A Study on the Factors Motivating Teachers in Using ICT in their Instruction at a Government College in Bangladesh

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Abstract: *With the change of educational paradigm in the present era of Information Technology, scholars are increasingly emphasizing the need for integrating ICT in education. Aligned with the present national educational policy of Bangladesh, a good number of projectsare being run at college level to equip the teachers with the skills and knowledge to use ICT in their pedagogy. However, in many cases teachers are still found to be underperforming. This qualitative study is an attempt to study the influencing factors for teachers' motivation to use ICT in their classes at one government college in Bangladesh. After a relevant literature review, three Individual interviews and one Group Interview were used for collecting qualitative dataThe study has found that lack of ICT supporting resources in the institution, inadequate training facilities for the teachers as well as some other related intrinsic factors like teachers' satisfaction in working with ICT are the demotivating factors in the study area. Based on the findings, the study also suggests some ways to address the issue of teachers' motivation for using ICT in theirclasses.*
Key Words: ICT, Motivation, Instruction

I. Introduction

1.1. Background and Overview

A major goal of the present national educational policy of Bangladesh is to develop human resource through education and training for national and international markets so that the country can accelerate its economic progress and enhance the quality of life of its people (Ministry of Education Bangladesh [MOEBD], 2010). So, emphasis is increasingly being put on the successful integration of ICT in teaching-learning. The Ministry of Education of Bangladesh Government is running a good number of projects aiming at creating ICT-supported learning-environment in Govt. colleges to be run by the Secondary and Higher Secondary Division (SHED 2018). However, educational change is a complex process, critical reflection on the related agents is an elementary need. Teacher being the most important agent for any kind of change-making, it is essential to understand the teachers' perspectives regarding any issue. Researchers have put high emphasis on the importance of teachers' motivation for 'the promotion of excellence in teaching with ICT' (Abdullah, Abidin, Su Luan, &Atan, 2006). In order to create an ICT supported learning environment for the future citizens of Bangladesh, it is essential to understand the factors that affect the teachers' motivation while using ICT in their classes. Though it is quite an important issue for study to realize the dream of achieving the concept of 'Digital Bangladesh', it is yet unexplored in terms of the college teachers in Bangladesh. This small-scale qualitative study aims to throw light on the general factors which affect the motivation of teachersin a government college situated in a comparatively disadvantaged area in Bangladesh for using ICT in their classes. The study might be useful for showing the ways by which the overall situation can be improved at college level in Bangladesh.

1.2. Statement of Problem

It is often found from general observation that the teachers show a kind of disinclination and even resistance to use ICT tools in their classes in some disadvantaged areas. Studies have shown that there are some factors that can have both positive and negative influence on the teachers' motivation while integrating new technologies in their teaching style (Sherman and Howard, 2012; Jung, 2005). It has been found that lack of working experience with technology affects teachers' motivation to work with ICT in their teaching (Osborne &

Hennessey, 2003, Balanskat et al. 2006). Newhouse (2002) in Australia found that teachers lacking the skills of using ICT equipment were less enthusiastic about the innovative ways of teaching by using computers. It is a major challenge for the educators to synchronize learning with modern pedagogy which is highly technology-dependent (Whitehead, Jensen &Boschee, 2013). It is necessary to have proper training in the area of pedagogical aspects of ICT as well as working experience with technology in classrooms (Jung, 2005; Kiridis et al., 2006; Steketee, 2005).

In formulating a research problem, the above-mentioned challenges were considered. As a first step the research problem was formulated as a question: What are the key aspects that affect the teachers' motivation in using ICT tools in their instruction?

1.3. Research Questions:
Based on the research problem the following research questions have been framed:
1. What are the key aspects that affect the teachers' motivation to use ICT tools in their instruction?
2. In what ways can the teachers' motivation be enhanced to help a better integration of ICT tools in their classes?

1.4. Limitations of the Study
The study was conducted at only one Govt. college in Bangladesh. So, it might not reflect the situation of all the Govt. colleges in Bangladesh. Besides, the application of only qualitative method might limit its validity.

II. Literature Review

Overall, teachers' motivation to use ICT in their classes is a complex issue for study. Studies in various parts of the world have explored this issue from various perspectives. The studies which have been conducted on the key aspects related to the teachers' motivation in using ICT in their classes have generally classified the factors of motivation into two categories: extrinsic factors and intrinsic factors. The extrinsic factors are generally related to the surroundings or the external contexts of the teachers like infrastructure of the institution and other supports. The intrinsic factors mainly include the teachers' perceived benefits of ICT in the classes and their level of satisfaction in working with ICT. (R. Schulz, G. M. Isabwe and F. Reichert *2015*).

Cox et al. divides the factors of motivation into two broad categories. The first one refers to *the teachers' skills and abilities* in using ICT and the second one indicates the *intrinsic factors* like teachers' satisfaction with ICT. Some of the studies have gone beyond the general level and tried to explore more specific and critical aspects related to the factors responsible for affecting teachers' motivation to use ICT in their classes. For example, a study by Schulz (2015) has also thrown light on another important factor which includes the usability, interactivity level, adaptability and learning requirements of a particular ICT tool. An important suggestion of this study is that all these factors need to be considered while designing ICT tools for education. The ICT tool intended for the use in education must be felt useful and user-friendly to the teachers as the usability of many such tools is quite challenging for many teachers.

Two other theories which are also considered very relevant in this sphere are Bandura's (1977) theory about self-efficacy and the theory of attitude-behavior relation (Doll & Ajzen, 1992; Fazio & Williams, 1986; Glasman&Albarracin, 2006). According to Bandura, self-efficacy is one's belief in one's capability to do anything with success and it has a great impact on one's motivation. A person's confidence in own capability to use a computer can be defined as his computer self-efficacy. Studies suggest that the teachers' sense of efficacy influences significantly how often and in what ways they use ICT in classroom (Compeau et al., 1995; Chang & Tung, 2008; Papastergiou, 2010). According to Preston and Cox (1999) attitude also influences teachers' motivation to use ICT. Attitudes to a particular behavior can improve attitude-behavior relations as attitude closely answers to behavior. Research suggests that those who do not feel confidence in using technology are not likely to integrate ICT in their instruction (Lau & Sim, 2008; Chigona&Chigona, 2010). Again, it is also argued by some scholars that the training the teachers receive cannot always equip them with the Technological Pedagogical Content Knowledge (TPCK). However, such knowledge is prerequisite for the teachers for integrating ICT in their teaching (Mishra & Koehler, 2006). Blackmore, Hardcastle, Bramblett and Owens (2003) has also stated that capacity development of teachers is a precondition for ICT integration. Capacity development by training can boost up teachers' motivation and self-efficacy with ICT (Robertson & Al-Zahrami, 2012). These studies also suggest that lack of opportunities to access technology, technical assistance have a negative impact on the teachers' motivation.

III. Research Design& Methods

3.1. Research Design:

A qualitative approach was used for the study. Qualitative interviews seemed to be a suitable instrument as the aim of the study was to probe into the issues the teachers believe to motivate them in using ICT tools in their classroom. The questions used in the interview addressed the teachers' feelings and perceptions about the environment of their classrooms and invited a reflection over their motivation.

3.2. Methodology
The Study Area and Participants

The area in which the study was conducted is a Govt. college situated in a marginally developed district in Bangladesh. There are forty-six teachers working here for almost twelve thousand students. The overall infrastructure of the college is yet to provide the facilities of the modern technology-enabled classrooms. There is only one common ICT lab for all the thirteen departments. Only two classrooms have permanent set-up for taking multimedia classes. In the rest of the classrooms, the teacher must take with them the necessary accessories like projector, laptop etc. for initiating multimedia teaching. The college runs courses at intermediate and undergrad level. It also runs a few courses at postgraduate level.

Purposive sampling was used for the study as the participants included the individuals who had experiences to contribute to a greater understanding of the problem. Three teachers from three different subjects were selected for individual interviews. Involvement with different subjects provided different footings. Among the three, one was a female participant. The aim was to bring up points from different perspectives. Besides, six other teachers from six other subjects were selected for the group interview. The group interview included two female and four male participants. The sample size was relatively small as the time allocation for the study was not encouraging for a more elaborative process.

3.3. Data Collection Strategies

Individual interviews as well as a group interview were used to reach the goal of understanding the problem. An interview guide was framed for using in one-on-one interviews to reach the feelings and perceptions of the participants about various aspects of motivation to use ICT in the classroom. The views and opinions gathered from the data collection have been analyzed at the sections of findings. A semi-structured group interview was also used for the further exploration of the issue.

Individual Interviews

In general, semi-structured interviews have a list consisting of the relevant themes as well as questions to be dealt with (McMillan and Schumacher, 2010). In appendix A, the questions that were used for the interviews with participants have been indicated. These questions were framed to get the answers to the research questions. The interviews were arranged focusing on having the answers to the research questions and the related issues. The researcher first asked permission from the participants to use parts of the interview in the study. All the interviews were audio-recorded and transcribed immediately on completion. On average, each interview lasted 56 minutes. It was also ensured that information would be protected from unauthorized observation. For anonymity, no names of the participants were used in the reporting on the findings (Cohen et al., 2011)

Group Interview

Group interviews are the interviews in which a group of people are gathered and interviewed by a researcher to discuss a subject of a study based on the personal experience of the interviewees (Clarke, 2000). Specific questions were also used for the group interview. Permission was also taken to use the collected data for the purpose of studying and maintaining the ethical issues. The participants were asked to reply to the interview questions as indicated in Appendix B. The interview questions were aimed to explore the study area further by gathering multiple opinions.

3.4. Method of Data Analysis

Qualitative data analysis attempts to know the participants' understanding of a particular phenomenon by understanding their feelings, ideas and experiences (Nieuwenhuis, 2008). Data analysis tries to code data in smaller parts to bring out the distinct aspects as much as possible (Leedy&Omrod, 2005). In determining codes Creswell's (2009) system of the qualitative code book was followed. In this study a priori codes and categories were designed, and trends were formulated as questions for the interview guide. The questions and the categories were derived from the overview of the literature.

3.5. Ethical Issues:
Qualitative researchers should maintain ethical principles strictly because of their own characteristics (McMillan and Schumacher 2010). The ethical issues concerning privacy and consent have been strictly maintained here. All the participants have been anonymized and the codes have been kept secret to the researcher.

III.   Findingsand Discussion

4.1. Finding

A. Findings from the Individual Interview
The data obtained from the personal interviews were linked to the categories and subcategories as given in the following table:

Categories	Sub-categories
Extrinsic Factors	● Availability of resources ● Training Facilities ● Institutional Culture
Intrinsic Factors	● Perceived Benefits of ICT tools ● Level of satisfaction

Extrinsic Factors
        All the participants pointed out the inadequacy of the available resources in the institution which often stopped them from taking any effort to use ICT in their classes. They also acknowledged that they would be highly inspired and motivated if ICT gadgets like laptops are supplied adequately from the institution. Shortage of equipment was highlighted by participant D when he said, *we don't have sufficient computers and laptops*. Participant P reported, *we need more laptops and computers to provide all the learners hands-on skill*. He added, *we don't have a permanent set up for taking ICT aided classes...It's very hard to manage everything instantly*. Participant D highlighted another point when he said *it's really challenging to work when you are frequently interrupted with unexpected power-cut and poor internet.*Two of the participants expressed their interest in using web 2.0 tools for increasing engagement of their students. But they also showed their disappointment as most of the students did not have smart phones and internet connection to be connected.

        Shortage of funds has been reported to be a great obstruction on the way of establishing ICT-enabled classes. D said, *we get funds at a minimal level…That's why we can't afford to spend enough for the proper maintenance of our tools.* Participant P also pointed out… *more funding is necessary for creating a more effective environment…we need to employ technicians to assist us.* However, participant D expressed that they were optimistic about recent initiatives taken by the Government to develop the college sector of Bangladesh. Under the project of CEDP (College Education Development Program) funded by the World Bank and the Government of Bangladesh many colleges in Bangladesh are transforming their infrastructure and building up ICT-enabled classrooms. So, Participants were looking forward to getting benefits from such a project.

        All the participants put emphasis on appropriate training opportunities for building up necessary skills and abilities among the teachers to use ICT in their classes. One of the participants who had several trainings on developing multimedia teaching-learning content opined that developing pedagogical knowledge and skills related to ICT use is very important for building up proper motivation of the teachers. For this reason, he emphasized on training facilities. He added *I've had several training sessions. That's why things are now getting easier with me. Now I feel greater satisfaction in taking classes using ICT tools…We need to develop in-house training culture for building up capacities among our teachers.* Participant P said, *I have had formal training. I wish I had more for making me up to date.* Participant D also thought that proper training on a regular basis might bring up a significant change in the motivation of the teachers as it would be helpful to them to be easy and comfortable with the ICT tools.

Intrinsic Factors
        Participants showed mixed feelings about the benefits of ICT tools although almost all the participants were of the same opinion that the increased use of computers will bring speed and efficiency in teaching by creating the opportunities of easy access to information as well as active participation of the students. Participant D said, *ICT has made access to information easier than before … we can collect and share information speedily and comfortably…it helps to make my lesson interesting... I often show video clips to my students on the learning content and ask them to explain. It really works to engage them….* Participant P also thought that ICT tools are very useful for supporting active learning in the classroom. However, Participant G, a Math teacher opined, *it can't help me much because my subject doesn't fit…my students are still more comfortable with traditional Math teaching with board and marker.* One of the participants also expressed his concern that use of ICT in the classroom sometimes create opportunities for the young generation to be addicted to time-consuming, harmful sites of internet. In that case, instead of achieving a good outcome, many students get derailed.

B. Findings from the Group Interview
The participants were asked to reply to the following questions as indicated in Appendix B:
1. How do you understand the concept of ICT as a teaching tool? Explain.
Four among the six participants showed positive attitudes towards the benefits of ICT tools in teaching. They commonly opined that ICT can make lessons interesting and attractive although only two participants who had advanced training on ICT explained how ICT can serve their pedagogical purpose beyond their ornamental use. Participant A said, ICT as a teaching tool can enhance active learning in the classes by engaging students' attention with innovative ways. Participant J also supported it by saying that the students like to experience new teaching style rather than mere lecturing. However, two participants who had no training on ICT were not very enthusiastic of using ICT in their classes as they expressed their phobia for lack of skills and abilities to use them.

2. Do you feel motivated to use ICT tools in your classes? Why/Why not?
Four among the six participants informed that they did not feel themselves to be much motivated to use ICT in their classes although they knew that ICT as a teaching tool might have various benefits. The chief reason they mentioned to be responsible for this reluctance to use ICT tools in their classes were lack of available resources. Four among the participants had formal training on ICT. Even after getting training, they informed that they could not use ICT regularly in their classes due to lack of resources. Naturally they have little experience of using ICT in their classes. The other participants who had no training on ICT admitted the fact that they could not develop abilities to use ICT in their classes. Poor resources in terms of equipment and lack of training and experience were mentioned by the respondents as the major backward driving force in case of using ICT tools in the classroom. Participant A said… *we aren't trained properly that's why we don't feel comfortable in using ICT tools in the class…* Participant J added… *We don't get any allowance for spending on internet costs to build-up multimedia content for our class. Besides, it takes a lot of time to prepare for ICT enabled classes.*
3. What kinds of support can enhance your motivation to use ICT tools in the classroom? Explain.
It was understood from the response of the participants that a resourceful and smooth environment along with suitable training programs for capacity building among the teachers can improve the teachers' self-efficacy and thereby enhance their motivation to use ICT in their teaching. Participant F said *we need sufficient resources to make our classes technologically enabled.* Participant J also pointed out the necessity of continuous training program to develop skills and abilities among the teachers to create an ICT supported learning environment. Most of the participants showed their interest in developing their skills in ICT use because they thought that it might help them cope with the 21st century learners' needs.

IV. Discussion
Noting that majority of the teachers in the institution were struggling with their insufficient performance regarding the use of ICT tools in their teaching practice, the researcher aimed to understand what things might affect their motivational force to use ICT tools effectively in the teaching-learning process. As a part of the study existing relevant literature has been reviewed to get to a clearer perspective. Data was collected and analyzed following a qualitative approach by using individual interviews along with a group interview. As the answer to the Research Question 1 (What are the key aspects that affect teachers' motivation?) It has been found that teachers' motivation is highly affected with the ICT resources of the institution, teachers' training and skill development as well as the teachers' satisfaction level. In the answer to the second Research Question (In what ways can the teachers' motivation be increased to help a better integration of ICT tools in their classroom?) the data suggests that teachers feel inspired and motivated when ICT resources are readily available and can be used comfortably. We also have found that teachers have needs and interests which should be cultivated properly. They desire to be equipped with the technological and pedagogical skill to support an ICT-enabled system of teaching-learning. They should be supported in their endeavor adequately and appropriately.

These findings regarding the two research questions have also been found to be supported by existing studies in the relevant field. The study results have identified the teachers' motivational factors through revealing the feelings and perceptions of the teachers. In that sense the study has been able to address a knowledge gap even though on a smaller scale. Collected data suggests that most of the participants prefer to work in an environment where the facilities are readily available. Most of the participants stated that they believed themselves not to be sufficiently motivated. They attributed the reason to the lack of a supportive environment. It proves that the institution is at an elementary level in terms of developing suitable infrastructure which is a precondition for an ICT supported teaching learning atmosphere. As the teachers play a central role, it is very important to meet their expectation in using technology to support learning (Jung, 2005).This means the institutions should have technological supports readily available. Without sufficient resources, the teachers might show a lack of motivation to teach with ICT. A similar study in Saudi Arabia, (Almaghlouth, 2008) also

shows that when support to the teachers using technologies for teaching was not readily available, the teachers lacked motivation to integrate ICT in their classes.

Another important factor to influence their motivation negatively was reported to be their own lack of capacity for the use of ICT tools. Similar opinions are found in other studies that emphasize on the development of teachers' skills and knowledge to improve their confidence and self-efficacy (Reid, 2002; Ortega,2000; Blackmore et al., 2003 Ertmer and Ottenbreit-Leftwich (2010)). Some teachers suffer from computer phobia which stands in their way of using ICT in their classes (Sherman & Howard, 2012). Findings also indicate that the educational institution should develop an institutional culture for running in-house professional development programs for enhancing capacity development among the teachers. It will certainly increase the level of satisfaction among the teachers by raising their efficacy level. Finally, this intrinsic value is likely to have a positive influence on teachers' motivation. This view is also implied by Bandura's theory of self-efficacy. The teachers who have a good level of efficacy can use ICT to wonderfully support their students' learning which increases their satisfaction level, an intrinsic factor for motivation.

As the teachers in this college are yet to experience the basic infrastructural facilities in their institution, they are still far away from understanding the advanced pedagogical implications of the ICT tools used in the resourceful institutions as suggested in the research of Schulz (2015). This research also seeks to remind the policymakers that it is imperative to increase funds in the education sector for the desired success. Various ICT tools like internet, hardware, software, audio, video, teaching aids and accessories need huge funding. Mumtaz (2000) also supported the view when she stated that lack of funds to get all the necessary accessories is one of the prime causes why the teachers do not use ICT tools in their class. On the other hand, some respondents also mentioned a desire for getting rewarded for their use of ICT in teaching.

Overall, the teachers have expressed a desire for having a congenial and inviting environment to be motivated internally. So, the intrinsic factor for motivation like the level of satisfaction, interest and enjoyment depend on the extrinsic factors mentioned above.

V. Conclusions& Recommendations

5.1. Conclusion

As in many other countries, it has become a priority of the present educational policy of Bangladesh to achieve the learning outcomes that would prepare the young learners for the present information wave. In this connection scholars like JCopriady (2015) opined teachers' motivation 'as a great mediator for teachers' readiness in using ICT in teaching-learning'. The present study has tried to throw light on the issue of motivation for the teachers to use ICT as a supportive tool for their instruction. After analyzing the data, it has found how and when teachers feel motivated to use ICT in their instruction. It has identified some of the most important motivating factors that can affect the teachers' use of ICT for curriculum delivery at a government college. The study results have identified the teachers' motivational factors through revealing the feelings and perceptions of the teachers relating to the issue. In that sense the study has been able to address a knowledge gap even though on a small scale. The findings of the study might also serve as a source of information for the stakeholders. The implication of his study also includes that the Government and the Ministry of Education should consider teachers' motivation seriously and make appropriate policy for working on those areas that are demotivating the teachers from using ICT in their instruction. The concerned authority should take steps to motivate teachers in using ICT for education and thereby preparing our young generation to cope with the 21st century tech savvy, globalizing world.

5.2. Recommendations:

Based on the findings of the study, certain measures can be suggested for improving the overall situation related to teachers' motivation to use ICT tools in their class effectively. The implementation of these recommendations might go a long way towards strengthening teachers' motivation contributing to successful integration of ICT tools in education.

First, a resourceful environment in terms of ICT tools should be ensured along with adequate technical support.

Second, as teachers are the role models for the students, theyshould be equipped with the necessary skills and knowledge to use ICT effectively for education. For developing the necessary skills among the teachers, they need to be trained in a proper way.

Third, funding should be increased in the sector to meet up the preconditions successfully.

Above all, policy makers should build up policies that can encourage and support teachers' motivation to use ICT in their instruction successfully.

Reference

[1]. Al-Madani, F. M., &Allaafiajiy, I. A. (2014). Teachers' professional development on ICT use: A Saudi sustainable development model. *Journal of Modern Education Review*, *4*(6), 448-456.

[2]. Aloraini, S. (2012). The impact of using multimedia on students' academic achievement in the College of Education at King Saud University. *Journal of King Saud University-Languages and Translation*, *24*(2), 75-82.

[3]. Bakić-Tomić, L. (2014). EXAMINATION OF ATTITUDES OF COMPULSORY EDUCATION TEACHERS IN THE REPUBLIC OF CROATIA TOWARD THE INTEGRATION OF ICT TECHNOLOGY IN DAILY WORK. *The Eurasia Proceedings of Educational & Social Sciences*, *1*, 243-249.

[4]. Balanskat, A., Blamire, R., & Kefala, S. (2006). *The ICT impact report: A review of studies of ICT impact on schools in Europe*. European Communities.

[5]. Bandura, A. (2002). Social cognitive theory in cultural context. *Applied psychology*, *51*(2), 269-290. Bhattacharya, I., & Sharma, K. (2007). India in the knowledge economy–an electronic paradigm. *International journal of educational management*, *21*(6), 543-568

[6]. Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *Eurasia journal of mathematics, science & technology education*, *5*(3).

[7]. Blackmore, J., Hardcastle, L., Bamblett, E., & Owens, J. (2003). Effective use of information and communication technology (ICT) to enhance learning for disadvantaged school students. *Deakin Centre for Education and Change, Institute of Disability Studies, Deakin University and Institute of Koorie Education, Deakin University, Australia*.

[8]. Bovée, C., Voogt, J., &Meelissen, M. (2007). Computer attitudes of primary and secondary students in South Africa. *Computers in Human Behavior*, *23*(4), 1762-1776.

[9]. Chigona, A., Chigona, W., &Davids, Z. (2014). Educators' motivation on integration of ICTs into pedagogy: case of disadvantaged areas. *South African Journal of Education*, *34*(3).

[10]. Creswell, J. W., & Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *22*(6), 612-621.

[11]. Cox, M. J., Cox, K., & Preston, C. (2000). What factors support or prevent teachers from using ICT in their classrooms?

[12]. Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of research on Technology in Education*, *42*(3), 255-284.

[13]. Glasman, L. R., &Albarracin, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological bulletin*, *132*(5), 778.

[14]. Leedy, P. D., & Ormond, J. E. (2005). Review of the related literature. *Practical research: Planning and design*, 64-84.

[15]. Littlejohn, A. (2008). The tip of the iceberg: Factors affecting learner motivation. *RELC Journal*,

[16]. McMillan, J. H., & Schumacher, S. (2010). Research in Education: Evidence-Based Inquiry, MyEducationLab Series. *Pearson*.

[17]. Mokgadi, G. T. (2015). *The implementation of Information and Communication Technology (ICT) in teaching and learning in Rekopantswe area office Schools* (Doctoral dissertation, North-West University (South Africa), Mafikeng Campus).

[18]. Morphew, V. N. (2012). *A constructivist approach to the national educational technology standards for teachers*. International Society for Technology in Education.

[19]. Müller, J., Gil, J. M. S., Hernández, F., Giró, X., & Bosco, A. (2007). The socio-economic dimensions of ICT-driven educational change. *Computers & Education*, *49*(4), 1175-1188.

[20]. Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of information technology for teacher education*, *9*(3), 319-342.

[21]. Newhouse, P. (2002). Literature review: The impact of ICT on learning and teaching. *Perth, Western Australia: Department of Education*. Player-Koro, C. (2012). Factors influencing teachers' use of ICT in education. *Education Inquiry*, *3*(1), 93-108.

[22]. Palak, D., & Walls, R. T. (2009). Teachers' beliefs and technology practices: A mixed-methods approach. *Journal of Research on technology in Education*, *41*(4), 417-441.

[23]. Papastergiou, M. (2010). Enhancing physical education and sport science students' self-efficacy and attitudes regarding information and communication technologies through a computer literacy course. *Computers & Education*, *54*(1), 298-308.

[24]. Sang, G., Valcke, M., van Braak, J., &Tondeur, J. (2009). Investigating teachers' educational beliefs in Chinese primary schools: socioeconomic and geographical perspectives. *Asia-Pacific Journal of Teacher Education*, *37*(4), 363-377.

[25]. Schunk, D. H., Meece, J. R., &Pintrich, P. R. (2012). *Motivation in education: Theory, research, and applications*. Pearson Higher Ed.

[26]. Schulz, R., Isabwe, G. M., & Reichert, F. (2015, September). Investigating teachers' motivation to use ICT tools in higher education. In *2015 Internet Technologies and Applications (ITA)* (pp. 62-67). IEEE.

Appendix A

Semi-structured Interview Questions for Individual Interviews

1. How do you use ICT tools in your classroom?
2. How do you use ICT tools in your classroom?
3. Do you think you are motivated to use ICT tools in teaching?
4. Why or why not? What effect does the provision of ICT tools in your institution have on your motivation?
5. How do your professional development courses affect your motivation to use ICT tools?
6. What kinds of support can strengthen your motivation to use ICT tools in class?
7. Do you have any other comments you would like to share?

Appendix B

<u>Semi-structured Questions for Group Interview</u>

1.   How do you understand the concept of ICT as a teaching tool? Explain.
2.   Which things might inspire you to use ICT tools in teaching? Explain.
3.   What things might discourage you from using ICT tools in teaching? Explain.
4.   What kinds of support can enhance your motivation to use ICT tools in the classroom?
5.   Do you have anything else to share relating to teachers' motivation in using ICT tools in the classroom?