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ASSESSING ESL LEARNERS' ONLINE LEARNING SELF-EFFICACY IN THAILAND: ARE THEY READY?

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ABSTRACT

Aim/Purpose	The purpose of this study was to examine whether ESL students in Thailand felt comfortable and confident using online course management tools as indicated by the levels of their online learning self-efficacy.
Background	While online learning has become commonplace in most US based universities, some international educational institutions are just now dealing with the enormous task of introducing online learning to their academic communities and working with both faculty and students for successful implementations. In Thailand, there is a national initiative to harness the power of online learning together with other technological innovations to facilitate an increase in learning outcomes and provide additional access to education for students within public educational institutions.
Methodology	Online learning self-efficacy data was collected from 856 newly admitted English as a second language (ESL) students at a large public university in Thailand. Participants were provided an email link to an online survey either via a direct email solicitation or a web link posted by their course instructors. The survey consisted of 8 demographic items and 29 self-efficacy items on a 4-point Likert-type scale.
Contribution	This paper adds to the body of research on self-efficacy in online learning context by examining the levels of online learning self-efficacy of ESL students in Thailand, where online learning is still not as prevalent as in the United States and many other regions.
Findings	Significant correlations were found between online learning self-efficacy levels and demographic characteristics including self-report computer skills, comfort level using the internet, self-reported English proficiency scores, and prior online

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learning experience. ESL learners participating in this study were found to have high levels of online learning self-efficacy, which indicated a readiness for engagement in online learning courses.

Recommendations for Practitioners	As indicated by the results of the study, ESL students who were better at using computers and more comfortable surfing the internet were found to be more confident that they would do well in online learning environments. Therefore, it is recommended that sufficient training should be provided to support this transition by helping students, especially those with lower computer skills and comfort levels using the internet, get started and supporting them along the way. Also, at the very first stage of transitioning into online learning, the institution may first start with partially online courses into which a mixture of both online and face-to-face elements is incorporated. This will allow students to gradually adjust themselves into the new instructional delivery system and technologies that come with it. Once students are well-adjusted and familiar with the new learning environment, and assessment of the effectiveness of the partial integration has been conducted, the institution can consider offering courses that are entirely online.
Recommendations for Researchers	Faculty and institution readiness for the adoption of online learning should also be taken into consideration in future work. To address the identified limitations, we recommend that inclusion of participants from across content domain would provide a more representative and generalizable result.
Impact on Society	Incorporation of online learning as a standard instructional strategy will improve access to the educational system within Thailand. Assessing student readiness for this non-traditional way of learning may facilitate institutions' ability to better plan how to effectively incorporate online learning into its curricula.
Future Research	This student focused study was a follow-up to a faculty focused study attempting to indicate the level of readiness for this institution to broadly adopt online learning. Future research could be conducted at the organization/institution perspective using appropriate frameworks to address the last element of readiness for online learning adoption that considers the three facets of student, faculty, and institution. After the completion of this phase of affective/attitudinal research and the implementation of online learning within this institution, we recommend moving on to the measure effectiveness of the new instructional methodology.
Keywords	online learning, ESL learners, self-efficacy

INTRODUCTION

The prevalence of online learning being a pervasive component of educational systems is a major phenomenon throughout the globe (Allen & Seaman, 2017; Bradley, Browne, & Kelly, 2017; Rudestam & Schoenholtz-Read, 2010). In the United States, for example, almost every higher educational institution in the nation now has incorporated some features of online technology into its curriculum (Rudestam & Schoenholtz-Read, 2010). Over six million students in the U.S. alone were reported to currently be taking at least one online course, representing more than thirty percent of all higher education enrollments (Seaman, Allen, & Seaman, 2018). Ninety percent of chief academic officers strongly believe that the number of students taking classes online will continue to rise and that in five years' time, the majority of all higher education students will be participating in at least one online course (Allen & Seaman, 2014).

The growth in popularity of online learning has essentially been driven by its convenience and flexibility (Botsch & Botsch, 2012; U.S. Department of Education, 2012). This is particularly important to those trying to balance work, family, and education (Bourdeaux & Schoenack, 2016; Kauffman,

2015). Online learning makes it possible for instructional materials to be accessed from anywhere. Regardless of where students are geographically located, they can now learn from any resources available online without limit, remotely search for books and articles from libraries, exchange knowledge with classmates from any location, or even have conversations with professors from other parts of the world (Hoppe, 2015; Nguyen, 2015; Totaro, Tanner, Noser, Fitzgerald, & Birch, 2005). Students can also gather in virtual classrooms, exchanging knowledge and sharing ideas with other students from diverse locations (Ko & Rossen, 2010). As for those learning languages, such as English as a second language (ESL) learners, online learning allows them to be exposed more to the target language through a wide variety of authentic materials that can be accessed online anywhere and anytime. This is largely beneficial to them, especially here in the twenty-first century where the focus in language education is shifting from grammar and memorization to be more on how the learner can appropriately use the language to communicate with others (Eaton, 2010).

Although not as prevalent as in the United States and many other regions, the potential of online learning has also become increasingly recognized in Southeast Asia, and educational institutions, especially colleges and universities, in many countries are beginning to incorporate features of online learning into their educational system (Charmonman, 2005; Ngampornchai & Adams, 2016; Sae-Khow, 2014). In Thailand, there is a national initiative to harness the power of online learning together with other technological innovations to facilitate an increase in learning outcomes and provide additional access to education for students within public educational institutions (Khaopa, 2012; Ngampornchai & Adams, 2016; Saowapon, Laohajartsaeng, Thammajinda & Singharajwarapan, 2001). Adoption of online learning, however, is not without its challenges. A unique challenge for educational institutions in Thailand to overcome is that “the Thai learning environment that fosters rote learning contrasts sharply with the online education approach that relies on the learners’ self-motivation and self-regulation” (Ngampornchai & Adams, 2016, p. 5). While traditional education focuses on direct instruction and is typically teacher centered, many online learning approaches have shifted towards a more student-centered approach. As students in online learning environments are the ones largely in charge of their learning, it is important that they are self-motivated and self-regulated, which means they need to be able to actively monitor their learning, search for information they need to fulfill their goals, and take appropriate steps in dealing with obstacles or problems that arise as part of their learning (Butler & Winne, 1995; Johnson & Davies, 2014; Lock, Eaton, & Kessy, 2017; Meltzer, 2007; Puustinen & Pulkkinen, 2001; Winne, 1995; Zhao & Chen, 2016; Zimmerman & Martinez-Pons, 1990). Acquiring these self-regulation skills can be considered demanding or even challenging for students who have always been in a traditional learning context, in which self-motivation and self-regulation are not something they were required to possess. Therefore, research is needed to examine how ready and prepared these learners are for the new learning experience, and there is still a dearth of research focusing on learners in this region. Exploring this untapped research area may help institutions in determining the best way to prepare students, faculty, and the implementation strategies that might be used to successfully incorporate online learning into existing educational environments.

STATEMENT OF THE PROBLEM AND RESEARCH QUESTIONS

One of the major public universities in Thailand is considering the increased use of online course management tools and instructional methodologies but is unsure if students are ready or willing to use these new tools. Assessing student readiness for this non-traditional way of learning may facilitate the institution’s ability to plan how to effectively incorporate online learning into its curricula. The purpose of this study was, therefore, to examine whether new students to the university felt comfortable and confident using online course management tools, which can be indicated by the levels of their self-efficacy in online learning. That is, students with higher levels of online learning self-efficacy tend to be more comfortable and confident that they are able to do well in online learning environments. Students with lower levels of online learning self-efficacy, on the other hand, have a

tendency to be less comfortable in the new environment. To achieve this stated research purpose, the following research questions were used to guide this study.

1. What are the online learning self-efficacy levels of ESL learners in Thailand?
2. What is the relationship between demographic characteristics of ESL learners in Thailand and online learning self-efficacy levels?

LITERATURE REVIEW

ONLINE LEARNING AND SELF-EFFICACY

One of the main facets of social cognitive theory as detailed by Bandura is self-efficacy. Very simply, Bandura (1997) defined self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainment” (p.3). Efficacy beliefs were thought to have major contributions to a person’s action and to provide an integral key in human agency. Self-efficacy has been related to task commitment and task engagement, and these two factors are major contributors to successful task completion (Bandura, 1977, 1986; Schunk, 1991, 2012). Self-efficacy is not a measure of ability, or assessment of skills; it is an individual’s belief about what they can achieve and whether success is possible (Gist & Mitchell, 1992). Schunk (1991) demonstrated that self-efficacy can be a valid predictor of performance outcomes including academic achievement.

While online learning has become commonplace in most US based universities, some international educational institutions are just now dealing with the enormous task of introducing online learning to their academic communities and working with both faculty and students for successful implementations. Despite significant amounts of research regarding student characteristics and online learning, a recent study by Gyamfi and Suksemuang (2018) indicates that learners are still impacted by the task of engaging in learning environments that are new to them and can even resist engagement with and persistence of using such technologies unless they feel comfortable and confident.

In a prior study, the authors investigated the readiness and self-efficacy levels of the faculty of this educational institution and found the faculty to have high levels of both technology and online self-efficacy (Ramsin & Mayall, 2017). This follow-up study focused our research efforts on the student populations at this same institution to determine if students also had sufficient technology and online learning self-efficacy for the institution to move forward with integration of online learning within the university on a large scale.

The concept of self-efficacy and how it can influence learning has been studied in multiple settings and across diverse content domains since Bandura first described the construct in 1977 and then elaborated in his seminal works regarding Social Cognitive Theory (SCT) in 1986 and 1997. Bandura’s research has demonstrated the importance of self-efficacy in a classroom environment. As online learning has emerged as an instructional strategy since Bandura articulated his theory of self-efficacy, researchers have investigated the impact that self-efficacy can have on online learning (Bradley et al., 2017; A. Y. Wang & Newlin, 2002; C. H. Wang, Shannon, & Ross, 2013). Bandura (1986, 1997) and Schunk (1983, 1984) suggested that self-efficacy can influence students’ desire to engage in and maintain interest in pursuing academic goals. Self-efficacy has been shown to be a valid predictor of behavior and central in levels of motivation (Bandura, 1986; Schunk, 1984; Zimmerman & Ringle, 1981). “In social learning theory, self-efficacy rose from various experiences, which implied that studying self-efficacy would grant information about behavioral process and motivational sources” (Zhang & Espinoza, 1997, p. 372). In addition to measuring student self-efficacy regarding online learning, a connection has been previously established indicating that students who are frequent and proficient users of online technology can be expected to report higher online learning self-efficacy and may adjust to online coursework more easily (McCoy, 2010).

Additional research has also shown a strong correlation between technology self-efficacy and technology performance (Burkhardt & Brass, 1990; Gist, Schwoerer, & Rosen, 1989; Hill, Smith, & Mann, 1987; Webster & Martocchio, 1992; 1993). Schunk's (1983) research, furthermore, suggests, "a heightened sense of efficacy sustains task involvement and results in greater achievement" (p. 92). As instructional innovations and technology integration in educational settings continue to spread across international borders, it is important to realize that, while the concepts of self-efficacy are generalizable so that we can know that it is factor to be considered, the domain specific nature of self-efficacy and the person specific measurement of self-efficacy need continued research and measure to ensure that instructional designers and researchers have accurate measures of self-efficacy for their target populations. Given that we know that self-efficacy is such a strong predictor of task engagement and task persistence, we need to measure learner levels of self-efficacy to determine how best to proceed with the implementation instructional approaches such as online learning.

METHODOLOGY/DATA COLLECTION

PARTICIPANTS

The participants were newly admitted undergraduate ESL students at a large campus of a public university in Bangkok, the capital city of Thailand. These students were enrolled in an introductory English Language course required of almost all new students. The average enrollment in this course is approximately 5,000 students each year. At the time of our data collection, the campus had approximately 25,000 undergraduate students and almost 8,000 faculty and staff. The survey was distributed by providing an online hyperlink via a recruitment email as well as the survey link that was distributed by instructors in first year courses. There were 1,139 participants that began the online survey with 12 declining to provide consent to use their data. An additional 17 participants were found to be under 18 years old and so unable to legally consent to participation in the research study. After additional data cleaning and screening was performed to remove incomplete data sets, 254 additional participants were removed, and we were left with 856 total participants. There were 329 males (38.4 %) and 527 females (61.6%). As expected, due to the population being first year university students, 91% were 18 or 19 years old.

INSTRUMENTATION AND PROCEDURE

Potential research participants were provided an email link to the online survey either via a direct email solicitation or a web link posted by a first-year course instructor. After clicking on the link, participants completed an online research consent process and were then automatically redirected to the online survey. After the online survey was closed for responses the raw data was downloaded from the online survey tool as comma separated value (CSV) file and imported into SPSS Version 21™ (Statistical Package for the Social Sciences). SPSS™ was used for computing descriptive statistics, correlations, and reliability coefficients (Cronbach's Alpha). The survey consisted of 8 demographic items and 29 self-efficacy items on a 4-point Likert-type scale. The self-efficacy items were taken from a previously developed instrument, the Online Technology Self-Efficacy Scale (OTSES) by Miltiadou and Yu (2000). The online learning self-efficacy items were divided into four subscales to measure specific aspects of participants' online learning self-efficacy. The first subscale, Internet Competencies, included nine (9) items regarding basic internet tasks. The second subscale, which included four (4) items, identified tasks such as live chat and web-conferencing and so was labeled Synchronous Interaction. The third subscale, which was comprised of nine (9) items, was targeted at online learning tasks that utilized email and was labeled Asynchronous Interaction I. The final subscale of seven (7) items also examined Asynchronous Interaction but included activities normally associated as part of an online learning management system (LMS) and was labeled Asynchronous Interaction II.

The OTSES authors had conducted a validation of the survey instrument and calculated a Cronbach's Alpha internal consistency reliability level of 0.95. Even though the self-efficacy items were not modified, we felt it appropriate to calculate a reliability score using the data from our 856 participants in the current study and determined a Cronbach's Alpha of 0.94, which is consistent with the data collected being well within the bounds of high levels of reliability.

RESULTS

Participants in this study were spread across 16 different academic areas, but four large groups were present contributing over 10% per group with 18.8 % from the Faculty of Engineering, 22.0 % from the Faculty of Science, 10.5% from the Faculty of Education, and 10.4% from the Faculty of Medicine. While academic discipline was not a focus of this study as an independent variable so specific analyses were not conducted, it is interesting to note that each of these four academic domains that contributed over 60% of the total sample has traditionally had strong technology skills and that may have impacted the results.

Consistent with the lack of online course offerings at this institution, it was not surprising that the results indicated that 65.2% of the participants had never participated in an online course. Examining the data regarding self-reported computer skills indicated that less than 4% of participants rated their skills as poor. Table 1 shows the specific frequency for each category.

Table 1. Self-Report Computer Skills

	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	28	3.3	3.3	3.3
Basic	517	60.4	60.4	63.7
Good	264	30.8	30.8	94.5
Excellent	47	5.5	5.5	100.0
Total	856	100.0	100.0	

When asked to rate their comfort level using the internet, more than half of the participants rated themselves as either very or extremely comfortable. Table 2 shows the specific frequency for each category.

Table 2. Comfort Level Using the Internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Not comfortable at all	3	.4	.4	.4
A little comfortable	47	5.5	5.5	5.8
Moderately comfortable	311	36.3	36.3	42.2
Very comfortable	372	43.5	43.5	85.6
Extremely comfortable	123	14.4	14.4	100.0
Total	856	100.0	100.0	

A correlation analysis was performed to discover if there were any statistically significant correlations with p set at .05. Prior participation in an online course was significantly correlated to overall online self-efficacy ($p = .016$) also Synchronous Interaction ($p = .017$) and Asynchronous Interaction I ($p =$

.038). Self-report of computer skills and comfort using internet was significantly correlated to overall online self-efficacy and each of four self-efficacy sub-scales with $p \leq .01$. As shown in Table 3, significant correlations were identified for the self-efficacy scales.

Table 3. Pearson Correlations between Main Variables

	1	2	3	4	5	6	7	8
Prior participation in an online course	1							
Self-report computer skills	-.096**	1						
Comfortable level using the internet	-.093**	.436**	1					
Self-efficacy mean: Internet Use	-.061	.366**	.336**	1				
Self-efficacy mean: Synchronous Use	-.082*	.276**	.257**	.519**	1			
Self-efficacy mean: Asynchronous Use I	-.071*	.319**	.269**	.685**	.518**	1		
Self-efficacy mean: Asynchronous Use II	-.066	.295**	.229**	.539**	.417**	.619**	1	
Average total self-efficacy	-.083*	.385**	.331**	.856**	.673**	.904**	.797**	1

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

* Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 4, in order to aid data analysis, mean scores for overall online learning self-efficacy and a mean score for each of the four self-efficacy subscales categories were calculated for each participant to be used in the correlational analysis.

Table 4. Self-Efficacy Means

	N	Minimum	Maximum	Mean	SD
Self-efficacy mean: Internet Use	856	1.33	4.00	3.2182	.52282
Self-efficacy mean: Synchronous Use	856	1.00	4.00	3.0146	.59794
Self-efficacy mean: Asynchronous Use I	856	1.00	4.00	3.0556	.64619
Self-efficacy mean: Asynchronous Use II	856	1.00	4.00	2.7330	.60824
Valid N (listwise)	856				

Not all participants provided their previously calculated English proficiency scores, and so a partial sample subset of 689 participants was used to determine if there were any correlations that were statistically significant. Using $p = .05$ as a confidence level, English proficiency scores were significantly correlated to overall online self-efficacy and all four of the self-efficacy sub scales.

DISCUSSION

The present study was conducted to assess the online learning self-efficacy of newly admitted students for whom English is a second language and who were enrolled in an introductory English language course. In order to examine whether the students felt comfortable and confident using online learning tools, a previously developed self-efficacy scale was utilized. The students' online learning self-efficacy in this study was categorized into four subscales: (1) Internet Competencies, (2) Synchronous Interaction, (3) Asynchronous Interaction I, and (4) Asynchronous Interaction II. In addition to examining the levels of online learning self-efficacy, the researchers also investigated to determine if the students' demographic factors, including gender, academic discipline, level of English proficiency, online learning experience, self-rated computer skills, and comfort level using the internet, had any impact on the overall online learning self-efficacy and the four self-efficacy subscales.

Findings revealed that the students' computer skills and their comfort level using the internet appeared to significantly correlate to the levels of their overall online learning self-efficacy and the four self-efficacy subscales, which means that students who were better at using computers and more comfortable surfing the internet were likely to be more confident that they would do well in courses delivered online. No significant correlations were found for self-efficacy and English Proficiency scores. ESL students participating in this study were reported to be moderately confident of their computer skills. Approximately 60% of them rated their computer skills as basic while a good proportion of them (36.3%) believed that they had good to excellent computer skills. When asked to evaluate their comfort level using the internet, the majority of students (94.2%) reported that they were comfortable using the internet. This seems to accurately reflect what students in the 21st century are like. These individuals are, at least to a certain degree, digitally literate as they have been part of the world where technology has been pervasive in all areas of life including social, economic, and education (Osterman, 2012; Spires, Paul, & Kerkhoff, 2018) and so did not need to learn how to integrate technology—it simply was part of their existence. This has produced a generation of learners who expect to be able to connect to the internet and be comfortable with new technologies as they emerge (Thomas, 2011).

Even with this comfort level with technology, being an online learner is still a unique experience especially within cultures where traditional instructional strategies of teacher-centered versus student centered learning is prevalent. Online learning allows for and encourages a student-centered learning approach to maximize the instructional flexibility in terms of pacing and interaction. Despite having high levels of confidence and comfort using technology in other settings, learners in formal educational settings may still struggle with adapting to the online learning experience (Taipjutorus, Hansen, & Brown, 2012). It is important to engage in research to determine the current levels of self-efficacy with online learning and to use those results to facilitate mastery experiences that have been shown to have the strongest influence on changing self-efficacy (Bandura, 1997).

The results obtained from the study demonstrated a significant correlation ($p < .01$) between online learning experience and the levels of online learning self-efficacy. Consistent with prior self-efficacy research, students who had previously attended an online course were found to have higher levels of online learning self-efficacy. Given that mastery experience (prior experience with the specific task being examined) has been shown to be the strongest and best predictor of self-efficacy, this result suggests that participants would benefit from more online learning experiences in order to increase their online learning self-efficacy.

Data analysis also revealed that ESL students with higher levels of English proficiency also appeared to be more confident than those with lower levels of English proficiency, signifying that they would perform well in online learning environments as indicated by their higher levels of self-efficacy. This could possibly be due to the fact that often times many things in online environments are written mostly in English and so students with lower levels English proficiency may find it challenging for them to understand and follow all the instructions. These students, therefore, may feel less confident with their performance in online learning environments.

CONCLUSION AND IMPLICATIONS

As indicated by the results of this study, ESL student participants appeared to possess a relatively high level of self-efficacy regarding online learning environments, i.e., they felt they would be able to confidently and comfortably utilize online learning tools. These results are promising for the university as having high levels of self-efficacy has been shown to be a very positive sign of how well the students are likely to perform in their future courses into which online components are incorporated. Even though self-efficacy being a strong predictor of academic performance has been documented and supported by prior research (Bandura, 1977, 1986; Joo, Bong, & Choi, 2000; Kitikanan & Sasi-momton, 2017; Schunk, 1991; A. Y. Wang & Newlin, 2002; Zajacova, Lynch, & Espenshade 2005; Zimmerman & Martinez-Pons, 1990) our results may add another layer of evidence that diverse populations such as ESL learners and higher education students outside western cultures are also influenced by self-efficacy. A limitation of the current study is that the populations represented do not include all academic domains from within the university and so generalization of these results to all students may be challenging. Additionally, this institution is very large in terms of student enrollment and its location in the largest city in Thailand and so extrapolation to other smaller, more rural-ly situated institutions may not be possible without replication in those contexts.

Given the positive results obtained from the authors' previous research investigating the faculty online teaching self-efficacy levels at this same university (Ramsin & Mayall, 2017) coupled with the high levels of self-efficacy on the student side found in the present study, we believe that through our research, both ESL students and faculty have demonstrated a readiness to engage in online learning environments. However, as online learning is very different from learning in traditional face-to-face classroom setting, and it requires a different set of learning and teaching skills, it is recommended that at the very first stage of transitioning into online learning, the institution first start with partially online courses into which a mixture of both online and face-to-face elements is incorporated. Sufficient training should also be provided to support this transition by helping students and instructors get started and supporting them along the way. This will allow students as well as faculty to gradually adjust themselves into the new instructional delivery system and technologies that come with it. Once students and faculty are well-adjusted and familiar with the new learning environment, and assessment of the effectiveness of the partial integration has been conducted, the institution can consider offering courses that are entirely online.

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