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Factors Affecting Secondary-School English Teachers' Adoption of Technologies in Southwest Vietnam

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This paper reports the findings of a comparative case study which investigates EFL secondary teachers' perspectives regarding information and communication technology (ICT) adoption and integration in the context of English language teaching (ELT) in the Mekong Delta, Vietnam. The research questions set out to examine the current teaching practices with ICT and the factors influencing the teachers' uptake of ICT. The participants were EFL teachers from secondary schools in two provinces: Dong Thap and Can Tho. Fifty participants completed the questionnaires, ten of whom contributed to semistructured interviews. In addition to findings about the influence of ICT infrastructure and facilities, indications are that school culture has significant impact. The implication is for policy makers and educational administrators to support and encourage staff to adopt and integrate ICT in their teaching practices and to be aware of possible drawbacks of using ICT in English language teaching.

Technologies such as computers, the Internet, software, and applications have been widely used in every aspect of society, and they are increasingly used in educational contexts. Vietnam, a developing country in Southeast Asia, has transformed its educational system in accordance with the global tendency to integrate information and communication technology (ICT) into education.

To foster the implementation of ICT in education, particularly in teaching English, the Vietnamese government and the Ministry of Education and Training (MoET) have issued policies and invested in ICT infrastructure nationwide (Peeraer & Van Petegem, 2011; Quach, 2004). Two examples of such policies are Decision 1400/QD-TTg on the Scheme of Teaching and Learning Foreign Languages in the National Educational System Period 2008-2020 and Directive 55/2008/CT-BGDĐT on Promoting Teaching, Training and Applying ICT in Teaching Period 2008–2012. According to Quach (2004), the director of the Information Technology Centre at MoET, the government supports the latter policy decision through cooperation agreements with ICT companies in order to build technology infrastructure, particularly in the

education sector. MoET has also organized training workshops on ICT for instructors and administrators.

However, the actual implementation and the extent of teachers' classroom use of ICT still need to be investigated. One current problem is that few studies of ICT integration in English language teaching (ELT) at the secondary level have been conducted in Vietnam. Those few focused mainly on ELT at tertiary education, employed a quantitative approach, or were not conducted in the Mekong Delta (Dinh, 2009; Peeraer & Van Petegem, 2011). As a result, the picture of ICT integration in education, especially in secondary schools in the Mekong Delta, has not yet been described. The question remains as to what factors drive EFL teachers in Vietnam to adopt ICT in their work in secondary schools in the Mekong Delta.

As a result, this study aims to (1) examine the current teaching practices of EFL teachers using ICT and (2) investigate the factors that impact their uptake of ICT. The study's design is qualitative and represents a comparative study.

Two key data collection strategies were utilized: open-ended questionnaires and semistructured interviews. Although this qualitative comparative study has certain limitations, such as not recruiting principals and students as participants and no classroom observations, its findings will contribute to more effective incorporation of ICT in ELT at the secondary school level for the Mekong Delta.

This study is guided by two research questions:

1. How have EFL teachers responded to ICT in their teaching?
2. From the EFL teachers' perspectives, what factors influence the integration of ICT in their teaching?

Findings from secondary schools in two provinces in Vietnam's Mekong Delta are presented in this paper. Previous studies concerning ICT integration in ELT are summarized in the following section.

Factors Influencing Teachers' Use of ICT

Findings from previous studies on ICT use in education show different factors influencing teachers' adoption and integration of ICT in their teaching practices. Some focus on the teachers themselves, including teachers' age (Li & Walsh, 2010), years of teaching (Bussey, Dormody, & VanLeeuwen, 2000; Gueldenzoph, Guidera, Whipple, Mertler, & Dutton, 2000), teaching styles (Cooper, 2001; Gueldenzoph et al., 2000), previous experience or knowledge about using ICT (Groves & Zemel, 2000; Stone & Henry, 2003), compatibility (Groves & Zemel, 2000), relative advantage (Groves & Zemel, 2000), self-efficacy (Albion, 2001; Stone & Henry, 2003), confidence (Bingimlas, 2009), and anxiety and fear of change (Bussey et al., 2000). Other external factors refer to the infrastructure, learners' learning, and administrative aspects, for instance, the availability and accessibility of facilities and equipment (Li & Walsh, 2010); the stability of energy sources (Bussey, et al., 2000); students' interests and engagement in learning with ICT (Bussey et al., 2000; Groves & Zemel, 2000; Gueldenzoph et al., 2000); support in terms of technical and administrative areas (Bussey et al., 2000; Stone & Henry, 2003); and time, workload, and policies related to ICT use, such as incentives (Anderson, Varnhagen, & Campbell, 1998; Groves & Zemel, 2000; Wolcott & Betts, 1999).

In developing countries like Vietnam, one of the main barriers to the adoption of technology in educational settings is lack of infrastructure and technological devices needed for the

implementation process (Agyei & Voogt, 2011; Dinh, 2009; Marwan & Sweeney, 2010; Peeraer & Van Petegem, 2011). Yet providing sufficient ICT hardware does not guarantee that technology integration will occur in classrooms (Albion, 2001; Mulkeen, 2003; Ward, 2003). As mentioned in Drent and Meelissen (2008), computers are available in almost all Dutch teacher education institutions, but most teachers use them for administrative tasks rather than teaching and learning purposes. It is clear that implementation of ICT innovation requires not only the necessary facilities but also human resources – the teachers – because “beyond a certain level of necessity it would appear that more infrastructure does not automatically equate with more use,” while “teachers who feel confident about their ability to use computers in the classroom and see clear advantages to doing so overcome any negative constraints that may otherwise limit their use” (Ward, 2003, p. 11).

Many studies confirm the key role of teachers in determining the effectiveness of integrating ICT in classrooms (Baylor & Ritchie, 2002; Law, 2008; Mumtaz, 2000; Voogt, 2003).

Research Methodology

The study aims to seek rich descriptions of the current environment of ICT integration and teaching practices accompanying it in ELT at the secondary level; thus, a qualitative research design was used (Creswell, 1998; Lichtman, 2006). The main data collection methods were open-ended questionnaire and semistructured interviews in English. Different sources of information and various types of data collection methods were used to minimize the biases that may occur in qualitative research (Johnson & Christensen, 2008). Moreover, to increase the validity of the study, the participants’ transcripts were returned to the EFL teacher participants for their checking (Punch, 2009).

Fifty EFL teachers from secondary schools in Can Tho and Dong Thap agreed to participate in the research. An equal number of teachers were recruited for each case (25 in Can Tho and 25 in Dong Thap). They completed the open-ended questionnaire, which aimed to collect data on the context, teachers’ current ICT use, factors influencing their uptake and use of ICT, and their demographic data. From the results of the questionnaire and their indication of interest in participating in the interviews, 10 EFL teachers (five at each research site) were invited to answer the semistructured interview questions to elaborate on topics arising from the research in more depth.

The open-ended questionnaire (see Appendix A) was adapted from a number of previous studies in the related area of ICT in teaching (e.g., Arkin, 2003; Li & Walsh, 2010; Mumtaz, 2000; Phelps, Graham, & Watts, 2011). The semistructured interview protocol (see Appendix B) was designed based on the purpose of this study, the information obtained from the open-ended questionnaires and previous research (e.g., Chen, 2008; Marwan & Sweeney, 2010).

The data obtained via the open-ended questionnaires and transcripts of the semistructured interviews have been categorized according to two main categories: teachers’ current ICT practices and factors influencing those teachers’ ICT use. Under each main category there are subcategories.

Findings and Discussion

This section reports the findings from the open-ended questionnaire (Appendix A) and the semistructured interviews (Appendix B) about the ICT environment in secondary schools in Can Tho and Dong Thap, the teachers’ current ICT use, and the factors affecting their ICT use as well as their expectations for further support in order to better implement ICT in classrooms.

Lecturers' Use of ICT and Purposes

Figure 1 shows the ICT tools usually used by EFL teachers in their teaching. It can be seen that the three most popular tools, used by approximately two-thirds of the teachers, are the Internet, computers or laptops, and audio players (CD players). Half of the teachers reported using CD-ROMs. The next most used ICT tools included websites, interactive whiteboards, and educational software (around one-third), followed by video recorders and emails (around a quarter). The least used tool was satellite TV (approximately 10%), and no teachers reported using a learning management system (LMS). The findings indicate that the teachers do not prefer to use ICT tools that are complex or are not user friendly, such as interactive whiteboards and LMS.

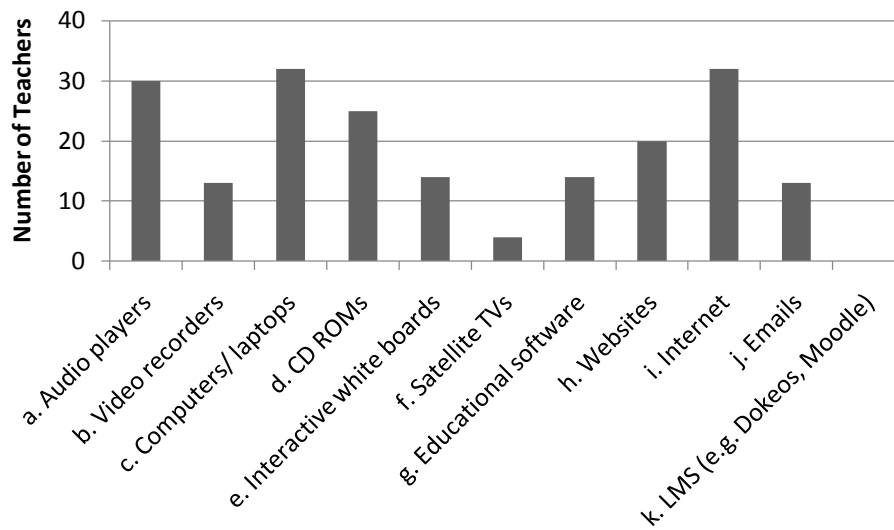


Figure 1. ICT tool use by EFL teachers.

Table 1 shows the comparison of the ICT tools EFL secondary teachers reported using between Can Tho and Dong Thap. It can be seen that both satellite TV and the LMS were not popular for teachers at either site; below 8% of the lecturers at each site reported using them. There are considerable differences in ICT tools adopted by teachers at the two sites. Teachers in Can Tho tended to use more audio players, interactive whiteboards, CD ROMs, educational software, and emails than those in Dong Thap. The most noticeable difference was the use of interactive whiteboards. Six times the number of teachers in Can Tho used this device compared to their colleagues in Dong Thap. Approximately twice as many teachers in Can Tho used audio players, emails, and educational software as those in Dong Thap. However, more teachers in Dong Thap used websites and video recorders as well as computers or laptops and the Internet than their colleagues in Can Tho.

Table 1***ICT Tools Used by EFL Secondary Teachers in Can Tho and Dong Thap***

| ICT Tools | Can Tho (<i>n</i> = 25) | Dong Thap (<i>n</i> = 25) | Total (<i>N</i> = 50) |
|-------------------------------|-----------------------------|-------------------------------|---------------------------|
| a. Audio players | 21 | 9 | 30 |
| b. Video recorders | 4 | 9 | 13 |
| c. Computers / laptops | 14 | 18 | 32 |
| d. CD ROMs | 14 | 11 | 25 |
| e. Interactive whiteboards | 12 | 2 | 14 |
| f. Satellite TVs | 2 | 2 | 4 |
| g. Educational software | 9 | 5 | 14 |
| h. Websites | 6 | 14 | 20 |
| i. Internet | 14 | 18 | 32 |
| j. Emails | 9 | 4 | 13 |
| k. LMS (e.g., Dokeos, Moodle) | 0 | 0 | 0 |

In general, the teachers in Can Tho used ICT tools more than their colleagues in Dong Thap, although the difference is not great. A possible explanation is that Can Tho is a central city while Dong Thap is not. Big cities and more central areas tend to receive more attention from the government in investment and development. It can be inferred that the schools in Can Tho are better equipped with ICT facilities such as interactive whiteboards and teaching resources, and Can Tho teachers are able to gain more access to ICT tools. In contrast, the teachers in Dong Thap are provided with fewer ICT tools like interactive whiteboards; thus, they possibly use alternative tools like computers or laptops and may use the Internet more to search for extra resources during their lesson preparation. In addition, the students in Dong Thap may not have easy access to ICT tools themselves because Dong Thap is not a central province in Southwest Vietnam or the Mekong Delta. This may help explain why the use of email exchanges between teachers and students in Dong Thap is less frequent than in Can Tho. This indicates that the issue of the digital divide among provinces in the same region needs special consideration.

Figure 2 reports the teachers' purpose for using ICT in their teaching and lesson preparation. The key purposes include providing drill and practice (100% of respondents) and explaining new knowledge, giving presentations, and sending and receiving emails (96% of the respondents for each). More than 70% of the teachers reported using ICT to provide authentic materials to their students and to search for information on the Internet. Approximately 55% used ICT to access a library catalogue or other online resources and provide students with exposure to cultural concepts. Less than one-third used ICT to support student self-study or to assign an individual or collaborative project.

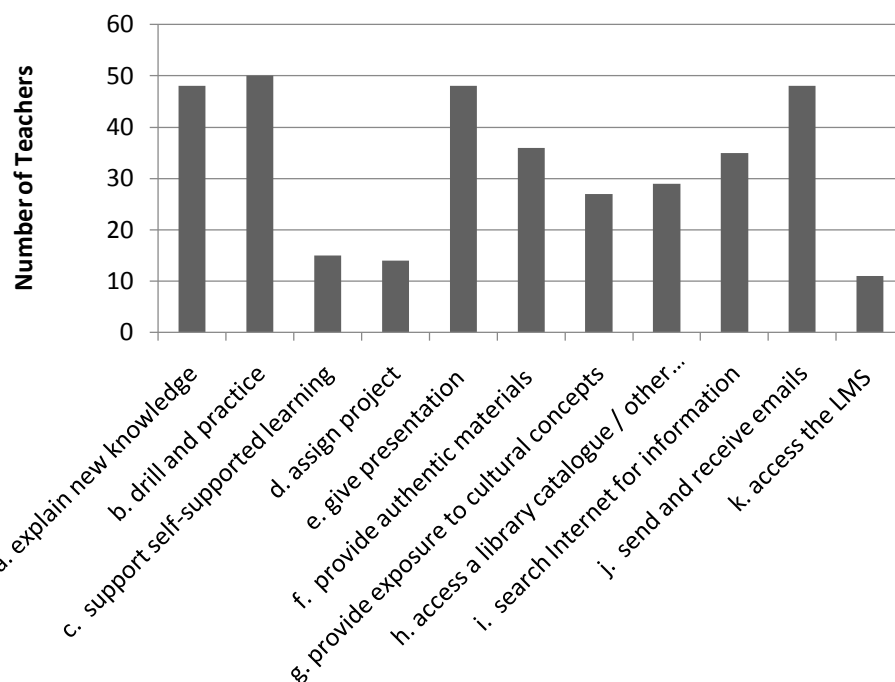


Figure 2. Purposes of ICT use.

These findings can be understood to be due to the low level of English proficiency of secondary students and the exam-oriented teaching and learning culture. The teachers are key informants and still play the major role in controlling the class activities. Therefore, ICT tools are mainly used for lesson preparation and presentation, in-class practice, and email exchanges, while students' self-study or collaborative assignments are neither popular nor encouraged.

Internal and External Factors Influencing the EFL Secondary Teachers' Use of ICT

Teachers' perceptions of the influence of beliefs about ICT use. Table 2 presents one subgroup of internal factors: beliefs about the importance and benefits of ICT in teaching (indicated by Items a-h and Item t from the open-ended questionnaire in Appendix A, Part B, Question 1). Over 80% of the teachers at both sites agreed that ICT is effective in student learning (Item c). In addition, teachers are also motivated by factors related to ICT enhancing the effectiveness of teaching pedagogies. At both sites, the teachers' positive beliefs are the major source of motivation for their integration of ICT into teaching.

The only contrast between the response rates of both sites refers to the perceived personal benefits of ICT use (Items g and h). It is also interesting to note that many more teachers in Dong Thap than in Can Tho believe ICT helps reduce their workload. A possible explanation is that in more central areas like Can Tho, the requirements of e-lesson plans may be higher than those in less urban areas like Dong Thap.

Table 2***Beliefs About the Importance and Benefits of ICT in Teaching***

| Motivating factors | Can Tho (n = 25) | Dong Thap (n = 25) | Total (N = 50) |
|--|---------------------|-----------------------|-------------------|
| a. It is becoming trendy to use ICT in teaching. | 20 | 25 | 45 |
| b. ICT is particularly important for teaching my course. | 20 | 17 | 37 |
| c. ICT helps students become more effective in their EFL learning. | 25 | 23 | 48 |
| d. ICT enhances students' motivation and interest in learning EFL. | 25 | 18 | 43 |
| e. ICT helps students develop other skills such as self-learning and lifelong learning skills, teamwork, and collaborative skills. | 25 | 19 | 44 |
| f. The teaching of some skills and knowledge can best be done through the use of ICT. | 20 | 20 | 40 |
| g. Using ICT enhances the effectiveness of my instruction. | 13 | 17 | 30 |
| h. ICT helps to incorporate new teaching methods. | 18 | 13 | 31 |
| t. ICT reduces my workload. | 7 | 18 | 25 |

In the semistructured interviews, the teachers gave specific examples of the benefits ICT brings to their students. Participant 1 and Participant 3 in Can Tho and Participant 6 in Dong Thap listed some benefits when using ICT in their classes as follows:

- Images and short video clips are used in teaching vocabulary instead of long and complicated explanations.
- ICT is a great help in improving students' pronunciation.
- ICT provides authentic materials, so students are exposed to real target language contexts.
- The students are able to understand clearly and remember the lessons longer.
- ICT helps the English classes be more interesting and motivating for the students, so they get actively involved in learning activities.

The teachers are aware of the benefits of using ICT in teaching English. On the other hand, they also consider the overuse of ICT in teaching as inappropriate. Participant 1 in Can Tho, for example, observed that using a lot of animations, images, and effects in PowerPoint slides without respecting the lesson objectives and aims is time consuming.

Teachers' perceptions of the influence of ICT experience, training, skills, confidence, and interest in innovation. Table 3 presents other internal factors relating to the teachers' knowledge and skills as well as their interest in ICT use (Items i to m from the open-ended questionnaire in Appendix A, Part B, Question 1). Over 65% of the teachers agreed that their experience with ICT and their interests in innovation motivate them to use ICT in teaching. However, less than half of them felt confident about their ICT skills, especially those in Can Tho. This result may be linked to the responses that show the teachers did not think that they were offered enough training on the use of ICT in teaching (Item j). In brief, the findings show that ICT experience and interest in innovation are most influential in motivating these teachers to integrate ICT into classrooms.

Table 3***Impact of ICT Experience, Training, Skills, Confidence, and Interest in Innovation***

| Motivating factors | Can Tho (n = 25) | Dong Thap (n = 25) | Total (N = 50) |
|--|---------------------|-----------------------|-------------------|
| i. The more I use ICT, the more I see how it can be used to extend and enhance learning. | 20 | 23 | 43 |
| j. I am offered training on the use of ICT for my instruction. | 10 | 13 | 23 |
| k. I am good at using ICT, so I would like to try using it for teaching purposes. | 12 | 11 | 23 |
| l. I am confident about using ICT in my teaching. | 8 | 15 | 23 |
| m. I like innovation. | 14 | 20 | 34 |

Teachers' perceptions of the influence of other external factors. Tables 4 and 5 present two subgroups of the external factors. They indicate the availability and accessibility of ICT hardware, software, technical support, and encouragement from colleagues and administrators. Table 4 presents the impact of ICT facilities and technical support (Items n to q from the open-ended questionnaire in Appendix A, Part B, Question 1). Table 5 presents the positive effect of encouragement from colleagues and administrators (Items r and s from the open-ended questionnaire in Appendix A, Part B, Question 1).

The teachers do not agree that it is easy for them to get access to hardware and software to use in the classroom. The barrier in obtaining access to ICT becomes an inhibiting factor that discourages the teachers from using ICT in their teaching.

Table 4***Impact of ICT Facilities and Technical Support***

| Motivating factors | Can Tho (n = 25) | Dong Thap (n = 25) | Total (N = 50) |
|--|---------------------|-----------------------|-------------------|
| n. There are lots of software packages available for me to use in teaching English to my students. | 14 | 15 | 29 |
| o. It is easy to get access to hardware to use in the classroom. | 7 | 3 | 10 |
| p. It is easy to get access to software to use in the classroom. | 7 | 15 | 22 |
| q. Reliable support personnel are available when I face difficulty in using ICT. | 4 | 8 | 12 |

The following are quotes from the semistructured interviews (see Appendix B). Regarding inadequate ICT equipment and access, many teachers mentioned that there are not enough ICT rooms to meet the demand of teachers and students. For example, Participant 8 in Dong Thap shared her experience:

My school has only a room equipped with ICT facilities for teaching with ICT, so it is sometimes difficult to get access to the ICT room because there may be two or more classes at the same time. In these cases, I must teach in a traditional way instead of using computers and projectors. Moreover, the ICT room is too small and hot and the desks are not good enough for teachers and students to feel comfortable.

In relation to lacking support for technical problems in class, Participant 1 in Can Tho said:

I've encountered some technical problems in teaching with ICT. For example, one time my USB with all of my lesson plans preparation could not be used in class due to the incompatibility between the devices. At that time I did not know whom I could ask for help. That incident is one of the factors which makes me embarrassed and does not encourage me to use ICT in class.

Participant 6 in Dong Thap also shared similar views about difficulties in dealing with technical problems:

I find it difficult to anticipate technical problems. When problems occur, I do not know how to fix it. There are no technicians to ask for help when needed.

Almost all of the teachers mentioned always having to be prepared to teach without technologies whenever there is a power cut.

Table 5

Impact of Encouragement From Colleagues and Administrators

| Motivating factors | Can Tho (n = 25) | Dong Thap (n = 25) | Total (N = 50) |
|--|---------------------|-----------------------|-------------------|
| r. All my colleagues are keen to use ICT in teaching. | 2 | 17 | 19 |
| s. Our school is very supportive in using ICT in classrooms. | 7 | 22 | 29 |

As can be seen in Table 5, Can Tho teachers report a weak learning culture within the schools, while approximately three times more teachers in Dong Thap agree that their schools are very supportive in using ICT in classrooms. Around eight times more teachers in Dong Thap agree that their colleagues' use of ICT has a positive impact on motivating their ICT use. A possible explanation is that in an urban area, people tend to work more independently and are less interested in "sharing, observing, and discussing each other's work" (Fullan, 2001, p. 118). These factors contribute to fostering or inhibiting the ICT integration into classroom practices.

In summary, it seems that teachers in Dong Thap show more positive signs than their colleagues in Can Tho regarding external factors and while teachers from both sites are generally quite motivated by internal factors, those in Can Tho are more so in some cases (see Table 2).

Needs and Expectations

Table 6 illustrates the supporting areas needed for better ICT use (see Appendix A, Part B, Question 2). Among the eight possible supporting elements, the majority of the teachers report looking forward to more encouragement from colleagues and more training on how to use

computers. They also expect to have more relevant software used in education. They hope to have more access to ICT facilities, technical support when they face technical problems, good examples to show how to successfully implement ICT in teaching English, and support from administration.

The teachers in Can Tho and Dong Thap have slightly different expectations. In general, the teachers in Dong Thap expect more support on how to use relevant software packages for teaching, access to ICT facilities, technical support, administrators' support, and good examples of successful ICT implementation in class. On the other hand, the teachers in Can Tho expressed a stronger wish to have more training on how to use computers. This area of support is of more interest to teachers in Can Tho (all 25, versus 15 in Dong Thap). In addition, more teachers in Can Tho wish to receive encouragement from colleagues and training on pedagogy in implementing ICT in class.

Table 6
Supporting Areas Needed for Better ICT Use by Can Tho and Dong Thap Teachers

| Supporting Areas | Can Tho (n = 25) | Dong Thap (n = 25) | Total (N = 50) |
|---|---------------------|-----------------------|-------------------|
| a. More access to ICT facilities | 14 | 20 | 34 |
| b. More relevant software packages to choose from for my students | 14 | 22 | 36 |
| c. More technical support when there are technical problems | 14 | 20 | 34 |
| d. More training on how to use computer | 25 | 15 | 40 |
| e. More training on pedagogy in implementing technology into classroom | 14 | 12 | 26 |
| f. More good examples to show how to successfully implement ICT in teaching English | 14 | 17 | 31 |
| g. More support from administrators | 14 | 18 | 32 |
| h. More encouragement from colleagues | 25 | 22 | 47 |

Conclusions and Recommendations

In conclusion, the findings of this study indicate that external factors have a significant impact on teachers' uptake and integration of ICT in their classrooms. The first influential factor refers to ICT availability and accessibility (Agyei & Voogt, 2011; Zhao, Pugh, Sheld, & Byers, 2002). In addition, technical support is also necessary. The teachers in these provinces are also influenced by their colleagues' activities. The school culture motivates or inhibits the teachers' willingness to use ICT (Fullan, 2001; Tearle, 2004). The teachers indicate that they expect more encouragement from their colleagues in their uptake of ICT.

Internal factors are more influential in enabling teachers' ICT adoption and implementation in ELT. Their beliefs about the positive effects and benefits of ICT on their instruction and their students' performance motivate them to adopt and integrate ICT in their teaching. In addition, their personal interests contribute to motivating them to use more ICT in class. Among various factors that influence the teachers' decision to utilize ICT tools in their classrooms, creating a friendly and innovative school culture is crucial in addition to the availability of an ICT infrastructure and facilities (Fullan, 2001).

However, in order to guarantee these enabling conditions for teachers, the active and visionary involvement of administrators of the schools is required (Qureshi, 2013). The administrators should have a clear and detailed plan for ICT implementation in their organizations, how the ICT infrastructure is to be installed and managed, and how the teachers are to be trained and encouraged to use ICT to maximize student learning.

This study suggests that teachers are mostly enthusiastic about ICT learning. Further research is required to uncover the constraints that administrators face, the type of training that is considered most useful by teachers and by administrators, the types of activities that are considered most useful for encouraging student learning and autonomy, the funding constraints, and the possible inequality in distribution. It would also be useful to conduct research into student perceptions of the ICT training they receive and what training they would appreciate receiving. An area that seems neglected is collaborative learning and self-learning; this is another area that could be investigated further.

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References

- Agyei, D. D., & Voogt, J. M. (2011). Exploring the potential of the will, skill, tool model in Ghana: Predicting prospective and practicing teachers' use of technology. *Computers & Education*, 56(1), 91-100. <http://dx.doi.org/10.1016/j.compedu.2010.08.017>
- Albion, P. (2001). Some factors in the development of self-efficacy beliefs for computer use among teacher education students. *Journal of Technology and Teacher Education*, 9(3), 321-347. Available at <http://ojs.library.ubc.ca/index.php/cjhe/article/view/183321/183278>
- Anderson, T., Varnhagen, S., & Campbell, K. (1998). Faculty adoption of teaching and learning technologies: Contrasting earlier adopters and mainstream faculty. *The Canadian Journal of Higher Education*, 28(2,3), 71-98. <http://ojs.library.ubc.ca/index.php/cjhe/article/view/183321/183278>
- Arkin, E. I. (2003). *Teachers' attitudes towards computer technology use in vocabulary instruction* (Unpublished master's thesis). Bilkent University, Ankara, Turkey. Retrieved from <http://www.thesis.bilkent.edu.tr/0002298.pdf>
- Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale and perceived student learning in technology-using classrooms? *Computers & Education*, 39(4), 395-414. [http://dx.doi.org/10.1016/S0360-1315\(02\)00075-1](http://dx.doi.org/10.1016/S0360-1315(02)00075-1)
- 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 and Technology Education*, 5(3), 235-245. Available at http://www.ejmste.com/v5n3/eurasia_v5n3_bingimlas.pdf
- Bussey, J. M., Dormody, T. J., & VanLeeuwen, D. (2000). Some factors predicting the adoption of technology education in New Mexico public schools. *Journal of Technology Education*, 12(1). Available at <http://scholar.lib.vt.edu/ejournals/JTE/v12n1/bussey.html>
- Chen, Y.-L. (2008). Modeling the determinants of Internet use. *Computers & Education*, 51(2), 545-558. <http://dx.doi.org/10.1016/j.compedu.2007.06.007>
- Cooper, T. C. (2001). Foreign language teaching style and personality. *Foreign Language Annals*, 34(4), 301-317. <http://dx.doi.org/10.1111/j.1944-9720.2001.tb02062.x>
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Dinh, H. (2009). Factors influencing EFL novice teachers' adoption of technologies. *CamTESOL Conference on English Language Teaching: Selected Papers*, 5, 99-112. Available at http://www.camtesol.org/Download/Earlier_Publications/Selected_Papers_Vol.5_2009.pdf
- Drent, M., & Meelissen, M. (2008). Which factors obstruct or stimulate teacher educators to use ICT innovatively? *Computers & Education*, 51(1), 187-199. <http://dx.doi.org/10.1016/j.compedu.2007.05.001>
- Fullan, M. (2001). *The new meaning of educational change* (3rd ed.). New York, NY: Teachers College Press, Columbia University.
- Groves, M., & Zemel, P. (2000). Instructional technology adoption in higher education: An action research case study. *International Journal of Instructional Media*, 27(1), 57-65.
- Gueldenzoph, L., Guidera, S., Whipple, D., Mertler, C., & Dutton, L. (2000). Faculty use of instructional technology in the university classroom. *Journal of Educational Technology Systems*, 28(2), 121-135.
- Johnson, B., & Christensen, L. (2008). *Educational research - Quantitative, qualitative and mixed approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Law, N. (2008). Teacher learning beyond knowledge for pedagogical innovations with ICT. In J. M. Voogt & G. Knezel (Eds.), *International handbook of information technology in primary and secondary education* (pp. 425-434). New York, NY: Springer. http://dx.doi.org/10.1007/978-0-387-73315-9_25

- Li, L., & Walsh, S. (2010). Technology uptake in Chinese EFL classes. *Language Teaching Research, 15*(1), 99-125. <http://dx.doi.org/10.1177/1362168810383347>
- Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Thousand Oaks, CA: Sage.
- Marwan, A., & Sweeney, T. (2010). Teachers' perceptions of educational technology integration in an Indonesian polytechnic. *Asia Pacific Journal of Education, 30*(4), 463-476. <http://dx.doi.org/10.1080/02188791.2010.519554>
- Mulkeen, A. (2003). What can policy makers do to encourage integration of information and communications technology? Evidence from the Irish school system. *Technology, Pedagogy and Education, 12*(2), 277-293. <http://dx.doi.org/10.1080/14759390300200158>
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communication technologies: A review of the literature. *Technology, Pedagogy and Education, 9*(3), 319-342. <http://dx.doi.org/10.1080/14759390000200096>
- Peeraer, J., & Van Petegem, P. (2011). ICT in teacher education in an emerging developing country: Vietnam's baseline situation at the start of 'The Year of ICT'. *Computers & Education, 56*(4), 974-982. <http://dx.doi.org/10.1016/j.compedu.2010.11.015>
- Phelps, R., Graham, A., & Watts, T. (2011). Acknowledging the complexity and diversity of historical and cultural ICT professional learning practices in schools. *Asia-Pacific Journal of Teacher Education, 39*(1), 47-63. <http://dx.doi.org/10.1080/1359866X.2010.541601>
- Punch, K. F. (2009). *Introduction to research methods in education*. London, England: Sage.
- Quach, T. N. (2004). Internet and e-learning: The case of Viet Nam. Retrieved from http://gauge.u-gakugei.ac.jp/apeid/apeid04/country_papers/Vietnam.pdf
- Qureshi, A. A. (2013). Impact of leadership on meaningful use of ICT. *Procedia - Social and Behavioral Sciences, 93*, 1744-1748. <http://dx.doi.org/10.1016/j.sbspro.2013.10.109>
- Stone, R. W., & Henry, J. W. (2003). The roles of computer self-efficacy and outcome expectancy in influencing the computer end-user's organizational commitment. *Journal of Organizational and End User Computing, 15*(1), 38-53. <http://dx.doi.org/10.4018/joeuc.2003010103>
- Tearle, P. (2004). A theoretical and instrumental framework for implementing change in ICT in education. *Cambridge Journal of Education, 34*(3), 331-351. <http://dx.doi.org/10.1080/0305764042000289956>
- Voogt, J. M. (2003). Consequences of ICT for aims, contents, processes and environments of learning. In J. Van den Akker, W. Kuiper & U. Hameyer (Eds.), *Curriculum landscapes and trends* (pp. 217-236). Dordrecht, Netherlands: Kluwer.
- Ward, L. (2003). *Teacher practice and the integration of ICT: Why aren't our secondary school teachers using computers in their classrooms?* Paper presented at the NZARE / AARE, Auckland, New Zealand. Retrieved from <http://www.aare.edu.au/data/publications/2003/war03165.pdf>
- Wolcott, L., & Betts, K. S. (1999). What's in it for me? Incentives for faculty participation in distance education. *International Journal of E-Learning & Distance Education, 14*(2), 34-49. <http://www.ijede.ca/index.php/jde/article/view/156/340>
- Zhao, Y., Pugh, K., Sheld, S., & Byers, J. (2002). Conditions for classroom technology innovations. *Teachers College Record, 104*(3), 482-515.

Appendix A
Open-Ended Questionnaire

Instructions:

This questionnaire consists of three sections: (A) teachers' use of ICT, (B) factors influencing the teachers' adoption and use of ICT, and (C) teachers' demographic data.

In each section, there are statements where you are required to tick only one appropriate option, or tick all the applicable options. Following some items in the questionnaire, there is room for you to add more ideas or comments or explanations to your response if you wish to. The questionnaire should take no longer than 30 minutes to complete. Your replies are kept confidential and are coded so that you are not identified by other external parties.

Notes:

The term "ICT" refers to technologies or digital devices such as CD players, TVs, projectors, computers, the Internet, the software and applications, and the learning management system (e.g., DOKEOS, Moodle, etc.). The term "institution" refers to your faculty or department, your current workplace.

QUESTIONS

A. Teachers' use of ICT

1. The ICT tools I use with my students in my course
(Tick all the options which apply)

| ICT tools | |
|-------------------------------|--|
| a. Audio players | |
| b. Video recorders | |
| c. Computers / laptops | |
| d. CD ROMs | |
| e. Interactive whiteboards | |
| f. Satellite TVs | |
| g. Educational software | |
| h. Websites | |
| i. Internet | |
| j. Emails | |
| k. LMS (e.g., Dokeos, Moodle) | |
| l. Others: _____ _____ | |

2. In my teaching, I use ICT to . . .

(Tick all the options which apply)

| | |
|--|--|
| a. explain new knowledge. | |
| b. drill and practice. | |
| c. support student self-supported learning. | |
| d. assign student individual or collaborative project. | |
| e. give presentation of work. | |
| f. provide authentic materials to students. | |
| g. provide exposure to cultural concepts to students. | |
| h. access a library catalogue or other online resources. | |
| i. search for information on the Internet for projects or assignments. | |
| j. send and receive emails. | |
| k. access the LMS (e.g., Dokeos, Moodle) for discussion forum, online learning materials, etc. | |

l. Other purposes (please specify):

B. Factors influencing teachers' use of ICT

1. Factors motivating me to use ICT

(Tick all the options which apply)

| Statements | |
|--|--|
| a. It is becoming trendy to use ICT in teaching. | |
| b. ICT is particularly important for teaching my course. | |
| c. ICT helps students become more effective in their EFL learning. | |
| d. ICT enhances students' motivation and interest in learning EFL. | |
| e. ICT helps students develop other skills such as self-learning and lifelong learning skills, teamwork, and collaborative skills. | |
| f. The teaching of some skills and knowledge can best be done through the use of ICT. | |
| g. Using ICT enhances the effectiveness of my instruction. | |
| h. ICT helps to incorporate new teaching methods. | |
| i. The more I use ICT, the more I see how it can be used to extend and enhance learning. | |
| j. I am offered training on the use of ICT for my instruction. | |
| k. I am good at using ICT, so I would like to try using it for teaching purposes. | |
| l. I am confident about using ICT in my teaching. | |
| m. I like innovation. | |
| n. There are lots of software packages available for me to use in teaching English to my students. | |
| o. It is easy to get access to hardware to use in the classroom. | |
| p. It is easy to get access to software to use in the classroom. | |
| q. Reliable support personnel are available when I face difficulty in using ICT. | |
| r. All my colleagues are keen to use ICT in teaching. | |
| s. Our school is very supportive in using ICT in classrooms. | |
| t. ICT reduces my workload. | |

u. Other factors (please specify):

2. The areas I'd like to get support to facilitate (better) ICT integration into my teaching

(Tick all the options applied)

| | |
|---|--|
| a. More access to ICT facilities | |
| b. More relevant software packages to choose from for my students | |
| c. More technical support when there are technical problems | |
| d. More training on how to use computers | |
| e. More training on pedagogy in implementing technology into classroom | |
| f. More good examples to show how to successfully implement ICT in teaching English | |
| g. More support from administrators | |
| h. More encouragement from colleagues | |

i. Other suggestions (please specify):

C. Demographic data

(Circle the appropriate option)

1. School name: _____
2. School level: a. Elementary b. Secondary
3. District & Province / City: _____
4. Gender: a. Male b. Female
5. Age: a. Under 25 b. 26-35 c. 36-45 d. 46-55 e. Over 55
6. Number of years teaching: a. 1-5 years b. 6-15 years c. 16-25 years d. Over 25 years
7. Current position: a. Junior lecturer b. Senior lecturer c. Teaching assistant d. Administrator
e. Other (please specify): _____
8. Highest academic qualifications: a. Bachelor's degree b. Master's degree c. Doctoral degree
d. Other (please specify): _____
9. Number of classes assigned to teach this semester: _____
10. Average number of learners in your class a. Less than 20 b. 21-30 c. 31-40 d. 41-50 e. 50+

Name: _____

Email: _____

Thank you for your time

Appendix B
Semistructured Interview Questions

Information and Communication Technology (ICT) - CD player, satellite TV, interactive whiteboard, computer, the Internet, educational software, etc.

1. Tell me about your use of ICT tools in your teaching.
[Describe in details your use of ICTs in class]
 - a. What kinds of ICTs do you use in your teaching?
 - b. How often do you use them?
 - c. How do you use them to teach/ in class?
2. What benefits can you get from using ICT in your teaching?
3. What difficulties/problems do you have when you use ICT?
 - a. What have you done when facing these difficulties / problems?
[What have you done to solve these difficulties / problems?]
4. Please give comments / ideas about ICT infrastructure and support from your school and administrators.
5. What factors influence directly and indirectly your adoption/use of ICT? How?
 - a. Which factor is the most influential one? Why?
6. What kinds of support do you need/expect to adopt / use ICT more efficiently?