

LEARNING ICT TOOLS THROUGH TASK – BASED APPROACH : A CASE STUDY OF TEACHERS OF ENGLISH IN UDON THANI PROVINCE, THAILAND

WORAWOOT TUTWISOOT
UDON THANI RAJABHAT UNIVERSITY
UDON THANI

ABSTRACT

The study aimed to investigate the use of a teacher training programme for teachers of English focusing on learning ICT tools for self-directed professional development. The participants were 32 in-service teachers of English in primary and secondary schools in Udon Thani province. They attended a two-day workshop specifically designed by using task-based approach as a framework. The research instruments comprised three sets of questionnaires. The results revealed that the participants were aware of the importance of professional development and the potential of ICT as a powerful tool for the development of both linguistic and pedagogical skills. However, they needed to be trained in how to use the tool effectively. Moreover, they perceived that a task-based approach was an effective way to learn how to use ICT tools in a limited timeframe. Finally, the follow-up questionnaire revealed that internal and external constraints affected the application of the knowledge they had learned from the training into their classrooms.

Keywords : Teacher Training Programme, Professional Development, Language Education, Self-Directed Learning, Task-based Learning, Computer-Assisted Language Learning

INTRODUCTION

Nowadays, English is one of the most important international languages used by many people globally. Therefore, the number of learners of English as a second and a foreign language around the world has increased. In Thailand, English is a compulsory subject at all levels of Thai education. English has become more important as it is regarded as the official working language of the Association of South Asian Nations (ASEAN). A good command of English is one of the expected outcomes of education and a basic requirement for applying for many careers and entry into further education.

However, English language education in Thailand has been facing many challenges. Many factors from all stakeholders have been accused of being the reasons for the unsatisfactory English proficiency of many Thai students. Apart from external factors such as the national policy, the curriculum, and the learners' differences, the teachers who play one of the most important roles in teaching and learning process are regarded as the key factor of this failure. It is a matter of fact that the majority of teachers of English in Thailand are not native speakers of English.

Consequently, they have two identities: teachers of English who need to improve their pedagogical skills and learners of English who need to improve their linguistic skills. Both aspects are essential for their professional development that would result in the improvement of students' English proficiency.

The issue has attracted the attention of government as can be seen from many workshops and training sessions that aim to improve the quality of Thai teachers of English. However, most of the previous professional development sessions have focused on the development of language skills by providing the teachers with opportunities to practice their language skills through communicative tasks. Although, this kind of teacher training is useful for professional development, the time constraints of the training sessions might affect the effectiveness of this traditional approach. On the other hand, if the main purpose of the teacher training is to introduce new pedagogical concepts, a lecture-based approach is one of the most popular media to transmit knowledge to the participants.

Nowadays, the advancement technology affects our daily activities. In the field of language education, Information Communication Technology (ICT), notably the Internet, has changed the way we learn, teach, and can facilitate the process of professional development of language teachers. It is regarded as a powerful and effective tool for professional development for teachers (Charalambos & Glass, 2007; Iluobe, 2013). As a result, equipping teachers with the ability to use ICT to develop their pedagogical and linguistic skills may be one of the goals for teacher training programme.

The training programme in the present study applied the framework of Task-based Language Teaching: a holistic approach commonly used in communicative language teaching. The participants had the opportunity to learn new ICT tools and to use them to complete the tasks. The study aimed to investigate perceptions of the participants about professional development and the use of ICT tools, their attitudes towards the training programme, and the application of the knowledge and skills after the programme.

RESEARCH QUESTIONS

The research questions were as follows.

- 2.1 What were the perceptions of the participants about professional development and ICT Tools?
- 2.2 What were the attitudes of the participants towards the teacher training programme?
- 2.3 To what extent did the participants apply the knowledge they had learned in their professional development?

LITERATURE REVIEW

This section discusses the related concepts which are autonomy and self-directed professional development, and ICT as a tool for professional development. After that, the teacher training programme in the study is also described.

1. Autonomy and Self- Directed Professional Development

The concept of self-directed professional development is closely related to the concept of teacher autonomy in language education. Although the term “autonomy” is not “a single, easily described behaviour” (Little, 1990, p. 7) and can “take numerous different forms” (Little, 1991, p. 4), the most frequently cited definition is “the ability to take charge of one’s own learning” (Holec, 1981, p. 3). The idea that learners should take responsibility of their own learning has been proposed by other thinkers from around the world such as Galileo who argues that “You cannot teach a man anything; you can only help him find it within himself” (quoted in Benson, 2011, p. 27) and Lao-tzu who contends that “Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime” (Breverton, 2009, p. 7).

Working within various conceptual frameworks, researchers and practitioners have attempted to promote autonomy in their own contexts. Benson (1997) proposes that there are at least three versions of learner autonomy: technical, psychological, and political. Based on the concept of autonomy in language education, self-directed professional development may refer to the academic freedom of the teachers to make their own decisions about their teaching and learning, the motivation of the teachers to develop their own professional skills in terms of both linguistic and pedagogical skills and the technical skills essential for such development. In the present study, the focus was on the technical version. In other words, the teacher training programme aimed to help the participants learn ICT tools and to investigate whether and how they used the tools for self-directed professional development. The next section discusses ICT as a tool for professional development.

2. ICT as a Tool for Professional Development

Nowadays, ICT, especially the Internet, is regarded as one of the most powerful tools for language learning. Moreover, the cost of advanced technology has decreased so that the Internet has become more accessible for many people in the world including in Thailand. Although ICT can be variously applied in language education, in the present study, ICT can be viewed as a source of authentic materials, a communication tool, a virtual community, a reference tool, and an educational tool. Each aspect of ICT is discussed below.

2.1 Source of Authentic Materials

Second language can be acquired through engaging in activities that require learners to use and be exposed to the target language. However such opportunities are limited in many parts of the world especially in countries in the “expanding circle” (Kachru, 1998), English is regarded as a foreign language and not as a medium of communication on a daily basis. In the past, authentic target language materials such as songs, movies and books may not have been affordable not

only for the majority of the students, but also for non-native teachers who attempted to improve their English skills or to prepare their lessons. Fortunately, ICT provides learners with countless online materials that can be used for learning and teaching English both explicitly and implicitly such as news, articles, songs, and videos.

2.2 Communication Tools

Apart from online resources, ICT provides new modes of communication regardless of time and place. This kind of interaction was once difficult to provide in many parts of the world especially where English native speakers are not generally met on a daily basis. Fortunately, ICT can facilitate interaction with people from all over the world through Computer-Mediated Communication (CMC). CMC can be divided into two modes: Asynchronous Computer-Mediated Communication and Synchronous Computer-Mediated Communication (SCMC). Previous studies have revealed that CMC may provide potential benefits for language learning by promoting, for example, participation (Zha, Kelly, Park, & Fitzgerald, 2006), the quantity of language production (Abrams, 2003), the use of wider lexical range (Fitze, 2006), noticing of errors (Lai & Zhao, 2006), scaffolding (Lee, 2004), confidence in English (Greenfield, 2003), positive attitudes towards English (Shang, 2007), motivation (Fotos, 2004) and learner autonomy (Aitsiselmi, 1999; Fisher, Evans, & Esch, 2004; O'Rourke & Schwienhorst, 2003; Schwienhorst, 2008).

2.3 Virtual Communities

In the era of Information and Communications Technology, virtual communities, including English Language Teaching (ELT) and English as a Second Language (ESL), have been founded as virtual spaces for sharing ideas, experiences, and materials among teachers of English around the world. As a result, teachers can download printable materials such as worksheets on any important topics such as grammatical features, speaking, listening, reading and writing or even the whole lesson plan that can be used or adapted for their own classes. In addition, some websites provide a forum that teachers of English can ask and respond to questions, and share experience.

2.4 Reference Tools

ICT provides language reference tools for students and teachers to check the accuracy of linguistic features such as pronunciation, spelling, meaning, collocations, and grammar. Language reference tools are commonly based on the data gained from the studies in the field of corpus linguistics. A corpus is a collection of texts collected from various media such as novels, documentaries, speech, conversation, TV programs, radio programs, news, and articles and analysed by means of computer programs (Tutwisoot, 2017). Corpus-based tools are regarded as one of the most important reference tools for learners and teachers of any second language (Boulton & Cobb, 2017; Li, 2017; Vyatkina & Boulton, 2017). One of the most commonly used language reference tools is a dictionary. A good dictionary provides the information about the language such as the correct spelling, the definitions, and the pronunciation of each word.

Another important corpus-based tool is collocations. Collocations can tell learners the words that normally occur together. As a result, it can be used as a reference to improve students' language skills especially in writing tasks (Vyatkina, 2016; Yoon, 2016).

2.5 Educational Tools

ICT provides tools that teachers can use to create their own teaching materials. Text-to-Speech, for example, is a software program that allows teachers to transcribe text into speech and download it in the form of an audio file and use it in listening activities and tests. Although, the speech produced by the program is not 100 per cent natural, the program is useful for non-native teachers of English who want to develop their own teaching materials.

An Online quiz is also a popular educational tool. The advantages of an online quiz include the fact that it can provide immediate feedback and further explanation. It is appropriate for autonomous learning because students can repeat and learn from the quiz as many times as they please (Tutwisoot, 2017). Recently, a 'real time quiz', such as Kahoot, has become more popular in the pedagogical contexts and beyond. It shows the real time scores of each student or each team on the screen. As a result, it excites and motivates students to participate in the learning activity.

Although the advances in ICT, especially the Internet, provide powerful tools to access an incalculable quantity of information and to communicate with people around the world, technology-rich or an ICT environment per se may not bring about language improvement (Arievitch, 2007; Kern & Warschauer, 2000) nor professional development of the teachers. The next section describes the teacher training programme used in the present study.

Self-Directed Professional Development Programme

The teacher training programme in the present study applied task-based language teaching (Willis, 1996) as the framework. According to Willis (1996), the process of task-based language teaching comprises three stages: Pre-task, Task-Cycle, and Post-Task. The first stage aims to prepare students to do the task. The second stage is subdivided into three tasks stages: task stage, planning stage, and report stage. The Post-Task includes the analysis and the practice of specific features.

Figure 1 illustrates the teacher training programme used in the present study. It can be seen that the programme follows Willis (1996)'s framework for task-based learning: Pre-task, Task-Cycle, and Post-Task. In the Pre-task stage, the ICT tools including sources of authentic materials (e.g. news, articles, video clips), communication tools (e.g. emails, text-based chat, video conferencing), virtual communities (ELT websites), reference tools (online dictionary, online collocations), and educational tools (e.g. Text-to-Speech program, online quizzes, video editing, PowerPoint presentation) were introduced. After that, the participants were explained how to do the task. In the Task-Cycle stage, the participants were divided into groups of 5-6 people to

complete the task. The task was to create a lesson using the ICT tools they had learned in the first stage. Next, the participants were asked to prepare the presentation of each group. Each group presented their lesson plan to the class. The rest of the class asked questions and add comments. In the Post-Task stage, the participants discussed the ICT tools they explored, discovered, and used to complete the task. Finally, some ICT tools, based on the discussion, were revisited and practiced.

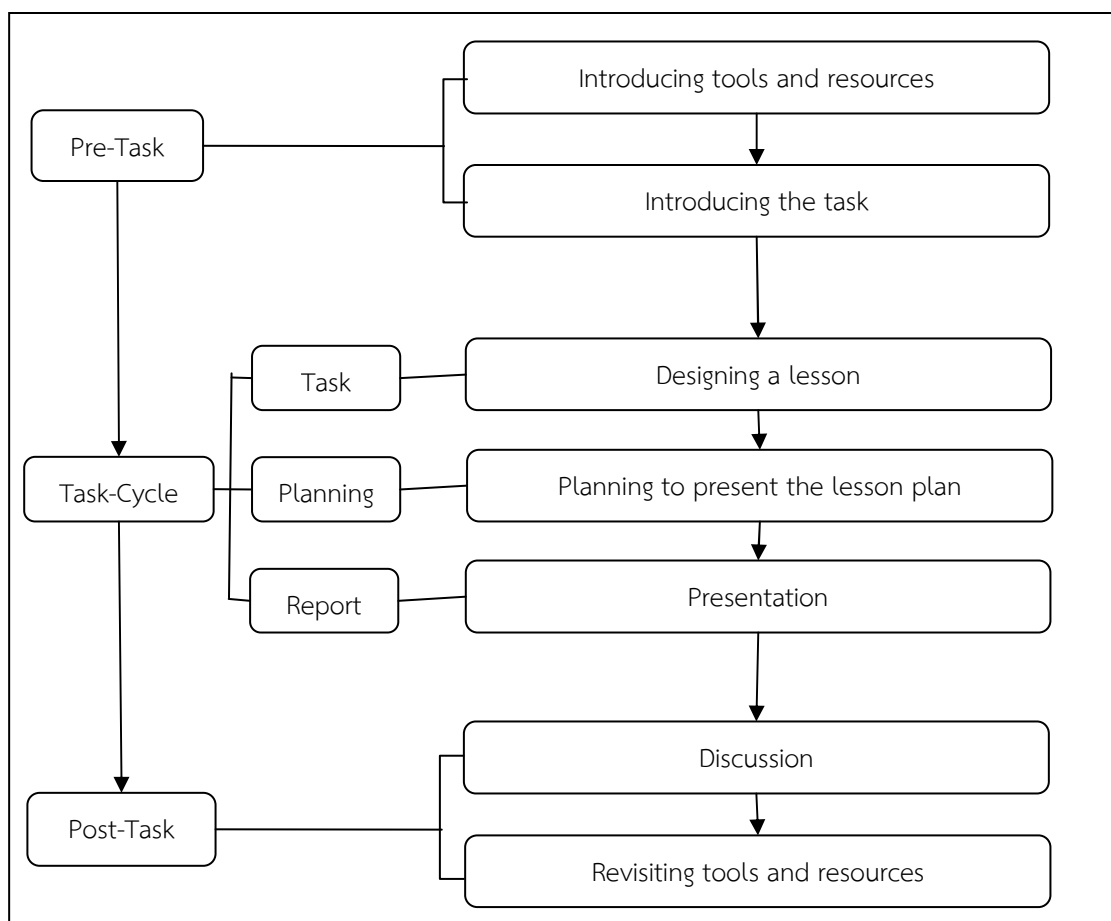


Figure 1 The Teacher Training Programme

RESEARCH METHODOLOGY

Participants

The participants were 32 volunteers who were teaching English in Udon Thani province in primary and secondary schools: 29 females and 3 males. The majority (N=26) were between 20-40 years old, and only six participants were more than 41 years old. In terms of teaching experience, the majority (N=18) had less than 5 years teaching experience while only five

participants had been teaching for more than 15 years. In terms of their educational background, 27 participants had a Bachelor's Degree and only five of them had Master's Degree. The data also revealed that the degrees of the majority of the participants (N=23) were in the field of linguistics or related fields and 22 of them were in the field of education.

Research Tools

The data were gathered by three questionnaires. All questionnaires were designed by the researcher and were reviewed by two educators who were specialists in the field of applied linguistics. The comments from the reviewers were used to revise the questionnaires. Subsequently, the questionnaires were tried out and revised. The first questionnaire aimed to collect the background information of the participants including their personal and educational background, working experience, and their perception of self-directed professional development and of the use of ICT. The second questionnaire was completed by the participants after the training. It focused on the participants' attitudes towards the teacher training programme. The third questionnaire was sent out to the participants as a follow up to investigate to what extent the participants applied the knowledge they had learned in their professional development and issues that arose in the process.

Data Analysis

The results from each questionnaire were analysed in terms of overall percentages and median scores.

RESULTS

Basically, the present study aimed to investigate the use of task-based approach for learning ICT tools used for self-directed professional development. This section provides the results of the study.

1. Perceptions of Self-directed Professional Development and ICT

Before the teacher training programme, the participants were asked to complete the first questionnaire. One of the main purposes of this section was to investigate the participants' perceptions of professional development in terms of their own English proficiency, overall attitudes towards English teaching, and the use of ICT before the training programme.

The data revealed that the participants perceived that their current English proficiency and pedagogical skills were at moderate level. Additionally, the participants were aware of the importance of professional development both in linguistic and pedagogical skills (see Table 1). It can be seen that this perception of moderate level of language proficiency tends to result in the moderate level of confidence of the participants when they speak and teach English. However, they tended to have positive attitudes towards English teaching. Finally, it can be noticed that all of the participants agreed that they needed to improve their language.

Apart from the perceptions of language proficiency, the participants were also asked about their perceptions of their current pedagogical skills. The results revealed that the participants perceived that their level of pedagogical knowledge especially in language teaching theories and educational psychology were moderate. On the other hand, they tended to be more confident in the more practical aspects such as creating teaching materials and applying educational games and activities into their classrooms. However, they all agreed that they needed to improve their pedagogical knowledge and skills.

In addition, the results revealed that the participants tended to agree that ICT had the potential for self-directed language learning in terms of both being source of materials and a tool for communication with speakers and learners of English from all around the world. Although the participants claimed that their current ICT skills were not an obstacle for their self-directed professional development, they believed that the training would be useful for them.

Item Number	Statements	\bar{x}	SD	Level
English Proficiency				
1	My English proficiency is at the very high level.	3.00	0.62	Moderate
2	I have sufficient English skills to teach.	3.31	0.59	Moderate
3	I am confident when I speak English.	3.34	0.70	Moderate
4	I need to improve my English skills.	4.78	0.66	Very High
Teaching Attitudes and Skills				
5	I am confident when I teach English.	3.66	0.70	Moderate
6	I am happy when I teach English.	4.28	0.68	High
7	If possible, I would avoid teaching English.	1.59	0.84	Low
8	I feel uncomfortable when other teachers see me teaching English.	1.81	0.86	Low
9	I have sufficient knowledge about and skills in teaching.	3.16	0.57	Moderate
10	I know how to use games, song, and activities to make my class enjoyable.	3.63	0.66	High
11	I have sufficient knowledge about related theories in language teaching.	3.28	0.68	Moderate
12	I have sufficient knowledge about educational psychology.	3.44	0.62	Moderate
13	I know how to make teaching materials such as worksheets and exercises.	3.66	0.70	High
14	I need to improve my pedagogical skills.	4.53	0.84	Very High

Use of ICT				
15	ICT is an important resource for self-language learning.	4.56	0.72	Very High
16	Learners can use ICT to communicate with speakers of English from all around the world.	4.50	0.76	High
17	There are a lot of websites that teachers of English from all around the world can share knowledge, materials, and experience.	4.56	0.72	Very High
18	The problem in using ICT for self-development is that I do not know how to search for the information I need.	3.16	1.22	Moderate
19	I know how to search for the information I need but I lack the motivation to learn from it.	3.03	1.18	Moderate
20	I have limited knowledge about how to use ICT in self-directed professional development.	3.34	1.10	Moderate
21	I don't believe that learners of English can use ICT for self-learning.	2.09	0.96	Low
22	After being trained, I believe that I could use ICT to improve my English and pedagogical skills.	4.56	0.80	Very High

Table 1 Participants' Perception of their own Language Proficiency, Teaching Skills, and Use of ICT

2. Attitudes towards Task-based Approach and ICT

After the teacher training programme, the participants were asked to complete the second questionnaire to gather the information about their attitudes towards the training. The results of the second questionnaire are shown in Table 2.

Item Number	Statements	\bar{x}	SD	
1	By participating in the training programme, I feel more confident to use ICT tools.	4.70	0.47	Very High
2	This training makes me realise the importance of ICT in self-directed professional development better.	4.48	0.51	High
3	After the training, I believe that I could improve my language and teaching skills.	4.63	0.49	Very High

4	I have learned tools and resources that I had never known before.	4.70	0.47	Very High
5*	There are so many resources and tools that I feel confused.	1.81	0.79	Low
6	The opportunity to try the resources and tools immediately after they are introduced makes it easier to understand.	4.52	0.58	Very High
7	By doing the tasks assigned, I can use and practice the resources and tools I have learned.	4.59	0.50	Very High
8	Doing the tasks helps me understand the lessons better.	4.59	0.50	Very High
9*	I do not like the planning stage.	2.41	0.80	Low
10	I learn new ideas from other group from their presentations.	4.81	0.40	Very High
11*	The limitation of ICT skills is the problem in understanding the lesson.	2.48	1.31	Low
12*	Using ICT is too complicated and confused.	1.93	0.83	Low
13	I will apply the knowledge I have learned to improve my English and teaching skills.	4.85	0.36	Very High
		4.41	0.33	High

Table 2 Participants' Attitudes towards the Teacher Training Programme

As revealed in Table 2, the attitude of the participants towards the training programme was at a high level ($\bar{x} = 4.41$). Overall, the results showed that by participating in the teacher training programme, the participants were aware of the importance of ICT tools, feel more confident, and believed that they had the abilities to use ICT to improve their English and teaching skills. In addition, they admitted that they learned many resources and tools for self-directed professional development that they had never known before. In addition, the results from Question 6 ($\bar{x} = 4.52$), 7 ($\bar{x} = 4.59$), and 8 ($\bar{x} = 4.59$) showed that the participants perceived that the task-based approach not only required them to use the resources and tools they had learned about but also allowed them to explore and discover new resources and tools during the process of completing the assigned tasks. Finally, according to the results from Question 13 ($\bar{x} = 4.85$), they believed that they would apply the knowledge they learned in the training for their own professional development.

3. Application of Knowledge

One month after the training, the third questionnaire was sent out to investigate the application of the ICT tools for the participants' self-directed professional development. The results are shown in Table 3

Item Number	Statements	\bar{x}	SD	
1	I have applied the knowledge that I learned from the training to develop my linguistic skills.	4.10	0.64	High
2	I have applied the knowledge that I learned from the training to develop my teaching skills.	4.10	0.64	High
3	I have applied the knowledge that I learned from the training for lesson preparation.	4.15	0.67	High
4*	I have not applied the knowledge that I learned from the training to develop because I cannot remember how to use the tools.	2.75	1.12	Medium
5	By doing the tasks assigned, I can remember how to use the tools.	4.30	0.79	High
6*	I cannot use the ICT tools for self-directed professional development because my basic skills in using technology are low.	2.65	0.81	Medium
7*	I do not use the ICT tools because I do not have a computer and cannot access the Internet.	1.05	0.22	Very Low
8*	I don't use the ICT tools for self-directed professional development because I am too busy.	3.00	0.73	Medium
9	I need retraining or an advisor who can assist me for my professional development.	4.50	0.51	Very High
		4.44	0.42	High

Table 3 The Applications of ICT Tools after the Training

The data revealed that the participants tended to use the knowledge that they had learned from the training to improve their linguistic and pedagogical skills after the intervention. The results from Question 5 (\bar{x} = 4.30), revealed that the task-based approach used in the training impacted the retention of the knowledge of how to use the tools. However, according to the result from Question 9 (\bar{x} = 4.50), they agreed that retraining and further assistance were needed

for the development process. In terms of constraints, it was found, from Question 8, that “too busy” ($\bar{x} = 3.00$) was reported as a constraint while infrastructure such as the access to a computer and the Internet, according to the result from Question 7 ($\bar{x} = 1.05$), was not.

DISCUSSION AND CONCLUSION

This article has presented the impacts of the teacher training programme designed based on a task-based approach on the learning of ICT tools for self-directed professional development of teachers of English. The results revealed that the participants were aware of the importance of professional development in both aspects: linguistic and pedagogical skills. One of the reasons was that they tended to lack confidence about their English proficiency. It is consistent with previous studies revealing that non-native speakers of English were less confident about their language proficiency (Tajeddin & Adeh, 2016). In terms of pedagogical skills, the participants believed that they needed to improve their teaching skills even though they had degrees in education or related fields. Moreover, they tended to agree that ICT tools could facilitate the process of self-directed professional development as these tools provide authentic materials and communication tools.

In addition, the participants tended to have positive attitudes towards the teacher training programme especially the task-based approach as it facilitated the process of learning of new tools and impacted on the retention of the knowledge. The results are consistent with previous studies revealing the effectiveness of using tasks in teacher training (Lähdesmäki & Valli, 2018). One of the reasons might be that task-based approach allowed the participants to complete meaningful tasks by using the technological tools and resources they had learned. Moreover, the process of learning by doing is beneficial for learning (Likitrattanaporn, 2017).

Finally, the results also revealed that the participants did apply the knowledge they had learned from the teacher training in their professional development in terms of class preparation and improving their pedagogical and language skills. They also mentioned that, thanks to the task-based approach, they remembered how to use ICT tools. However, some internal and external constraints tended to impact the use of ICT in self-directed professional development.

In conclusion, the participants tended to be aware of the importance of professional development and the role of ICT as a tool and a resource for their self-directed learning. However, teacher training is still necessary to equip teachers with essential knowledge and skills. It was also found that task-based approach was effective for teacher training session because it allowed the participants to learn new knowledge and skills through meaningful tasks.

ACKNOWLEDGEMENTS

I would like to acknowledge the financial support of the Research and Development Institute of Udon Thani Rajabhat University, Thailand.

REFERENCES

- Abrams, Z. I. (2003). The effect of synchronous and asynchronous CMC on oral performance in German. *The Modern Language Journal*, 87, 157-167.
- Aitsiselmi, F. (1999). Second language acquisition through email interaction. *ReCALL*, 11, 4-11.
- Arievitch, I. M. (2007). An activity theory perspective on educational technology and learning. In D. W. Kritt & L. T. Winegar (Eds.), *Education and Technology: Critical Perspectives, Possible Futures* (pp. 49-72). Lanham: Lexington Books.
- Benson, P. (1997). The philosophy and politics of learner autonomy. In P. Benson & P. Voller (Eds.), *Autonomy and Independence in Language Learning* (pp. 18-34). London: Longman.
- Benson, P. (2011). *Teaching and Researching Autonomy* (2nd ed.). London: Longman.
- Boulton, A., & Cobb, T. (2017). Corpus use in language learning: A meta-analysis. *Language Learning*, 67(2), 348-393.
- Brevert, T. (Ed.). (2009). *Immortal words: History's most memorable quotations and the stories behind them*. London: Quercus.
- Charalambos, V., & Glass, G. V. (2007). Teacher professional development and ICT: Strategies and Models. *Yearbook of the National Society for the Study of Education*, 106(2), 87-102.
- Fisher, L., Evans, M., & Esch, E. (2004). Computer-mediated communication: Promoting learner autonomy and intercultural understanding at secondary level. *Language Learning Journal*, 30, 50-58.
- Fitze, M. (2006). Discourse and participation in ESL face-to-face and written electronic conferences. *Language Learning & Technology*, 10(1), 67-86.
- Fotos, S. (2004). Writing as talkin: E-mail exchange for promoting proficiency and motivation in the foreign language classroom. In S. Fotos & C. M. Browne (Eds.), *New perspectives on CALL for second language classrooms* (pp. 109-129). Mahwah, NJ: Lawrence Erlbaum Associates.
- Greenfield, R. (2003). Collaborative e-mail exchange for teaching secondary ESL: A case study in Hong Kong. *Language Learning & Technology*, 7, 46-70.
- Holec, H. (1981). *Autonomy in foreign language learning*. Oxford: Pergamon.
- Iluobe, I. O. I. (2013). ICT-pedagogy integration in teacher training and professional development: Sites of learning. *International Journal of Technologies in Learning*, 19(3), 14-24.
- Kachru, B. B. (1998). English as an Asian language. *Links & Letters*, 5, 89-108.
- Kern, R., & Warschauer, M. (2000). Introduction: Theory and practice of network-based language teaching. In M. Warschauer & R. Kern (Eds.), *Network-based Language Teaching: Concepts and Practice* (pp. 1-19). Cambridge University Press.
- Lähdesmäki, S., & Valli, P. (2018). *Bridging authentic learning task into technology supported transformative pedagogy in Finnish teacher training*. Paper presented at the 10th International Conference on Education and New Learning Technologies, IATED Academy.

- Lai, C., & Zhao, Y. (2006). Noticing and text-based chat. *Language Learning & Technology*, 10(3), 102-120.
- Lee, L. (2004). Learners' perspectives on networked collaborative interaction with native speakers on spanish in the US. *Language Learning & Technology*, 8(1), 83-100.
- Li, S. (2017). Using corpora to develop learners' collocational competence. *Language Learning & Technology*, 21(3), 153-171.
- Likitrattanaporn, W. (2017). The Development of English Language Teaching Skills for Graduate Students through the Process of Learning by Doing. *English Language Teaching*, 10, 96-103.
- Little, D. (1990). Autonomy in language learning. In I. Gathercole (Ed.), *Autonomy in language learning* (pp. 7-15). London: CILT.
- Little, D. (1991). *Learner Autonomy 1: Definitions, issues and problems*. Dublin: Authentik.
- O'Rourke, B., & Schwienhorst, K. (2003). Talking text: Reflection in computer-mediated communication. In D. Little, J. Ridley & E. Ushioda (Eds.), *Learner autonomy in the foreign language classroom: Teacher, learner, curriculum and assessment* (pp. 47-60). Dublin: Authentik.
- Schwienhorst, K. (2008). Teacher autonomy in multiple-user domains: Supporting language teaching in collaborative virtual environments. *Technology, Pedagogy and Education*, 8, 199-214.
- Shang, H.-F. (2007). An exploratory study of e-mail application on FL writing performance. *Computer Assisted Language Learning*, 20, 79-96.
- Tajeddin, Z., & Adeh, A. (2016). Native and nonnative English teachers' perceptions of their professional identity: Convergent or divergent? . *Iranian Journal of Language Teaching Research*, 4(3), 37-54.
- Tutwisoot, W. (2017). *Computers and technology for language teaching*. Udon Thani: Udon Thani Rajabhat University.
- Vyatkina, N. (2016). Data-driven learning of collocation: Learner performance, proficiency, and perceptions. *Language Learning & Technology*, 20(3), 159-179.
- Vyatkina, N., & Boulton, A. (2017). Corpora in language learning and teaching. *Language Learning & Technology*, 21(3), 1-8.
- Willis, J. (1996). *A framework for task-based learning*. London: Longman.
- Yoon, C. (2016). Concordancers and dictionaries as problem-solving tools for ESL academic writing. *Language Learning & Technology*, 20(1), 209-229.
- Zha, S., Kelly, P., Park, M. K., & Fitzgerald, G. (2006). An investigation of communicative competence of ESL students using electronic discussion boards. *Journal of Research on Technology in Education*, 38, 349-367.