching, reflecting a growing acceptance of digital instructional methods. However, the presence of a statistically significant difference in attitude based on gender suggests that male teachers are more inclined toward adopting virtual teaching approaches than their female counterparts, possibly due to differing levels of technological confidence or access. Conversely, the lack of a significant difference based on years of teaching experience implies that both new and experienced teachers are equally adapting to virtual teaching environments, highlighting a shared willingness to embrace modern educational practices regardless of tenure in the profession.

Recommendations

1. To maintain and improve virtual mathematics teaching practices throughout schools, education stakeholders—including the Ministry of Education and school administrators—should build on the current favourable attitude by offering ongoing training, technical assistance, and resources.

2. To help female teachers overcome the gender gap in attitudes towards virtual teaching, targeted professional development programs should be set up with an emphasis on enhancing their competence and confidence in using digital tools.

3. Since teachers of all experience levels show comparable attitudes towards virtual instruction, programs for unified capacity-building should be created that accommodate both new and seasoned educators, encouraging cooperation and mutual learning in the implementation of virtual teaching techniques.

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