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Modeling basic school teachers acceptance of instructional technology in advancing mathematical pedagogy in Ghana

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ABSTRACT

In this study a modified technology acceptance model (TAM) was used to examine factors that determine information and communication technology (ICT) adoption in junior high school (JHS) mathematics classrooms in Ghana. The study purely employed a quantitative research method. A cross sectional survey was conducted using 180 basic school mathematics instructors in the Kumasi Metro using a questionnaire. Multiple stepwise regression was used as the statistical technique to analyze the data. The study found that usage training, perceived ease of use (PEU), perceived usefulness (PU), and attitude towards use (ATU), had a direct and positive impact on the JHS mathematics instructors' intentions to utilize ICT for academic purposes. It was likewise concluded that the perceived ICT usefulness was found to be the most influential factor for the instructors' intention to utilize ICT. The significant effect of usage training was statistically supported against the original TAM constructs utilized in this study. Also, the result from the study further reveals that mathematics facilitators intension to use ICT is not merely based on PEU, PU, and ATU, but fostered through educational culture to train their teaching staff in order to increase their competence and ability to use the instructional technology for academic purposes.

Keywords: JHS mathematics teachers, technology acceptance model, technologies in mathematics education, usage training

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INTRODUCTION

In bridging the gap between mathematical abstraction, visualization, and its application in this physical environment, the use of information and communication technology (ICT) with a keen interest in instructional technologies had proven vital in most recent decades (Das, 2019; Kushwaha et al., 2014). Numerous works by researchers have assessed the advantages of utilizing instructional technology in mathematics education globally (Bakar et al., 2009; Kushwaha et al., 2014). Most of them advocate that advanced technologies use in recent modern mathematics classrooms can give learners the chance to participate in "augmented experience". To this extent, perfecting ICT skills, competence, and using instructional technology towards establishing an improved educating climate is of most extreme significance to instructors in making another learning society in the 21st century (Davis, 2018; De Beukelaer, 2014). The National Council of Teachers of Mathematics (2000) posits that ICT is vital in mathematics education.

Additionally, some researchers (Balacheff & Kaput, 1996; Teo, 2011a) have talked about the effect of technological power on mathematics education. The force of instructional technology prompts principal changes in mathematical instruction, for instance, the capacity to put up and run complex mathematical models. It is likewise announced that more vulnerable learners often are better ready to prevail with the assistance of mathematical technology, and consequently come to perceive that mathematics is not only for their more capable schoolmates (Mata et al., 2012).

Research has now been shifted from the benefit of instructional technology in teaching and learning to how these various technologies can be diffused into teaching and learning by investigating into models or theories that can predict technology usage (Davis et al., 1989; Davis & Venkatesh, 1996; Koehler et al., 2013). Even though there is more literature accessible about the potential of instructional technologies that can assist how mathematics is educated, there is little data accessible about how instructional technology is accepted by mathematics teachers.

Even if there is, to our best of knowledge, most of these pieces of literature mostly concentrated at senior high schools and tertiary levels in Ghana, neglecting the junior high school (JHS) level which is the foundation of education in the country. The emphasis on teachers' utilization of instructional technology to promote effective mathematics education at all levels in the Ghanaian educational setting is of high priority to stakeholders, administrators, and the government of Ghana.

However, the acceptance of such mathematical technologies among mathematic teachers is inadequate. To predict the utilization of technology in education, the technology acceptance model (TAM) had generally been researched in the last two decades. This exploration research seeks to tests TAM in the Ghanaian JHS mathematics settings.

LITERATURE REVIEW ON ICT IN GHANA

The steady growth of ICT in Ghana may be attributed directly to the ICT for accelerated development policy (ICT4AD) formulated more than a decade ago. The principal idea behind the ICT4AD was to utilize ICT to change the economy of Ghana into an information base and a knowledge-driven one (Ministry of Education, 2008). To work in a cooperative use of ICT, the strategy orders all areas of the Ghanaian economy to draft their ICT strategy structures that are in line with the objectives and ambition of the public ICT strategy. The Ministry of Education in this manner comes out with the ICT in education policy structure report in 2008 to provide an optimistic plan and grounds for the efficacious incorporation of ICT into the educational settings. The fundamental objective of the ICT in education strategy is to guarantee that alumnus from Ghanaian educational organizations can utilize ICT devices certainly and imaginatively to foster the imperative abilities expected to work adequately in the worldwide information economy by 2015.

However, the use of instructional technologies in the Ghanaian educational sectors is relatively low (MOE, 2009). The Ministry of Education (2009) reveals that the minimal use of technology is due to inadequate pedagogical skills required by Ghanaian teachers to supplement traditional teaching with instructional technology. In line with the technological pedagogical skill needed for successful integration of ICT in instruction. Boakye and Banini (2008) reveal that ICT usage training for academic purposes is low. Even though in-service mathematics facilitators have fundamental knowledge about instructional technologies that can promote effective teaching and learning mathematics, the knowledge required to blend content, pedagogy, and technology in instruction is highly lacked (Agyei & Voogt, 2011; Apeanti, 2014).

According to (Apeanti, 2014), some instructional technologies are well known by in-service mathematics teachers in Ghana. However, most of them lack knowledge about the ways to blend technology and pedagogy during instructions. In line with this, (Agyei & Voogt, 2011) revealed that these teachers lack the opportunity for proper training that will enable them to acquire the needed knowledge on how to use instructional technology effectively in their lesson delivery. This suggests that perceived usefulness (PU) and perceived ease of instructional technology use depend on the type of training giving to teachers during their teacher training program.

According to Davis (1989) attitude toward use (ATU) involves a person's negative or positive feelings about performing the targeted conduct. If a mathematics teacher has a favorable attitude regarding instructional technology use, there is a high tendency of him/her integrating the technology in his/her instructions. Some students who are found not to be making use of computer technology in learning situations may be attributed to negative attitudes of their facilitators regarding the use of technology in the classrooms (Yildirim, 2000). Moreover, a study by (Teo, 2009) revealed that a positive attitude regarding computer utilization has a significant impact on teachers' intentions to utilized computers during instructions.

A study by Nair and Mukunda Das (2012) found that mathematics teachers' perceived ease of technology use has a significant influence on their perception of both PU and attitude towards instructional technology use in teaching. Teo (2009) noted that PU has a positive influence on both teachers' attitudes and intention to use a computer for instruction. It can be said that JHS mathematics teachers would tend to integrate instructional technology in the lessons when the technology helps execute their pedagogical tasks.

To acquire a superior understanding of technology and its integration in an institution or any setting (precisely in education), the TAM has been broadly utilized (Chismar & Wiley-Patton, 2003). This investigation was laid down to test the factors that could determine JHS mathematics teachers' intentions to use instructional technologies for pedagogical purposes based on a modified TAM.

THEORETICAL FRAMEWORK

In this era of digital literacy, educators have been keen on examining the theories and/or models that can anticipate and clarify behavior (Venkatesh et al., 2003). Among these models, the TAM is the most broadly utilized model for innovation and/or technology adoption and integration (Amoako-Gyampah & Salam, 2004; Teo, 2009). The TAM originally developed by Davis (1989) has been embraced and varied in numerous empirical investigations and the instruments utilized in TAM have been demonstrated to be genuine and generate statistically dependable outcomes (Gyamfi, 2016; Ibili et al., 2019; Luan & Teo, 2011a; Nair & Mukunda Das, 2012a). Also, the TAM as noted by (Fathali & Okada, 2018; Nair & Mukunda Das, 2012) is an alluring instrument in numerous empirical research due to its convenience and execution. TAM is more adaptable, simple to embrace, and can be expanded by adding different factors to impact its cardinal factors to make the model solid.

Based on (Davis, 1989) postulate about TAM, users accept or reject technology and/or new information system when they believe that utilizing a specific ICT tool or software would improve their work performance (PU) and utilizing a specific ICT tool or software would be liberated from effort (perceived ease of use-PEU) which are linked to the users' negative or positive feelings about performing the targeted conduct (ATU) and subsequently regulates the users' probability of utilizing such technology and/or information system in the future (behavioral intentions to use-BIU). **Figure 1** illustrated beneath indicates the causal relationship between the first modification of the original TAM variables.

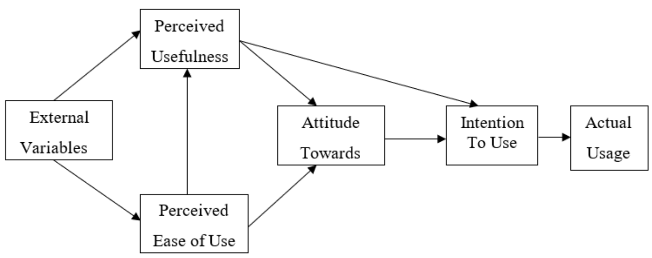

Figure 1. Technology acceptance model (Davis et al., 1989)

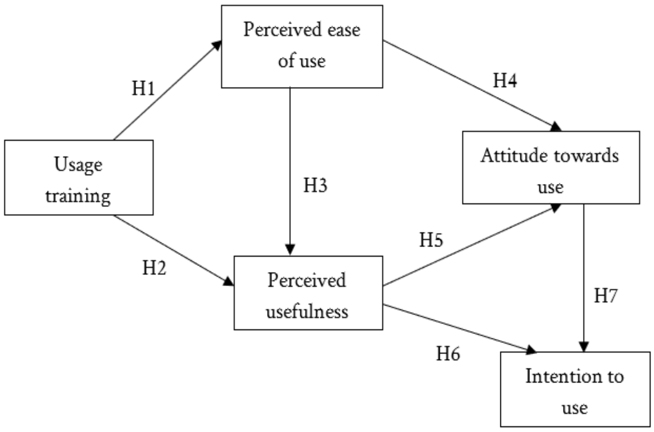

Figure 2. Conceptual framework (Adopted from Lotey, 2022)

RESEARCH FRAMEWORK

As indicated earlier, the TAM was built on the premise that individuals' acceptance of a particular technology and the intentions to use such technology are based on two primal factors. These factors are PEU and PU (Davis, 1989). Vast research work had adopted and validated the model empirically and the results yield is statistically significant, valid, and reliable (Davis, 2018; Gyamfi, 2016; Okyere-Kwakye et al., 2016; Teo, 2011b).

Despite its prevalence and impressive experimental help, TAM has been scrutinized by numerous researchers for its miserliness. These scrutinizers posit that the cooperation among ICT and its adoption for utilization is complex (Bagozzi, 2007; Lee & Xie, 2018; Silva, 2007) and in this manner, the oversimplified TAM, with only its two constructs PEU and PU, might not catch all the important component needed to accept and infuse ICT, into the current investigation. Therefore, to address these particular public attributes, the current investigation expands on and broadens the first modification of TAM (**Figure 2**) to analysis the intentions of JHS mathematics to incorporate instructional technology for effective teaching and learning mathematics.

Hypothesis Formulation

1. **H1:** Instructional technology usage training significantly influence perceived technology ease of use in JHS mathematics teachers' instruction.
2. **H2:** Instructional technology usage training significantly influences perceived technology usefulness in JHS mathematics teachers' instruction.
3. **H3:** Perceived ease of instructional technology use significantly influence JHS mathematics facilitators' PU.
4. **H4:** PEU has a statistically significant influence JHS mathematics teachers' attitude towards utilizing instructional technology.
5. **H5:** PU significantly influences JHS mathematics teachers' attitude towards using technology for instruction.
6. **H6:** PU significantly influences JHS mathematics teachers' behavioral intentions to use instructional technology.
7. **H7:** JHS mathematics teacher's attitude towards using instructional technology significantly influences their behavioral intention to use technology for pedagogical purposes.

Table 1. The results of Cronbach's alpha

Scale	Number of items	Cronbach's alpha
Perceived ease of use (PEU)	6	.771
Perceived usefulness (PU)	6	.864
Attitude towards use (ATU)	5	.535*
Usage training (UT)	5	.674
Behavioral intension (BI)	5	.843

Note. *Questionable

METHODOLOGY

The study purely employed a quantitative research method. A survey was conducted among 180 out of 200 JHS mathematics instructors who voluntary avail themselves to participate in the study from 30 JHS from Kumasi Metro in the Ashanti region of Ghana and therefore obtaining 90% as a respondent rate. Due to readily availability and relevance of the targeted group needed for the study, two sampling techniques namely convenient and purposive technique were used to select mathematics facilitators around Kumasi Metro. The data was collected through the head of department after two weeks of distribution.

The first section of the face to face questionnaire (**Appendix A**, part A) administered to the participates demands them to give their demographic data which contains the age, gender, teaching experience, and professional qualification. Also, the second section (**Appendix A**, part B) provides opportunity for the participants to offer their thoughts on 27 modified TAM instrument (in the research). This includes PEU (six variables), PU (six variables), UT (five variables), attitude towards ICT use (ATICTU) (five variables), and behavioral intention to utilize ICT (BIUICT) (five variables).

These constructs (PEU, PU, UT, ATICTU, and BIUICT) used in the study were altered from different scholarly works that are discovered to be dependable and legitimate (Davis, 1989; Gyamfi, 2016; Okyere-Kwakye et al., 2016; Teo, 2019; Venkatesh et al., 2003). Every statement, aside from behavioral intention to utilize instructional technology, the rest were assessed on five-Likert scale with strongly agree (1), agree (2), neutral (3), disagree (4), and strongly disagree (5) as their accompanying responses. However, behavioral intention to use instructional technology was assessed on five-Likert scale with the accompanying responses: always (1), often (2), sometimes (3), rarely (4), and never (5).

Table 1 indicates the internal consistency of the observed variables computed using SPSS (v. 21). This was done to evaluate arbitrary error from the scale instruments (Watson & Pallant, 2011). With regards to this research, the reliability of the survey questionnaire is the degree to which the questionnaire used gives similar outcomes with repeated measurement.

Apart from the observed variable (ATU), which has a Cronbach's alpha less than .7 and was considered questionable during the data analysis, the rest of the observed variables (PEU, PU, usage training and behavioral intension) was greater than or equal to .7 and hence, the reliability is said be achieved for this study since the Cronbach's alpha scores at least .7

Table 2. Demographic profile of JHS mathematics teachers (n=180)

Demography	Category	Frequency	Valid percentage
Gender	Male	124	68.9%
	Female	56	31.1%
Age range	20-30	115	63.9%
	31-40	57	31.7%
	41-50	8	4.4%
	51-60	-	-
Qualification	Certificate	18	10.0%
	Diploma	128	71.1%
	Bachelor's degree	30	16.7%
	Masters	4	2.2%
Teaching range	0-1	30	16.7%
	2-4	83	46.1%
	5-7	50	27.8%
	8 and above	17	9.4%

Table 3. Influence of UT on JHS mathematics PEU

Model	UC		SC	t	Sig.	R^2
	B	SE	Beta			
UT	.445	.053	.536	8.462	.000	29.7%

Note. Predicted variable: PEU; Predictor variable: UT; UC: Unstandardized coefficients; SC: Standardized coefficients; & SE: Standard error

Table 4. Influence of UT and PEU on JHS mathematics PU

Model	UC		SC	t	Sig.	R^2
	B	SE	Beta			
PEU	.506	.073	.496	6.944	.000	35.6%
UT	.135	.060	.159	2.232	.027	

Note. Predicted variable: PU; Predictor variable: PEU & UT; UC: Unstandardized coefficients; SC: Standardized coefficients; & SE: Standard error

Table 5. The effect of PU and PEU on ATU

Model	UC		SC	t	Sig.	R^2
	B	SE	Beta			
PU	.327	.068	.364	4.828	.000	33.4%
PEU	.261	.069	.285	3.783	.000	

Note. Predicted variable: ATU; Predictor variable: PU & PEU; UC: Unstandardized coefficients; SC: Standardized coefficients; & SE: Standard error

Table 6. Impact of PU and ATU on JHS mathematics instructors' BI

Model	UC		SC	t	Sig.	R^2
	B	SE	Beta			
PU	.314	.085	.293	3.720	.000	21.1%
ATU	.276	.094	.231	2.936	.004	

Note. Predicted variable: BI; Predictor variable: PU & ATU; UC: Unstandardized coefficients; SC: Standardized coefficients; & SE: Standard error

DATA ANALYSIS AND FINDINGS

Participants' demographic profile from **Table 2** shows that a larger proportion indicating 69% (nearest whole number) were male against 31% (nearest whole number) being female. The majority of the participant falls within the age range of 20 and 30 years with fewer participants within 41 and 50 years. However, **Table 2** again shows that 10%, 71.1%, 16.7%, and 2.2% of the mathematics teachers have a diploma, bachelor's degree, and master's degree, respectively.

Hypotheses Testing

A list of regression analyses (multiple stepwise) was led to investigate the research hypotheses. Each analysis was between at least one predictor variable and a dependent variable. Independent variables construct that best related with the predictor variable item were utilized, while the constructs that least related in the multiple stepwise regression techniques were deducted automatically from the regression equation.

Observing the benchmark in Social Sciences investigations, a p-value of 0.05 was embraced as a standard practice to support or not support the null hypothesis. A statistically significant hypothesis as predetermined by the researcher is obtained when the p-value is less than 0.05 (Creswell, 2012). Contrary, p-values surpassing the 0.05 value make the result insignificant, and hence, the null hypothesis was discarded. In this particular study, a $p<0.05$ was given statistically significant consideration.

Results from **Table 3** reveal that the influence of usage training on PEU (β=.445, p<.000) was positively significant. Accordingly, hypothesis one (H1) was supported.

Table 4 indicates that the relation between PEU (β=.506, p<.000) and PU was positively significant. Likewise, usage training (β=.135, p<.027) was found to influence PU positively. Consequently, hypothesis two (H2) and hypothesis three (H3) was supported. The effect of perceived ease and usage training explains 35.6% of the variance of PU by JHS mathematics teachers.

Table 5 uncovered that perceive usefulness (β=.327, p<.000) and perceive ease of use (β=.261, p<.000) have favorable impact on attitude regarding instructional technology use. Accordingly, hypothesis four (H4) and hypothesis five (H5) were statistically supported.

Table 6 shows that PU (β=.314, p<.000) had a direct bearing on JHS mathematics facilitators' behavioral intention to utilize instructional technology. Hence, hypothesis six (H6) was supported. Likewise, JHS mathematics facilitators' intention to infuse technology during instruction sessions was statistically influenced by their ATU (β=.276, p<.004) supporting hypothesis seven (H7).

Figure 3 shows the hypotheses summary for the research model.

DISCUSSION AND IMPLICATION

This research work examined a modified TAM utilizing JHS mathematics instructors' acceptance of technology for educational purposes. Generally, the modified TAM was completely supported. Per the regression analyses (multiple stepwise) validation, seven hypotheses which guarded the study were significant statistically. According to the findings of (Venkatesh & Davis, 2000), the TAM mainly clarifies 40% of variance used in a study. However, the outcomes obtained from the study fall beneath the typical results of TAM to explain 25% of the variance used in the study. This concurred with researchers such as (Sánchez-Prieto et al., 2017) who posit that the model likewise has series of restrictions. For instance, a low degree of progression in exploratory research. Thus, the clarification of behavioral intention adoption can, once in a while, be generally low.

Another vital finding from this research was that PEU, PU, ATU, and UT of an instructional technology had a favorable bearing (been direct and/or indirect) on JHS mathematics instructor's intention to utilize technology for academic purposes. Nonetheless, the results indicated that PU (β=.314, p<.000) is more significant in determining

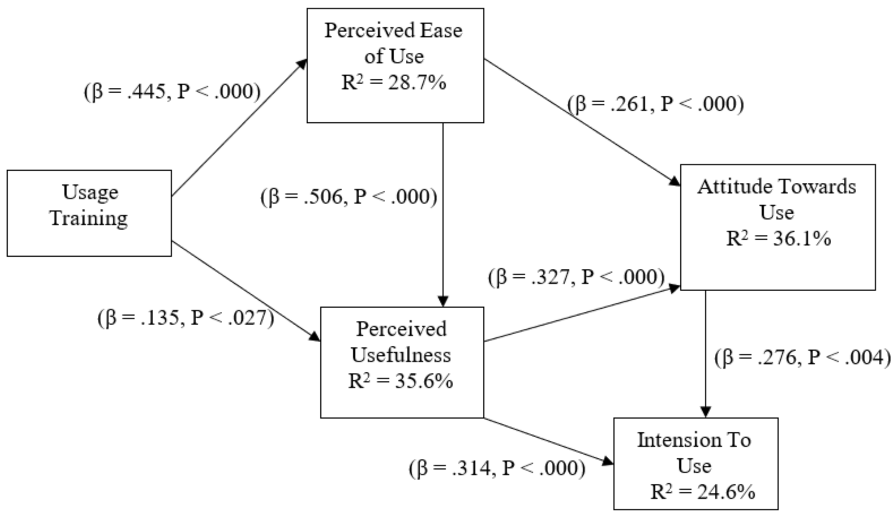

Figure 3. Hypotheses summary for the research model (Adopted from Lotey, 2022)

intention to utilize instructional technology for academic works than usage training and attitude toward utilizing. Congruent with this current investigation is a study by (Davis, 1989; Masrom, 2007). An explanation may be that instructors will embrace advantageous utilization of instructional technology, and this might propose that instructors will in general focus on the helpfulness of the technology itself. In this context, giving appropriate and regular professional development workshop for mathematics instructors is essential for directing and solidifying instructors' perception of the usefulness of ICT which would elicit their intention to use in the mathematics classroom.

Notwithstanding, PEU was identified to bear a positive impact on PU. While this finding contradicted with (Gyamfi, 2016) who discovered that PEU was insignificant predictor of PU, it concurred with the studies (Davis, 1989; Okyere-Kwakye et al., 2016) who established that PEU is a prevailing factor in accounting for PU. This suggests that the JHS mathematics facilitators gave equal need to helpful and effortless instructional technology. This approves the literature which shown that PEU is a prerequisite for technology to be useful (Davis, 1993), otherwise, adopters might inappropriately utilize technology. This implies that teachers' attitude to utilize instructional technology would be influenced if they discovered the utilization of instructional technology to be simple. This finding was coherent with (Gyamfi, 2016; Okyere-Kwakye et al., 2016). Subsequently, it is proposed that governments and stakeholders should execute vital training programs to upgrade instructors' proficiency in instructional technology use.

Significantly, PU was likewise found to have a positive impact on attitude towards utilizing instructional technology in mathematics classrooms. This infers that instructors' attitude to utilize instructional technology would be affected when they perceive instructional technology to be helpful for their work. Accordingly, we further recommend that administrators and stakeholders should equip teachers with modern instructional tools and/or software that will regulate their attitudes in using technology for practical and modern teaching

With regards to usage training, it was conclusively noted that JHS mathematics teachers' instructional technology training has a positive significant effect on PEU (β=.445, p<.000) and PU (β=.135, p<.027). Subsequently, it is recommended that governments and administrators should implement the necessary training programs to improve both facilitators' instructional technology proficiency and usefulness which will alongside elicit their actual instructional technology use for academic purposes.

Besides, the discoveries of this study indicated that ATU positively impact on JHS mathematics facilitators' behavioral intention. While this result concurred with (Gyamfi, 2016; Okyere-Kwakye et al., 2016; Teo, 2011a, 2011b), the study was inconsistent with other studies such as (Masrom, 2007) who recommended that the functionality of attitude towards utilization in the TAM is uncertain. For instance, Davis and Venkatesh (1996) ignored the attitude construct in TAM's final version and ended that intentions of the user is directly influenced jointly by convenience and usefulness rather than attitude.

CONCLUSION

This study addresses the usability of TAM in examining JHS mathematic teachers' adoption and intentions to use instructional technology for academic purposes. This research indicated that to encourage teachers' intention to use technology in mathematics instruction, a positive impression of instructional technology usefulness is more essential than any other TAM variables. Furthermore, the investigation was fruitful to show the causal connections among the modified TAM variables (PU, PEOU, UT, ATU, and BI).

First, the mutual connection between convenience and usefulness, following majority of TAM discoveries, was identified to be significant. Second, the relation between both PEOU and PU and attitude towards utilization concurred with TAM as well. Contrary, to the elimination of attitude item from TAM's final version (Chismar & Wiley-Patton, 2003; Davis & Venkatesh, 1996), this current study found that attitude was one of the determinants of the JHS mathematics facilitators' behavioral intention to integrate ICT in mathematics classrooms.

Lastly, instructional technology usage training, which is a new construct was found to have a statistically positive significant influence on original TAM variables used in this study and therefore, confirms the usability of TAM in explaining the intention of JHS mathematics instructors in Ghana. Therefore, the perceptions of JHS mathematics facilitators on the usefulness of the technology and the ease can be formed once users have familiarized and equipped themselves with the instructional technology based on their previous ICT skill and experiences in using the system through adequate usage training. However, when there is a new instructional technology and/or a modified technology that have been introduced into the educational settings, teaching staff must be retrained to update their ICT knowledge, skills, and ability to use the new or modified technology.

Findings from the study shows that the use of the ICT is not merely based on the PEU, PU, and ATU, but educational culture to train the teaching staff in order to increase their competence and ability to use the instructional technology is essential for its integration at the JHS level. Moreover, proficiency and experiences in ICT through consistence and proper training will promote the ease of use of technology as well as its usefulness in mathematics education. Hence, on-the-job training can be used to improve the use of ICT in mathematics instruction at the JHS school level.

Limitations and Suggestions for Future Research

As the qualitative research method is excluded from the current investigation, the outcomes may not be addressed in various aspects. Researchers need to analyze new factors that could be utilized to expand the TAM with the incorporation of certain factors related to school infrastructure, teaching experience, technological supports, and gender. As this research involve just 180 JHS mathematics teachers, researchers might investigate similar studies on a bigger scope, particularly in Ghanaian basic schools.

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Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

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APPENDIX A

PART A

Age category: [ ] 25 & under [ ] 26-30 [ ] 31-35 [ ] 36-40 [ ] 41-45 [ ] 50 & above

Gender: [ ] Male [ ] Female

Teaching experience: [ ] 1 & under [ ] 1-4 years [ ] 5-9 years [ ] 10 & above

Professional qualification: [ ] Certificate [ ] Diploma [ ] Bachelor's degree [ ] Masters

PART B

Please indicate the extent to which you agree with the following statements regarding the use of ICT in mathematics by ticking **[√]** in one of the boxes for each statement, where SA: strongly agree, A: agree, N: neutral, D: disagree, SD: strongly disagree, A: always, O: often, S: sometimes, R: rarely, & N: never.

Table A1. Statements and ratings

Statement	**SA** **1**	**A** **2**	**N** **3**	**D** **4**	**SD** **5**
Perceived ease of use					
It would be easy for me to become skillful at using ICT for teaching.					
Learning to operate ICT tools related to mathematics would be easy for me.					
I find it easy to get ICT (software or tools) to do what I want it to do.					
My interaction with ICT would be clear and understandable.					
I would find the ICT to be flexible to interact with.					
I find the ICT tools or software easy to use.					
Perceived usefulness					
Using ICT in my work helps me to accomplish task more quickly.					
Using ICT will improve my teaching performance.					
Using ICT will make my teaching work more interactive and interesting.					
Using ICT increase my work productivity.					
Using ICT enhances my effectiveness in classroom.					
Using ICT will make it easier to do my job.					
Attitude towards ICT use					
Using ICT (tools or software) in class is favorable.					
Using ICT will make my teaching work more interesting.					
I am positive towards using ICT as a teaching tool.					
ICT is not a high priority in my subject area.					
Training in ICT					
I receive ICT training from knowledgeable trainers off-site.					
I receive ICT training from knowledgeable trainers on-site.					
I am allowed to interact with ICT tools related to mathematics during training.					
I have personal training on ICT integration in mathematics in my own time.					
My level of understanding of using ICT improved after attending training.					
Behavioral intension to use ICT	**A** **1**	**O** **2**	**S** **3**	**R** **4**	**N** **5**
I intend to use ICT in my future teaching.					
I predict I would integrate ICT tools into my lesson in the future.					
I have an actual plan to use ICT in my future teaching.					
I would love to use ICT tools in my mathematics lesson delivery.					
I have the willingness to use ICT in teaching mathematics in the future.					