

Teachers' Attitude toward ICT Integration in BGS Classrooms of Secondary Schools in Bangladesh

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ABSTRACT

The integration process of technology in education is related to a large extent with teachers' attitude, their motivation and access, ease of use and usefulness of new innovation. Therefore, the paper aims to explore the teachers' attitude toward ICT integration in classroom instruction. The study follows a quantitative research design following multistage stratified sampling technique whereby survey instrument has been used to collect data. The SPSS software is employed for statistical analysis of data. Results display that the teachers possess positive attitude toward ICT integration in Bangladesh and Global Studies (BGS) classrooms at secondary level. Additionally, the analysis explores the school location, school types, gender and confidence, which have potential impact and change to the teachers' attitude toward ICT integration. The results of this study would be helpful to foster the ICT integration in school education for creating constructive teaching-learning environment. Although the study focuses on secondary school BGS teachers but it could have significant influence in all stage of education in Bangladesh.

Keywords: *ICT, Integration, BGS, Secondary school & teachers*

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Introduction

The continuous development of ICT as a learning tool has profoundly altered the traditional teaching concept which leads to make the classroom teacher centered to student centered. The global trend in education is to transform the education system from traditional paradigms of instructional strategies into constructivist forms of pedagogical practice. However, the attitude, interest, skill, access, toward integration of ICT in classroom teaching and learning will important issues for the 21st century teachers because the success of new steps in an educational setting depends firmly on the support and attitude of teachers those who are engaged in teaching (Teo, 2008). Furthermore, ICT has proven its positive impact in teaching and learning arena while technology has been integrated into the classroom (Crittenden, 2009). The use of ICT in education also encourages teachers to make enjoyable curricula and classroom environment



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through transforming teaching and learning with understanding pedagogical possibilities (Wang, 2007). In this sense, ICT integration in education is a new phenomenon in Bangladesh school curriculum for helping students to realize and visualize the abstract concept to make physical of certain things which can be easily imagine in their mind rather than memorizing from traditional teaching learning style. Since the practice of technology in classroom activities develops the student learning process, like other developed education system, the Government of Bangladesh (GoB) has done extensive work to incorporate ICT in the field of education for creating more effective, enjoyable and work-oriented teaching and learning environment. Therefore, the teachers' knowledge, attitude, skills, interests, challenges are vital issues to deploy ICT integration in curriculum. It is not possible to change desirably in students' competency and their behavior only with using technology (Khan, 2014). It also requires teachers' positive attitude toward ICT use in classrooms. Teo (2006) claims that the students' learning progress largely depends on the attitude of teachers toward ICT use in teaching-learning activities. Thus, it is needed to explore in what extent teachers possess encouraging attitude toward using ICT in classroom activities along with their level of ICT integration process. Equally, for successful integration of ICT, it is very much important that the education system should reconsider the role of teachers in planning and applying ICT to enrich and transform learning (Source: UNESCO ICT competency framework for teachers). The findings of the study would make an opportunity to review the integration process of ICT because the innovation is at very early stage in Bangladesh. On the other hand, a number of studies have been found to explore the efficiency of ICT tools in education (Sultana & Haque, 2018; Salam, 2016; Talukder & Saba, 2016, Parvin, 2013; Khan, 2014; Khan, Hasan, & Clement, 2012, etc.) while there is almost no study found related to the teaching of Bangladesh and Global Studies (BGS) through the use of technology (Banu, 2006). On the contrary, a few studies examined the secondary school teachers' attitude toward ICT tools in Science, English Language Teaching (ELT), classroom management other than social science teaching-learning activities. However, the study of BGS is more important because it is the interconnected study of the different disciplines. It is the basement of social science, history, civics, and economics subjects in secondary schools. On the other hand, ICT works as a stimulus and have a significant influence on teaching (Arkorful, Barfi, & Enchill, 2020). It can inspire and improve performance on social, political, economic, and scientific issues or problems of interest in the BGS classrooms. Furthermore, the study of BGS specifically allows knowing the history of the country and the world, legacy, culture, bravery of the people of Bangladesh. Additionally, to know the Bangladesh history, culture, heritage, and the lives of people living in different parts of the country, ICT resources could be used as teaching aids for properly presenting classroom content. Therefore, there is scope to explore the teachers' attitude toward ICT integration in BGS classrooms in Bangladesh.

Research Questions

The paper set interest to explore the BGS teachers' attitude toward ICT integration in classroom instruction. However, the following research questions have been focused to discover in this paper:

- What attitude do the secondary school BGS teachers possess regarding ICT integration?
- Is there any relationship among the attitude toward ICT, perceived usefulness, perceived ease of use and affective components?
- Is there any significant difference about overall ICT attitude by location, school types and gender differences?

Research Hypotheses

The following hypotheses have been formulated based on research question -

H₀1: There are no significant relationships among attitude, usefulness, ease of use and affective components toward ICT integration in BGS classrooms.

H₀2: There is no significant variance between urban and rural teachers' overall attitude toward use of ICT in BGS classrooms.

H₀3: There is no significant difference between govt. and non-govt. teachers' overall attitude toward use of ICT in BGS classrooms.

H₀4: There is no significant variation between male and female teachers' overall attitude toward use of ICT in BGS classrooms.

What Literature Says

There are many models regarding ICT integration that are used by the researchers to enhance the quality teaching-learning process in education. In light of ICT integration, researchers identified and adopted from Roger's (2003) Diffusion of Innovation Theory and Davi's (1989) Technology Acceptance Model those help to understand the integration process of ICT into secondary school classroom practice. The proposed theories focused to learn whether schools or teachers were involved in integration process of ICT in classroom practice.

According to Diffusion of Innovation "Theory an innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers, 2003:12). Though the invention was created a long time ago, the innovation might consider as new if it is perceived by users as new. The Roger's innovation-decision process illustrated the procedure of change with the adoption of new technologies whereas knowledge provides an outline of effective use of ICT avoiding the misuse of resources. In line, Government of Bangladesh as an initial user of ICT innovation in education deployed technology to schools and disseminated training to

teachers for ICT integration in classroom teaching and learning process together with developed online monitoring system for smooth integration. Different researches claim that knowledge, experience and professional training on ICT materials are vital for successful incorporation in classroom environment (Mukuna, 2013; Ghavifekr & Rosdy, 2015). Addressing the usefulness of ICT integration in teaching and learning process, Ghavifekr & Rosdy (2015) expose that ICT integration have great effectiveness while professional development training on ICT, experience of using ICT tools, well-equipped preparation and accessibility of ICT resources influence ICT integration process in classrooms.

According to Rogers's persuasion stage, individual forms his or her attitude after knowing about invention (Rogers, 2003; cited in Sahin, 2006). In the level of Decision and implementation, researcher add that the individual choices to accept or reject the innovation. Researcher also argue if the innovation has gone through trail error basis, technology is accepted more quickly and put into practice. Ghavifekr & Rosdy (2015) demonstrate that innovation-decision process begins through certain communication channels and over time among the people of a society. The development goes with knowledge that denotes the characteristics of decision-making component by the users of ICT for integration of technology and the process ends in decision though confirmation stage by the users to receive the technology and employ it subsequently. However, many researches have been found who have involved to identify the relationship between teachers' attitude and their technology use in classroom activities. Wang (2007) demonstrates that positive attitude and practice of computer is critical components for integrating technology in teaching and learning. Lal (2014) exposes strong relationship between attitude and the degree of technology integration. Teo (2008) discloses that the successful use of ICT into curriculum depends on teachers' attitude, perceived usefulness and their ease of use. Yusuf & Balogun (2011) anticipate that the positive attitude of teachers is an important factor to integrate technology in curriculum. Al-zaidiyeen, Mei, & Fook (2010) conclude with a significant positive relationship between teachers' level of technology use and their attitude toward computer use. Alemu (2015), Yusuf & Balogun (2011) report that both of facilitators and learners possessed positive attitude toward computer technology and have significant knowledge with positive understanding about ICT as well as its potential in the process of teaching and learning. Mahdum, Hadriana, & Safriyanti (2019) expose that teachers' stage of perception and motivation toward amalgamation of ICT are positively correlated. Researchers also found in their studies that the teachers possess positive attitude and they are cognizant about the possibilities of technology in their teaching learning activities. Ali (2018) indicates that most of the teachers are positive about the possibilities of ICT use in classroom because they found that the practice of technology has a significant positive effect on student's learning. Pandey (2017) illustrates that utilization of ICT is very much essential for education that makes learning enjoyable while technology plays a major role in academic accomplishment of students as well as motivational devices (Harris, Al-Bataineh, & Al-Bataineh, 2016). Jha (2017) shows that ICT developed understanding with more accuracy, makes lively interaction

for effective learning and makes collaboration between students and teachers cognitively and affectively. Semerci, & Aydin (2018) disclose a high level of positive attitude toward ICT use in classes by teachers.

In addition, with positive attitude, length of practicing computer and level of self-confidence for computer use (Teo, 2008), age and gender of participants (Elsaadani, 2013) are positively correlated and found as significant factor considering attitude toward ICT integration. Copriady (2014) demonstrates that there is a significant relationship between teachers' interest of ICT use by teaching experience, ICT experience, ICT training, ICT skills along with their gender disparity. Teachers' attitude toward ICT were not varied considering gender but changed by age difference, as well as having computer at home and also computer experience (Cavas et al., 2009). Mwila (2018) shows that the teachers irrespective male or female possess positive attitude toward integration while there is relationship between age and attitude toward integration of ICT. Mustafina (2016) states that teachers had positive willingness toward ICT and there was no influence found in respect of age or gender differences. Lal (2014) reveals that the most teachers demonstrate positive attitude toward ICT regarding their teaching subjects not only that the teachers' subject domain and their gender affect traditional educational beliefs also (Guoyuan, Valcke, Braak, & Tondeur, 2009). Gulbahar & Guven (2008) demonstrate sound positive relationship between teachers' attitude toward ICT use in education and their insights of the advantages of computer use in classroom regarding perceptions of social studies. The teachers of English language are found with self-efficacious in technology use (Bozdogan & Ozen, 2014). They claim that the use of computers, experience and confidence play important role in using technology in Language classroom. Science teachers possess positive attitude toward ICT because it makes the lesson smooth and conducive (Anandan and Gopal, 2011; Cavas et al., 2009; Sunday, 2010). STEM teachers possess high level of attitude in different skills found by Chan & Mohammad (2019) and Herro, Quigley & Jacques (2018).

Methodology

Research Design

The study employed a quantitative methodology including multistage stratified sampling technique to attain the teachers' attitude toward ICT integration in curriculum. This type of research design was also followed by Mwila (2018); Shameem (2016); Young (2016); Attis (2014); Copriady (2014); in their study where the focuses were on teachers' attitude toward ICT integration in secondary school.

Sample

According to the width of interval or margin of error (a) 5%, the total sample was calculated 384 (Smith, n.d.) for its unknown population. It had been calculated total 403 sample by adding

5% error. However, finally, 391 sample teachers were considered in this study. There were 265 male and 126 female teachers considered as total sample. It also covered geographically all eight administrative whereas the total sample districts had been selected based on the estimated sample size considered in this study ($403/25=16$).

Criteria for Sample

Among different types of secondary schools in Bangladesh addressing their management system, this study followed the government and non-government types along with urban and rural secondary schools. Moreover, the sample size of this study was closely represented the population focusing the ratio among the different forms of secondary schools in Bangladesh. The following table-1 demonstrated the comparative analysis of sample in different aspects with country scenario.

Table 1

Sample schools regarding types and school location

| SL | Categories | | Sample | | Population (country scenario) | |
|-----------------------------|-----------------|-----------|--------|-----|-------------------------------|-----|
| | | | % | n | % | |
| 1 | Types of School | Govt. | 30 | 8 | 599 | 4 |
| | | Non-govt. | 361 | 92 | 15587 | 96 |
| 2 | School Location | Urban | 76 | 19 | 3558 | 22 |
| | | Rural | 315 | 81 | 12666 | 78 |
| Total (N for each category) | | | 391 | 100 | 16186 | 100 |

(Primary data compared to BANBEIS, 2019)

The table-1 demonstrates the sample of secondary schools (N=391) covered in this study following the ratio addressing types of school (govt. and non-govt.) and location of school (urban and rural) compared to country wide scenario of Bangladesh. The social science teachers from selected schools had been considered as sample and one participant from each school had been selected. Therefore, there were 391 schools selected as sample in this study. The total sample size had been signified regarding the ratio of different types of schools continuing in Bangladesh.

Table 2*Distribution of participants regarding Gender*

| SL | Gender | Sample Teachers | | Total teachers in secondary school | |
|----|--------|-----------------|-------|------------------------------------|-------|
| | | n | % | n | % |
| 1 | Male | 265 | 67.8 | 142629 | 75.43 |
| 2 | Female | 126 | 32.2 | 46452 | 24.57 |
| 3 | Total | 391 | 100.0 | 189081 | 100.0 |

Source: Secondary Education Statistics_BANBEIS-2019

The Table-2 demonstrates that the sample from male teachers 265 (68%) are higher than the female teachers 126 (32%) selected as participants for this study associating with countrywide teachers' ratio. Whereas, the male teachers (75%) were dominated almost three times higher than the female teachers (25%) according to the statistics of BANBEIS-2019. The following table presents the gender differences than country situation.

Instruments

For this study, researchers administered a blended with adopted and self-prepared questionnaire. There were two parts of data collection tools. Part-I was blended of demographical data while part-II consisted with 30 items of attitude toward ICT integration that was blended with adopted questionnaire regarding the context of Bangladesh. This section had been divided into i. attitude (9 items), ii. perceived usefulness (9 items), iii. perceived ease of use (6 items) and iv. affective components (6 items). The attitude scale has been adopted from four different scales. These were Dr. Abdulkafi Albirini of the Ohio State University (**Albirini, 2006**), Dr. Abdullah Mohammad Alaugab of the University of Kansas (Alaugab, 2007), Dr. Hamed Alrasheedi of Ohio University (Alrasheedi, 2009) and Dr. Cynthia S. Mierzejewski of Immaculata University (Mierzejewski, 2009). The selected items had been matched and blended with the pedagogical aspects as well as contextualized in consideration of research questions and the perspective of Bangladesh. The participants were asked to answer on five-point Likert scale of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). The Cronbach Alpha degree for the attitude toward ICT integration was 0.86 which suggested that the items were highly reliable for collecting information as it was known that the more coefficients indicate more reliability (Kimberlin & Winterstein, 2008).

Data collection process

The researcher and 10 research assistants directly led in face-to-face data collection process with due permission from the concerned authority. The research assistants had been given a

day-long training, including a brief introduction and a comprehensive question-answer session about research purposes, questions, and instruments. Although the research instruments were developed in English, Bangla versions of the printed questionnaires were distributed to the selected BGS teachers to collect data.

Data analysis process

The collected data were statistically analyzed by using Statistical Package for the Social Science (SPSS) as well as frequency, mean, and standard deviation are used for exploring teachers' attitude toward ICT integration in classroom exercise. Correlations had been applied for measuring the relationships within diverse variables. Whereas, t-test, one-way analysis of variance (ANOVA) based on $p=0.05$ significance level was studied to illuminate the significance level.

Major Findings and Discussion

The overall attitude toward ICT integration in classroom instruction

This was the overall attitude addressing the four sub-sections which have 30 items to explore the teachers' attitude toward ICT integration in classroom teaching-learning environment. The given below table-3 represented the overall attitude of all sub-sections at a glance.

Table 3

Overall Attitude toward ICT Integration

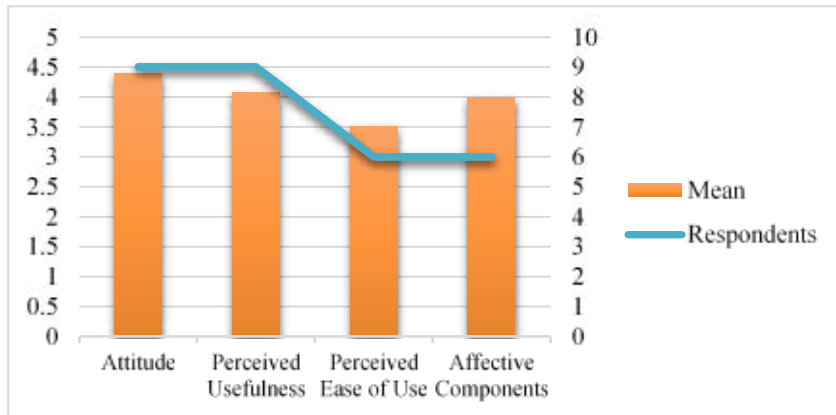
| Subscale | No of Items | Mean | SD |
|-----------------------|-------------|------|-----|
| Attitude | 9 | 4.39 | .41 |
| Perceived Usefulness | 9 | 4.08 | .43 |
| Perceived Ease of Use | 6 | 3.51 | .64 |
| Affective Components | 6 | 3.99 | .55 |
| Overall ICT Attitude | 30 | 3.99 | .39 |

The data in table-3 demonstrates the comparative analysis among different subscales against overall mean attitude toward ICT integration in BGS teaching and learning. The data clearly disclose that the teachers possess highly positive attitude toward ICT integration. This result coincides with Chan & Mohammad (2019), Mahdum, Hadriana, & Safriyanti (2019), Semerci & Aydin (2018), Mwila (2018), Birwal (2017), Mustafina (2016) and Alemu (2015) who found teachers hold positive attitude toward ICT use in their classes. Whereas, Sultana & Haque (2018) found in their works that the teachers possess negative attitude toward practicing technology in their classroom activities. However, this study found that BGS teachers possess

positive attitude ($M=3.99$; $SD=.39$) toward ICT integration in teaching BGS. On the other hand, the level of possessed attitude is differed regarding measured subscales. Teachers show comparatively higher positive approach toward attitude subscale ($M=4.39$; $SD=.41$) but relatively lowest in perceived ease of use. The attitude against perceived ease of use indicates that the opportunity of access is comparatively lower regarding ICT use in their institution. Conversely, the data illustrated that the teachers are not only aware about the effectiveness ($M=4.08$; $SD=.43$) of ICT use in classroom teaching-learning activities but also conscious about affective components (3.99 ; $SD=.55$) regarding ICT integration. The teachers' attitude toward ICT, perceived usefulness, and behavioral intention is high which is similar with Augustine, Daud & Kamaruddin (2018). The above data presents graphically in the figure below.

Figure 1

1. Overall Attitude toward ICT Integration



The data from above table-3 and figure-5 disclose that the teachers represent themselves with positive attitude ($M=3.99$; $SD=.39$) to integrate ICT integration in classroom instruction. The possessed attitude helps to integrate ICT integration in classroom practices. It may improve the student-centric classroom activities whether the possessed attitude can be utilized properly. Concurrently, it fosters a pleasant working environment in which teachers can exchange their experiences with one another and improve their performances using ICT materials. In the same way, Andyani et al. (2020) claim that a positive organizational environment directly help the teachers' self-efficacy and motivation toward ICT integration in education. On the other hand, the usefulness and ease of use are the critical indicators of attitude toward ICT integration which may significantly affect teachers' positive impression toward ICT.

The correlation matrix of overall attitude sub-scales

Table-4 demonstrates the correlation among the attitude, perceived usefulness, perceived ease of use and affective components regarding ICT integration in BGS classrooms. Addressing

the results, the attitude subscales are correlated with each other which have been shown in following table.

Table 4

Correlation matrix among attitude scales

| Subscales | 1 | 2 | 3 | 4 |
|---------------------------|-------|-------|-------|---|
| Attitude (1) | 1 | | | |
| Perceived Usefulness (2) | .51** | 1 | | |
| Perceived Ease of Use (3) | .42** | .33** | 1 | |
| Affective Components (4) | .37** | .38** | .57** | 1 |

***.* Correlation is significant at the 0.01 level (2-tailed).

Table-4 reveals six relationships which found statistically significant as the correlation matrix exposes that the level of p value is .00 which is lower compare to the accepted alpha level .01. The significant level between attitude and perceived usefulness shows ($r = 0.51$, $p < .01$), attitude and perceived ease of use reflects ($r = 0.42$, $p < .01$) while attitude and affective components displays ($r = 0.37$, $p < .01$) regarding ICT integration in BGS. Similarly, there are significant correlation between perceived usefulness and perceived ease of use ($r = 0.33$, $p < .01$) and perceived usefulness and affective components ($r = 0.38$, $p < .01$) while perceived ease of use and affective components are correlated ($r = 0.57$, $p < .01$) toward incorporating ICT in BGS. The results indicate that the correlations are at moderate level. Moreover, the findings make sure that the null hypothesis (H_0) that there are no significant relationships among attitude, usefulness, ease of use and affective components toward ICT integration in BGS classrooms which is rejected. Raman, Mallick & Sofian (2015), Crittenden (2009) also argue that the attitude toward ICT is positively related with perceived self-efficacy to ICT of teacher educators. Therefore, the data disclose that the sub-scales of questionnaire can be able to explain the attitude toward ICT integration of teachers regarding BGS classrooms.

Attitude regarding school location, type and gender differences

The teachers' attitude toward ICT integration in BGS classrooms instruction have been examined on the basis of school location, school types and gender differences which have been presented in given below table-5.

Table 5*Attitude toward ICT integration against school location, school types and gender differences*

| SL | Part-A (Mean & SD) | | | | | Part-B (Independent Sample t-test) | | | | |
|----|--------------------|-----------|--------------|------|---------|---|------|---------------------------------|--------|-------|
| | Overall Attitude | | f (N=391) | M | SD F | Levene's Test for Equality of Variances | | t-test for Equality of Means | | |
| | | | | | | Sig | t | df | P | |
| 1 | Location | Urban | 76 | 4.12 | .34 | 1.30 | .256 | 3.30 | 389 | .00* |
| | | Rural | 315 | 3.96 | .39 | | | | | |
| 2 | Types | Govt. | 30 | 4.16 | .34 | .83 | .363 | 2.58 | 389 | .01* |
| | | Non-Govt. | 361 | 3.97 | .39 | | | | | |
| 3 | Gender | Male | 265 | 4.01 | .35 | 15.88 | .000 | 1.21 | 194.48 | .18** |
| | | Female | 126 | 3.95 | .46 | | | | | |

*p < .05 & **p > .05

School Location

The environmental circumstance of school is considered as location like rural and urban. School location might have significant effect toward ICT integration in school because it has some advantage and disadvantage. Therefore, this study intends to identify whether there was any impact of school location in ICT integration. The average mean scores (table-5.1.A) show that the teachers irrespective of rural and urban school expose positive attitude while urban teachers possess comparatively higher (M=4.12; SD=.34) than that of rural (M=3.96; SD=.39) teachers. On the other hand, the equality of variance for Levene's test (table-5.1.B) makes sure that there is no statistically significant ($p > .05$) difference found between rural and urban teachers in consideration of location analysis. However, the t-test for equality of mean (table-5.1.B) discloses that there is fairly significant variance [$t(389) = 3.30, p = .00^*$] between urban and rural teachers' attitude toward integration of ICT in education. The finding recommended that the null hypothesis (H_0) that there is no significant variance between urban and rural teachers' overall attitude toward use of ICT in BGS classrooms has been excluded because of being consequent p value level is (.00) lower than the acknowledged alpha level of .05. This result is similar with the findings of Guoyuan, et al. (2009) who found a significant difference considering geographical context. The geographical context especially rural schools are faced different types of constraints for effective integration of ICT in BGS classrooms. The infrastructure, insufficient power supply, lack of ICT equipment and security issues push away from the proper utilization of ICT in BGS classrooms which might be impeded successful ICT integration in secondary schools.

School Types

There is another criterion to analyse whether the attitude of government and non-government school teachers toward ICT integration varies. In consideration of opportunity, the government schools enjoy more advantages like infrastructure facilities, up-to-date ICT equipment compare to non-government schools. In contrast, the position of non-government schools mostly are in rural compared to government schools and the teachers of non-government schools avail comparatively lower financial benefits than government school teachers which may consider as influential motivator regarding ICT integration in education. Therefore, the overall attitude mean has been calculated between government and non-government teachers. The teachers from government and non-government schools possess positive attitude (table-5.2.A) while government teachers depict more positive attitude ($M=4.16$; $SD=.34$) than that of non-government teachers ($M=3.97$; $SD=.39$). Whereas, t-test result reveals that there is significant [$t(389) = 2.58, p = .01^*$] difference remaining between government and non-government teachers addressing overall attitude toward ICT integration in classroom instruction. The finding also reports that the null hypothesis (H_0) that there is no significant difference between government and non-government teachers toward ICT integration in BGS classrooms which is rejected because the p value level is ($p=.01$) lower than the accepted alpha level of .05.

Gender differences

Researches are divided into two parts regarding male and female teachers' attitude toward ICT integration based on their research output. Many researches claim that there is no significant variation found between male and female teachers' attitudinal approaches regarding ICT integration while many of them have been displayed reverse view. Some of the researches have been found that male possess more positive attitude while others reveal that females demonstrate more positive view. Therefore, the overall attitude mean and an independent sample t-test have been performed to identify whether there is any significant effect either male or female teachers' attitude toward ICT integration in instructional process.

The findings reveal that (table-5.3.A) both the male ($M=4.01$; $SD=.35$; $f=265$) and female ($M=3.95$ $SD=.46$; $f=126$) teachers expose positive attitude toward ICT integration in teaching BGS. According to the overall attitude mean, the male teachers possess slightly higher positive attitude than their female counterpart while t-test discloses that there is no significant [$t(389) = 1.21, p = .18^{**}$] difference between male and female teachers regarding overall attitude toward ICT integration in classroom instruction. This finding is similar with the results of Semerci & Aydin (2018), Birwal (2017), Mustafina (2016), Yusuf & Balogun (2011), Cavas et al. (2009), Teo (2008). Whereas Elsaadani (2013), Chowdhury (2009) argue that gender is significant factor considering attitude toward ICT despite having positive attitude for male and female. Alrasheed (2009) found that male teachers' attitude toward ICT is slightly positive and use more than the female teachers. The findings of this study recommend about null hypothesis

(H₀4) that there is no significant variation between male and female teachers toward use of ICT in BGS classrooms which is accepted because of being derived p value level (.18) is advanced than the accepted alpha level of .05.

The results depict a positive image for effective integration of ICT in school curriculum because one third of the teachers are female who have significant contribution in education. Therefore, the positive attitude of female along with male teachers is important in integration process of ICT in classroom activities. The different impersonal interventions taken by government of Bangladesh may have significant role behind positive attitude regardless gender differences in Bangladesh.

Implications for Professional Development

The results of this research work foster the constructive teaching-learning environment by using ICT integration in school education. The school administrator and head teacher may take innovative plan to adapt ICT in education by utilizing teachers' positive attitude to support Bangladesh achieving an information technology literate population. Although the study focuses on the attitude of BGS teachers of secondary school regarding ICT integration in their teaching practice, it can have significant influence on other subjects of primary and higher education as well.

Similarly, the policymakers and curriculum developers must realize the consequences of changes to the functions and practices of stakeholders and need to take specific doing steps which may be helpful in a successful integration process in the school curriculum.

Whereas, the teacher educators can extend their training program considering the teachers' strengths and weakness. They also can enhance their teaching approach with using the prospect of ICT and can develop the quality of training programs.

The teachers possess positive attitude toward ICT integration in classroom and they are appeared to be keen concerned about ICT use their teaching-learning activities. The government needs to use this positive attitude of teachers to integrate ICT as soon as possible. The adequate in-service training accelerates the integration process of ICT in classroom; therefore, the government also should arrange in-service training for classroom teachers. The training should continue both on ICT for proper assimilation which fosters to effective classroom performance and make teachers skilled.

This results can also motivate teachers to set interest toward ICT integration. It makes an impact on the instructional delivery process through professional development. Moreover, the results of this study help to develop a constructive teaching learning environment in school whereby students can be benefited, who are the ultimate user of technology.

Conclusion

Teachers' attitude is the utmost influencing factor of integrating new technology in classroom activities for successful accomplishment of ICT in education. Therefore, the study has been focused to explore the secondary school teachers' attitude toward ICT integration in classroom instruction. The survey research design has been followed through questionnaire survey for collecting data. The findings reveal that the teachers possess positive attitude and also found that most of the teachers are little bit used to conduct ICT integrated classroom. Moreover, the data indicate that there are remaining differences in attitude among school location, school types and also somewhere male and female teachers. Therefore, it can be concluded that the overall results make hopeful but effective integration of ICT takes time for its full and apposite use in school curriculum. However, this study insights a better understanding about the attitude of secondary school BGS teachers regarding integration process that can helpful for teachers, professional, policy maker, curriculum developer and ultimately the students will be benefitted.

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