

The impact of a social networking environment with fully-autonomous and semi-autonomous learning on the English writing abilities of Thai university students

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Abstract

Mixed-mode learning is one of the most recent educational trends, reshaping the delivery of learning facilities in higher education. Through self-regulated learning and technological advances, higher education institutions may be able to offer new learning possibilities incorporating social networking environments. Adopting social networking environments in university learning is a challenging area of research under an investigation in relation to its effectiveness. In this study, we draw attention to a pedagogy for self-regulated learning based on rhizomatic planning skills in the context of an online social networking environment designed to develop writing skills in English as a Foreign Language (EFL). We report interesting and promising results where EFL students working without the support of a teacher outperformed their peers who studied in the same context but with extensive support from an experienced and committed teacher. The results indicated that teacher intervention was not always beneficial in the learning process and that students were in fact capable of generating self-organizing learning environments. This unexpected outcome was analyzed and possible explanations were suggested. On the basis of these findings, it may be necessary to revise some of our preconceptions about what constitutes optimal conditions for learning to write in a foreign language. The article concludes with recommendations for the construction of writing programs based on social learning platforms.

Keywords: *social networking environment, rhizomatic planning, writing skills, EFL students, self-regulated learning*

1. Introduction

The study and mastery of English is mandated by government policy at all levels of Thai education from primary to higher institutions (Thailand Regulatory Fact Sheet, 2013) because of its workplace necessity for the ASEAN Economic Community (AEC) from 2015 onward. The study of English is also desirable for other educational reasons (A-P. Lian, 2012; Lian & Pineda, 2014; Kasemsap & Lee, 2015). Although English studies have been emphasized by the Thai educational system, Thai students' performances in English tests such as TOEFL, TOEIC, and so on have been steadily found at a lower than desirable level for many decades (Wiriyachita, 2002; EF EPI, 2015; ETS, 2015; Puengpipattrakul, 2014; Kraus, 2014), and the English of Thai learners has, typically, been labeled as being at "a low level" or "very low level". This may result from unsolved problems of English learning in Thailand, such as L1 interference, not enough practice, no real experience of language use, unqualified teachers, textbooks unrelated to real life,

and so on. Thus, the Thai educational system has often engaged in debate about the quality of its English teaching and learning. In order to further encourage and motivate the learning of English, the integration of ICT-based technology, E-learning systems, technology-supported courses, and social networking environments have been genuinely encouraged at all levels by the Thai government (Ministry of Education, 2009; Kraus, 2014; Wattapanit, 2013). However, research into social platforms, such as Facebook, Edmodo, Schoology, etc. has been limited. It was interesting to investigate whether university students could improve their English using these forms of interaction since an increasing number of university students has become avid users of certain social networking platforms, and log in frequently, suggesting that it would be logical to exploit the new generation's heavy reliance on social networking sites, such as FaceBook, Edmodo, Schoology etc. to support language learning.

The relatively unsuccessful learning of English in Thailand may stem from many problems. For instance, it may be caused by the use of unfamiliar lessons, unattractive teaching methods, inappropriate learning environments, and insufficiency in technological support for English classes (Todd & Keyuravong, 2004). Furthermore, most English teachers in Thailand are non-native speakers (Khamkhien, 2010); the students have fewer chances to interact with native speakers. Further, existing English teachers in Thailand are unqualified (Lian, 2002; Dueraman, 2012; 2015), there is a limited class time for English, a lack of qualified English native teachers (Baker, 2003), and inadequacy in teaching aids. In addition, the available teaching aids or text books are not relevant to students and are not related to language used in the workplace (Wiriyachitra, 2002; Todd & Keyuravong, 2004).

Several researchers have described problems relating to Thai students' written work. For example, C. Hengsadeeikul, T. Hengsadeeikul, Koul, and Kaewkuekool (2010) noted that students lacked confidence in using English and they also suffered from language anxiety or negative perceptions when using English. Because of their lack of practice in writing (Dueraman, 2015), Thai students tend to lack confidence when writing in English and hardly ever have the opportunity to use English outside their classrooms (Honsa, 2013). They also rarely have a chance to practice English writing inside the classroom (Dueraman, 2012). Moreover, the high workloads under which Thai writing teachers labor means that they do not have enough time to provide feedback and peer revision activities for students (Dueraman, 2012). In higher education, writing is an elective course primarily for students majoring in English. For the required courses (fundamental English courses), the emphasis is on the four skills but Thai students rarely write. If they write, grammatical structures are emphasized. In most English writing classes in Thailand, the teachers pay attention to formal aspects of language, that is, the form, the format and the language use, more than the content (Promnont & Rattanavich, 2015).

Even though English classes in Thailand emphasized language forms, previous studies demonstrated that Thai students continued to make many grammatical mistakes and form usage errors. For example, Watcharapunyawong and Usaha (2013) found that the English writing of Thai students was

usually influenced by or interfered with negative transfer from their L1 (Thai) language linguistic knowledge because Thai students employed direct translation from Thai to English whenever they wrote in English. In more detail, Panumas, Raphatphon, and Kornwipa (2011) found that direct translation from Thai to English was done in a word-by-word process that produced a written text which was both incorrect and unclear. Similarly, Phoocharoensil (2012) found that students also transferred the culture and pragmatic knowledge of the Thai native language to their English. Several examples have been described in previous research studies by Yumanee and Phoocharoensil (2013), Phoocharoensil (2013) and Phoocharoensil (2011) who analyzed student's written work and reported that their work was found to be full of mistakes and misuses of English collocations resulting from their literal word-for-word translation strategy, without any awareness of the correct use of those collocations. In addition, Bennui (2008) stated that three major interference errors were found in Thai learners' writing: a) L1 syntactic interference, b) L1 lexical interference, and c) L1 discourse interference. Nimnoi (2011)'s analysis identified five types of errors made by Thai students: a) errors in use of words b) errors in use of words and literary styles c) errors in sentence structure d) errors in the use of punctuation marks and e) use of spelling. Similarly, Arunsitot (2013)'s analysis of Thai university students' written texts discovered that their work was full of various types of problems, particularly confusing themes, including mistakes of conjunction use, cohesion and coherence in students' writing. Under a different name but in a similar perspective, recently, Na Phuket and Othman (2015) distinguished two types of writing errors of Thai students: 1) interlingual errors or native language interference 2) intralingual errors or insufficient knowledge of target languages.

Regarding all of the above problems, Thai researchers have attempted to seek effective approaches to improve English education including the difficult skill of writing (Watcharapunyawong & Usaha, 2013). Theories and practices have been integrated with the support of technology to help learning environments to foster self-regulated learning. For instance, Kritsuthikul, Hasegawa, Nattee, and Supnithi (2013) suggest that learners should develop their own thinking abilities and have more practice in writing. Furthermore, Boonpattanaporn (2008) adds that a supportive

classroom environment is necessary in order to provide opportunities for instructors to give feedback, advice, and assistance regarding students' written work. Methitham and Chamcharatsri (2011) recommend that the integration of the Internet and media in language learning can immerse students in the cultures of native speakers to assist them to become fluent in both speaking and writing skills. Wiriyachita (2002) suggests that Thai lecturers should apply technologies such as open access websites to facilitate their language instruction.

The growing trend for Thai researchers to use technology to enhance foreign language proficiency suggests that technology may have the potential to foster more effective English learning environments (A.B. Lian, 2014) in Thai contexts. Recently, a number of studies indicate that the use of technology-supported learning strategies actually facilitates learning for EFL learners and promotes satisfied perceptions, positive reactions, and self-regulated learning in today's learners (Simasathiansophon, 2014). In the context of these systems, as suggested by self-regulated learning theory, learners are actively shaping their own learning by being aware of and managing their own learning processes through the support of social networking sites. These facilitate the construction, reorganization and distribution of knowledge. The social networking platform encourages knowledge transfer and negotiation among learners as well as engaging learners with their peers anytime and anywhere. Furthermore, meaning as individual internal creation (Lian, 2001; 2004) is negotiated socially within this environment to construct learners' own knowledge in ways which are similar to those of real-world experiences of communication. Learners, with different levels of knowledge and expertise, attempt to share their understanding among peers in their social network groups. In so doing, they are required to interact in such a way as to generate deeper levels of comprehension and critical evaluation of information thus enabling them to generate new knowledge as well as activate their creative thinking and critical thinking skills.

Since most publicly-available social networking sites are in English, students will need to understand English so as to participate in the sites' activities thus strengthening the claim that social networking sites have potential for English learning. Many researchers have discussed and investigated how social networking environments (SNE) could

provide opportunities to enhance language skills, improve writing performance, increase the sense of community, promote authentic language interaction, and so on (Lian, 2011; A. B. Lian, 2014). They argued that SNEs have outstanding features and functions that offer constructive experiences while maintaining privacy and safety (Derakhshan & Hasanabbasi, 2015). These considerations will serve as a base for the research reported here.

2. Related theories

2.1 Self-regulated learning

A self-directed or self-organized process that enables learners to raise and develop self-awareness of their strengths and weaknesses in learning is known as self-regulated learning. The self-regulated learning (SRL) of learners refers to the degree that learners are motivationally, behaviorally, and metacognitively controlling their learning (Rahimi & Bigdeli, 2013; Zimmerman, 2000). Building on this definition, many researchers have identified learners with a lower level ability of self-regulation ability as "dependent learners". They appear to be less successful in online learning (Oh & Lim, 2005). Through the use of SRL strategies, learners develop their abilities to navigate unfamiliar learning environments such as online courses. Several researchers have explored the effects of SRL in new learning environments. Even though the applications of SRL theories vary in approach, they all seek to develop the SRL skills that optimize motivational, behavioral, and metacognitive processes of learners through the development of a multiplicity of strategies (Zimmerman, 2000).

Regarding the autonomous and self-regulated nature of learning, effective use of SRL is necessary for learners' success in a computer-enhanced language-learning environment (Lian, 2001; A.B. Lian, 2014; A-P. Lian, 2014) and also other online environments. Unfortunately, not every learner participating in online environments has this skill. Based on research findings, it was found that learners with strong SRL skills were likely to be successful in online courses. Learners who cannot organize their own learning in online environments are likely to increase their level of frustration, experience poor academic outcomes, and withdraw from the study program. Since a number of prior research courses indicate that learners taking online courses continue to struggle to employ SRL strategies to achieve their learning goals, an exploration of how learners could successfully

develop SRL skills remains valid as a broad area for further study. The SRL concepts incorporated in this study were based on the notion that learners' control over their own learning is possible through self-regulation of their own learning behaviors, that they are able to use their own learning strategies, and that they are motivated intrinsically by themselves, by their community, or by other undetermined factors.

2.2 Rhizomatic theory

Rhizomatic theory was conceptualized by Gilles Deleuze and Felix Guattari in their book entitled "*A thousand Plateaus*" (Deleuze & Guattari, 1987). These two French theorists suggested the notion of "rhizome" as a metaphor representing the thinking process or knowledge that grows unpredictably in all directions in contrast to the idea of a "*tree of knowledge*" that proceeds in a predictable and hierarchical way, i.e. root to trunk to branch to sub-branch. This concept of rhizome had been applied in a limited way to the educational field. Rhizomatics is a thinking concept that destabilized the linear and fixed concepts of power and social practices. The linear tree can be compared to traditional learning and teaching which are rooted in a single and predictable pattern. By definition, traditional learning and teaching reject the multiple learning approaches and unpredictable learning paths that can occur if learning is based on need and practice (Deleuze & Guattari, 1987) as happens in social networking environments (as in the environment for this study).

In contrast to a singular unity represented by the tree, the rhizome is a grass-like network or a complicated de-centered network that spreads in every direction. Rhizomes contain multiplicity rather than singularity through roots and branches emerging without structured order, and they can re-emerge at another point and connect unpredictably to one another. They do not conform to any linear model. The non-linear, multiple growth of the rhizome associates it with different ideas and its lack of center provides it with a space to establish external networks (Deleuze & Guattari, 1987, pp. 8-12). The idea of rhizomatic concept is opposite to knowledge building as a fixed end but sees learning as a form of growth that proceeds along the continuously "*moving horizon*" of a smooth space (Deleuze & Guattari, 1987). Rhizomatic learning builds links between preexisting gaps as Deleuze and Guattari (1987, p. 7) noted that "*any point of a rhizome can be connected to any other things, and*

must be". The interconnection between in-class learning and real-life experience through practice discussions in real-life interactions justifies the pedagogical aspects of social networking environments.

This study employed the concept of rhizomatic thinking to conceptualize learners' planning of ideas when posting online in the social networking environment (SNE) intervention. Rhizomatic planning works when the learners think, research, create, communicate, rethink, connect, exchange, justify, share, and distribute information about posts written by themselves and by others. The rhizomatic aspect of language learning should not be seen as a chaotic concept but be thought of as a form of self-regulated learning that responds to learners' needs (Lian, 2004; 2011), just like the social networking environment that offers many areas for learning in response to the different needs of a diversity of learners. Rhizomatic theory may be able to provide a new way of thinking about language-learning practices and offer insights into a possible transformation of higher education learning.

3. Objectives of the study

Since the problem of the current study was that the majority of Thai university students exhibited low writing proficiency as reported by English testing sources for a number of years (Wiriyachita, 2002; EF EPI, 2015; ETS, 2015; Puengpipattrakul, 2014; Kraus, 2014), the major aim of this research was to explore the impact of a social networking environment (SNE) on the development of EFL learners' writing abilities and/or other English skill abilities through two groups of participants: fully-autonomous learning (i.e. self-regulated learning without teacher mediation) and semi-autonomous learning (i.e. self-regulated learning with teacher mediation). In detail, the three research objectives for this study include: 1. to compare the English writing achievement of each group of participants before and after learning through the social networking environment (SNE); 2. to compare the English writing achievement of students between the groups after learning through the SNE; 3. to explore students' perceptions of their writing performance after learning through the SNE.

4. Research questions

The three research questions for this study include:

1. How effective is the social networking environment (SNE) in supporting the writing and/or other English skills development of EFL students?
2. Are there any significant differences between experimental group 1 (fully self-regulated learning group) and experimental group 2 (semi self-regulated learning group) in terms of writing and/or other English skills development? If so, what are these differences?
3. What are the students' perceptions of their EFL writing performances, as developed through social networking environment (SNE), and how do they assess the value of SNE?

5. Methods

This section aims to provide information on the methodology employed for this study.

5.1 Participants

This study was carried out at a leading research university in the northeastern Thailand. Most of the participants in this study were engineering students. For the purpose of this research, 102 students were selected to participate by using non-probability, or convenience, sampling with student selection based on convenience of access (Blackstone, 2012). The participants in this study were selected from students who were non-English major undergraduate students and who were taking the English 1 course, the first of four required

English courses for non-major students. This research did not include the entire population of students enrolled in the course for that trimester (1,501 students). The sample groups were two intact classes selected from 28 classes. The pilot sample (Tryout group) included 50 students who were taking the same course in a different trimester. The actual sample included 2 intact classes, consisting of 102 students with 51 students in each class. This approach provided the most appropriate, unbiased, representatives of the population.

5.2 Social networking environment (SNE)

The SNE intervention was designed by the researcher. It was designed to enhance the writing performance of EFL students. Neither group of students received any form of writing instruction but each was assigned to look for information and create online posts with their own personal approach to writing. The SNE provided an out-of-class mode of study activities in which the students were required to participate online for at least an hour per day. The students were assigned to post, comment and give feedback to their peers' assignments, discussion posts, and updated posts and events. The updated post pages were optional, they could post to share their daily events but the discussion board activities were assigned as homework. If the students encountered any problems in completing the online tasks, they could select one, or more than one, of the following channels to solve their problems (see Table 1).

Table 1 Comparison of SNE for both groups

Fully SRL		Semi SRL	
Work on SNE	1) study by themselves 2) consult their peers 3) consult experts of their choices	Work on SNE	1) study by themselves 2) consult their peers 3) consult experts of their choices 4) consult teachers

Although "Moodle" (Moodle, 2014) was integrated with courses offered at this university, the most suitable tool for the specific study reported in this paper was found to be a system called "Schoolology". There were several reasons for this.

For example, it does not require any hosting by the university as it is already hosted by Schoolology itself. It is a simple system with easy applications. The comparison of the two platforms is represented as follows (see Table 2):

Table 2 Comparison of Moodle and Schoolology

Moodle	Schoolology
-needs server, support or paid hosting	-no private hosting needed
-traditional LMS	-social learning platform
-difficult to use	-simple to use
-less media richness	-more media richness

The base structure of the social networking environment (SNE) itself was also developed by the website “www.schoolology.com”. It is a user-friendly platform for institutions that makes it simple to deliver course contents. It is cloud-hosted, therefore, no download or installation is required (Biswas, 2013). It has Facebook-like news feeds and social networking features that can be accessed from mobile applications. It contains online class tools, such as material tools, discussion forums, and so on. In this study, the SNE was supported by the “Schoolology” platform as an outside-class learning system. The major functions of the SNE include: newsfeeds, updated posts, course materials, discussion boards (homework assignment), and online resource links. The SNE provided a link between in-class and outside-class learning. It incorporated overall information related to the course. It included the syllabus, all coursebook information in the form of PowerPoint slides, Word files, video files which could be presented through Schoolology to allow for anytime, anywhere access for students.

This SNE instrument (see Figure 1) aimed to develop the writing skills of non-English major undergraduate students studying at the university in which the research was conducted. The online lessons to be applied in the SNE were topics from the textbook *Four Corners* Level 3 by Richards and Bohlke (2014), published by Cambridge University Press. The classroom lectures covered 4 units from the book that emphasized listening and speaking training. Therefore, reading and writing training was offered to students through SNE lessons. The contents of units 1, 2, 4 and 5 covered 4 topics: 1) Education; 2) Personal Stories; 3) Interesting Lives; 4) Our world. The activities in the SNE consisted of two major parts: 1) self-study online materials, such as listening, watching or reading newsfeeds, posts, and online resources. This part was designed to arouse students’ attention and reflection on the topics; 2) discussion board interaction as homework assignments by online writing to reflect on those feeds, posts, and online resources. This part imitated real-life interaction through writing and was meant to encourage students to communicate and to reflect personal opinions.

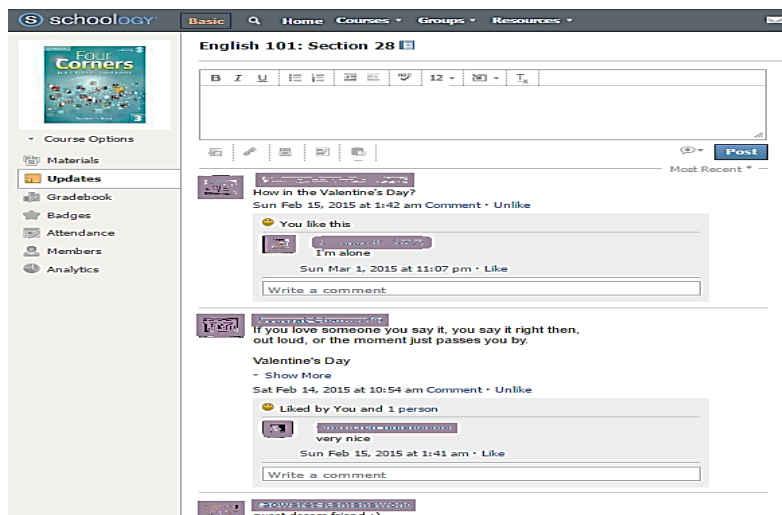


Figure 1 Social networking environment

5.3 Writing tests

Two parallel writing tests (paper-and-pencil) were employed before and after the experiment for both groups. Each test consisted of an essay topic and instructions for the participants to write a free essay of at least 120 words on the given

topic within an hour (see Table 3). Before the experiment, both tests were examined for content validity by five experts in the field of English language education. Both pretests and posttests were also tested with a pilot group before the real experiment. The purposes of the pretests and

posttests were to compare students' writing performance before and after practicing English writing in online discussion activities using the SNE. The test results of experimental group 1 (fully SRL group) and experimental group 2 (semi SRL group) were then compared to measure the differences in students' achievements between the two groups.

5.4 Other English skills (OES) tests

Two parallel other English skills (OES) tests were also employed before and after the experiment for both groups. Each test included

open-ended questions, multiple-choice questions or dialogue completion (see Table 3). Before the experiment, both OES pretest and posttest were examined for content validity by the university lecturers. The purposes of the OES pretests and posttests were to compare students' performance on listening, reading, grammar, dialogue completion, and vocabulary skills before and after study using the SNE. OES results of the fully SRL group and semi SRL group were compared to measure the difference in students' achievements on other English skills.

Table 3 Writing test and other English skills (OES) tests

Name of Test	Test	Test topic	Time	Type
Writing	Pretest	An Impressive Moment	1Hour	Free Writing
	Posttest	A Frightening Moment	1Hour	Free Writing
OES	Pretest	1) Education; 2) Personal Stories; 3) Interesting Lives; 4) Our world	2 Hours	-Listening/ reading/grammar/vocabulary/ dialogue conversation with questions and selection from multiple choice answers
	Posttest	1) Education; 2) Personal Stories; 3) Interesting Lives; 4) Our world	2 Hours	-Listening/ reading/grammar/vocabulary/ dialogue conversation with questions and selection from multiple choice answers

5.5 Data collection and data analysis

The data were gathered in the form of quantitative data and they were processed using a computer program. Analysis was performed by the SPSS statistical software. The major statistics for data analysis of this study include: 1) Mean 2) Standard deviation 3) Paired t-test 4) Independent samples t-test 5) Analysis of covariance (ANCOVA). The qualitative data were analyzed using content analysis.

6. Results

6.1 Results of research question 1

In order to answer research question 1, "How effective is the social networking environment (SNE) in supporting the writing and/or other English skills development of EFL students?", paired t-test statistics were used to compare the

difference in means (before and after the experiment) within each group.

Research question 1: Effectiveness of the SNE in supporting the writing skills and other English skills of both groups

Table 4 shows within-group differences for scores before and after the experiment. The results for between-group differences are presented in Table 5 for pretests and in Table 6 for posttests.

As shown in Table 4, the fully SRL group scores revealed significantly higher posttest mean scores for both writing and OES tests (writing mean=13.485; OES mean=21.156) compared to the pretest (writing mean=8.049; OES mean=16.254). The t-values were 10.310* and 7.235* with a degree of freedom of 50 (N=51). The result revealed that there was a significant difference between the pretest and posttest mean scores at the 0.05 level of significance (P= 0.000; p < 0.05).

Table 4 Paired t-test results comparing the writing and OES pretest and posttest scores of the fully and semi SRL groups

Test Name	Group	Test	N	Mean	S.D.	t	df	P (Sig.)
Writing	Fully	Pre	51	8.049	4.023	10.310*	50	.000*
		Post	51	13.485	4.317			
	Semi	Pre	51	9.857	3.973	12.901*	50	.000*
		Post	51	15.823	4.251			
OES	Fully	Pre	51	16.254	4.327	7.235*	50	.000*
		Post	51	21.156	5.834			
	Semi	Pre	51	18.039	4.132	6.598*	50	.000*
		Post	51	22.313	4.586			

Note: *P ≤ 0.05

Similarly, the semi SRL group scores indicated significantly higher posttest mean scores for both writing and OES tests (writing mean=15.823; OES mean=22.313) compared to the pretest (writing mean=9.857; OES mean=18.039). The t-values were 12.901* and 6.598* with a degree of freedom of 50 (N=51). The result revealed that there was a significant difference between the pretest and posttest mean scores at the 0.05 level of significance (P= 0.000; p < 0.05).

These results indicate that the SNE intervention was helpful in developing writing skills and other English skills for both groups of participants as the posttest scores were significantly higher than the pretest scores (at the 0.05 level of significance).

6.2 Results of research question 2

In order to answer research question 2, “Are there any significant differences between experimental group 1 (fully self-regulated learning group) and experimental group 2 (semi self-regulated learning group) in terms of writing and/or other English skills development? If so, what are these differences?”, independent samples t-test statistics were used to compare the difference of pretest scores (before the experiment) between groups.

Research question 2: Comparison of language development of the fully SRL and semi SRL groups

Table 5 Independent samples t-test showing difference between writing and OES pretest scores of fully and semi SRL groups

Name of Test	Group	Test	N	Mean	S.D.	t	Df	P-value (Sig.)
Writing	Fully SRL	Pretest	51	8.049	4.023	-2.284*	50	.024*
	Semi SRL	Pretest	51	9.857	3.973			
OES	Fully SRL	Pretest	51	16.254	4.327	-2.130*	50	.036*
	Semi SRL	Pretest	51	18.039	4.132			

Note: *P ≤ 0.05

As presented in Table 5, the pretest mean scores of both writing and OES tests from the semi SRL group (writing mean=9.857; OES mean=18.039) were higher than the pretest results for the fully SRL group (writing mean=8.049; OES mean=16.254). Therefore, the results of the independent samples t-test indicated a statistically significant difference (writing difference between groups, p=.024; OES difference between groups, p=.036; p < 0.05) between groups in the pretest scores of writing tests and OES tests. In brief, the semi SRL group was stronger (better) than the fully

SRL group at the beginning of the study in terms of their writing skills and other English skills abilities.

Because of the statistically significant difference in the pretests between the two groups, it was not possible to compare the performances of the two groups using an independent samples t-test. Instead, an ANCOVA analysis was performed which compensates for this initial difference (Field, 2013). ANCOVA analysis aimed to measure the impact of the SNE on both groups of students’ writing skills and other English skills.

Table 6 ANCOVA results on writing and OES posttests between fully and semi SRL groups

Name of Test	Source	N	Sum of Squares	Mean square	F	P (Sig.)
Writing	Pretest	102	743.335	743.335	67.367	.000
	Group (Posttest)	102	29.587	29.587	2.681	.105
OES	Pretest	102	741.140	741.140	36.448	.000
	Group (Posttest)	102	.002	.002	.000	.992

Note: *P ≤ 0.05; type III sum of squares

Results of the ANCOVA are illustrated in Table 6 and reveal that P-values for both tests were

higher than .05 (writing difference between groups, p=.105; OES difference between groups, p=.992; p>

0.05). This means that, although there was a significant difference between the performances of the two groups before the experiment, there was no significant difference between the performances of the two groups after the experiment. In other words, the fully SRL group, which had significantly lower scores than the semi SRL group before the experiment, had made a considerable improvement by the end of the experiment to the extent that their performances were statistically indistinguishable from those of the semi SRL group. This result underscores the effectiveness of the fully SRL approach where, without teacher mediation and attention, the fully SRL group effectively outperformed the semi SRL group which had copious teacher mediation and attention.

6.3 Results of research question 3

In order to answer research question 3, “*What are the students’ perceptions of their EFL writing performances, as developed through social networking environment (SNE), and how do they assess the value of SNE?*”, content analysis was used to analyze participants’ discourses in the interview data.

Research question 3: Student perceptions of SNE

6.3.1 Interview results of the fully SRL group

Regarding the interview result of the fully SRL group, the majority of students in this group had positive perceptions of the SNE. By social interaction with peers in the online classroom, this group of students felt that they could develop many skills in English, especially writing and reading. They could write more easily. They could construct English sentences and understand English messages. They said they remembered more vocabulary, understood grammar use correctly, and so on. They felt that the SNE had enhanced their language skills through practicing English writing online. They had more confidence to write in English. Their enjoyment to chat was increased. In contrast, there were some disadvantages and suggestions found. The system was slow, unstable and sometimes stopped working. The SNE should have higher speed and a more stable system. They should add more features to facilitate learning. Listening functions should be increased. More people should be invited to participate in the activities like other social networking platforms.

In conclusion, students’ opinions reflected the effectiveness of the SNE. The interview results confirmed the quantitative results reported earlier. However, there were many features on the SNE that were incomplete and required improvement.

6.3.2 Interview results of the semi SRL group

Similarly to the fully SRL group, the majority of students in the semi SRL group had positive perceptions of the SNE. By social interaction with peers and instructor, this group of students felt that they could develop many skills in English. They could write better, read better, gain more vocabulary, understand more about grammar principles, and so on. The SNE had enhanced their language skills through practicing English writing online. The students felt that English was easier than they had previously thought. They had more confidence to write in English. On the other hand, there were some disadvantages and suggestions identified. For instance, there were not enough tutorial systems provided and more media and games should be added, the SNE application could not be used with mobile devices and automatic self-correction programs should be provided. The teacher should also provide more questions while students should be allowed to talk about anything that they felt interested in. Finally, the system should be more interesting and more beautiful.

In conclusion, students’ opinions reflected the effectiveness of the SNE. The SNE was effective for developing their skills in English. The interview results confirmed the quantitative results reported earlier. However, there were many features of the platform used that were incomplete and needed to be improved.

7. Discussion of the findings

The above statistical results showed interesting and unexpected outcomes. The fully SRL group was significantly behind the semi SRL group before the experiment. However, the results showed that at the end of the experiment, the fully SRL group had made up its initial performance deficit and was performing as well as the semi SRL group (no significant difference in mean scores of the two groups) despite the head-start of the semi SRL group and the additional assistance and resources provided by the teacher. This means that, in effect, because of its initial deficit in relation to the semi SRL group, the fully SRL group actually outperformed the semi SRL group.

This result was surprising because it is counter-intuitive. How could a group working on its own, especially in the educational cultural context of Thailand where reliance by students on teachers is universal, effectively outperform a group provided with copious teacher support? In this context, even discounting the greater performance of the semi SRL group by the fully SRL group, a “no significant difference” outcome statistically is in fact a highly significant outcome pedagogically. It means, at very least, that under the right conditions, a teacher-less, self-managed, resource-light, autonomous group can learn to write just as well as a teacher-led, resource-intensive, group. This outcome clearly signals that a fully autonomous SRL group may actually be more effective and efficient pedagogically than a semi SRL group, despite cultural constraints, as it results in major savings in terms of teachers’ time and resource-investment (both personal and institutional) resulting in major efficiency gains: no teacher is needed for students engaged in this form of learning and the number of students who can be served by this kind of structure is essentially limitless. Some essential aspects underlining this study are discussed below.

7.1 Self-regulated learning strategies and rhizomatic planning skills

Self-regulated learning strategies and rhizomatic planning skills appear to have been promoted when the students faced the situation of having to manage their own learning in order to complete the tasks required. The fully SRL students, without a teacher paying attention to them, knowing that they could not count on the teacher’s help, seem to have tried to acquire by themselves the skills necessary for their survival in completing SNE tasks. They then drew upon all of their available resources to do so. Thus, they seem to have produced a kind of self-organizing solution and engaged in a rhizomatic planning that helped them to write, to post and to apply their academic knowledge and experiences in ways that fitted each individual. For example, they might have searched for feedback from other sources (such as peers, Internet resources), monitored sources of learning, learned actively, planned their time to reach their goals effectively, and decided and adjusted their goals, methods, and behaviors flexibly to be successful in their writing, together with other aspects of English learning, and, perhaps, similar problems facing them as well.

The results found in this study appear to confirm results from previous studies dealing with the self-regulation of students. A certain number of studies has already been performed on this issue and related concepts. They mirror ideas and outcomes similar to those found in this study such as the study by He and Sangarun (2015). Other examples come from Mitra (2012; 2013)’s studies who found that students could learn effectively in the context of self-organized learning environments among their community of peers. Similarly, the Sudbury Valley School experiences (Oppenheimer, 2014; Greenberg & Sadofsky, 1992) and also 21st Century education (Lian, 2004; A-P. Lian, 2012) both suggest and confirm the positive results of giving students full control over their own learning processes and strategies without the influence or guidance of a teacher. The systems described in these projects also seem to have a more positive effect on students’ behaviors in the long term.

7.2 Teacher’s role and feedback

Regarding the role of the teacher, the fully SRL group received no teacher support and no teacher feedback beyond setup instructions. On the other hand, the semi SRL group received on-demand teacher assistance both online and offline as well as receiving more teacher’s comments on their posts. They were allowed to consult the teacher at any time through many forms of communication, such as the instant message function of the SNE that provided personal chatting facilities. They could E-mail, phone, and use other social networking sites to contact their teacher. They could also make an appointment to see the teacher. Furthermore, the fully SRL group received no significant feedback from the teacher compared to the semi SRL group which received feedback in the form of “grades”, such as “A, B, C, D” and “short comments” so as to make students aware of their posts’ writing quality. This suggested that the teacher’s intervention as well as certain kinds of feedback might not necessarily support students’ language development.

7.3 Critical thinking skills and problem-solving skills

Students reported that on-task behavior was modified over time and that their ideas shifted in a more constructive direction. Before posting, students accessed a wide range of online resources in order to find the content they desired. At the same time, they developed generalized note-taking skills,

information-seeking skills, writing for interpretation, and designing posts. Learners used media to generate their own content and then they became more integrated. Moreover, the results from both groups were positive, most of the students revealed that their ideas had shifted in a “better” way in the last two weeks of the experiment (weeks 3 to 4). However, the fully SRL group, which had no teacher’s guidance in completing activities, showed posttest results that were not different from those of the other group. This suggests that they might have developed problem-solving skills by themselves.

This outcome could result from their experience of engaging in a knowledge-construction process within their community. They were exposed to a number of online resources and peer writing in multiple perspectives on the same and similar topics. Apart from using the online resources routinely and appropriately, they were undertaking extensive research and evaluation and had to decide which information could be used. As a consequence, students realized their level of expertise and shared their expertise with the community unconsciously. That is to say they created their own rhizomatic problem-solving skills (Lian, 2004; Lian & Pineda, 2014) to gain the necessary knowledge from resources located online.

7.4 Well-designed SNE intervention

The fact that both groups had higher mean scores after the experiment may be a result of the well-constructed virtual environment of the SNE, particularly in the case of the fully SRL group which worked on its own within its online community and without teacher mediation. Students from the fully SRL group were successfully able to participate collaboratively within the SNE community and, as a result, gained English skills.

Even without teacher mediation, the fully SRL group was established in the spirit of facilitating the creation of a “personalized learning environment”, as well as a comfortable feeling, and under a sense of social communication and common social identity among peers. Full personalization may have developed as a result of the learning environment adapting to the learners’ needs. This personalized environment enabled students to take control over their own personal environments in accordance with their knowledge, interests, needs, motivation, and goals (A. B. Lian, 2014; Mayeku, Edelev, Prasad, Karnal, & Hogrefe, 2015).

Moreover, the SNE also provided “adequacy of learning resources and services” (Derakhshan & Hasanabbasi, 2015; A. B. Lian, 2014): an essential element for academic support. A full range of related resources was provided for both groups of students. Students were provided with clear information on the process to access the online course services before the experiment. Online open-access resources were easily accessible. Facilities and processes for downloading and printing materials were clearly explained to students. Thus, the fully SRL group was a group of students who, without the benefit of significant teacher assistance, nevertheless created their own help structures and learning environments, solved their own problems by themselves and, developed personal problem-solving skills to deal with their difficulties. On the other hand, the second group of students (semi SRL), who did have the benefit of significant teacher assistance, had their problems (at least partially) solved, or solutions suggested by, the teacher. In so doing, the pressure on them was reduced by giving them the solutions they wanted but, seemingly, also reducing, or not enhancing as greatly, their ability to develop their critical thinking, problem-solving, and language learning skills.

In summary, the SNE used here seems to have provided students with some of the characteristics of 21st Century Skills, consisting of “critical thinking and problem-solving skills, self-organizing skills, rhizomatic thinking skills, technology skills, and life-long learning skills” (Lian, 2011; A. B. Lian, 2012; A-P. Lian, 2012; A. B. Lian, 2014). The results from this study are likely to provide an insight into what constitutes an effective SNE system. As discussed above, there was evidence showing that students from the non-teacher supported group, or the fully SRL group, demonstrated higher critical thinking skills, active participation in the community, and became writers that were as fluent and as effective as those in the teacher supported group (the semi SRL group). These results suggested that the teacher was not a critically important factor in the effectiveness of an SNE if the SNE system is sufficiently well-designed. This result is consistent with previous studies (Derakhshan & Hasanabbasi, 2015) and further demonstrates that an SNE is in fact able to help support learners’ autonomy, writing skills, and other English skills.

8. Ethical considerations

The ethical considerations throughout this research consisted of participants' rights, sensitivity of personal information, personal experiences and attitudes. The participants were informed before the study about their rights to withdraw at any time. The researcher had obtained ethical approval from the university to conduct this research and gather data from students.

9. Limitations and further studies

Some limitations for this study consist of limitations of the participants and data collection. The sample in the current study was derived from a university in Thailand where participants were enrolled in an English course. Therefore, the participants in this study were limited in terms of origin, number of courses, and university location. Furthermore, limitations of data collection techniques, that is, the instruments for data collection employed in this study included the SNE, two kinds of tests, the questionnaire and the interview questions. If more instruments were added, for example, classroom observation, online observation, teacher's journal, and student's journal, the results may be more reliable.

On the basis of the findings from the current study, the following areas might be investigated in further studies. First, replication studies should be conducted to explore the impact of the SNE treatment on the writing abilities and perceptions of students at other educational levels, students from other faculties, other English courses, other universities, or other provinces etc. to reconfirm the effect of the SNE. Second, further studies may add more groups to enable a more precise comparison and to gain more accurate and more reliable results. Third, it would be beneficial to investigate the value of SNEs in relation to other English language skills. Fourth, future research should be conducted over different time periods to measure whether differences in time range may bring any different results. Fifth, a similar study may be conducted by collecting different forms of qualitative data, such as writing logs, students' journals, teachers' journals or classroom observation. These research instruments may bring more in-depth information concerning the process of writing that students have developed. Finally, the impact of the SNE should be related to motivation to achieve the written tasks. A future research study may aim to observe how and what

kind of motivation helps students to become effective writers through the use of an SNE.

10. Conclusion

Writing is one of the English skills that foreign language learners need to master particularly for higher education. This study employed a social networking environment (SNE) to facilitate online writing collaboratively where learners could study at their own pace as a supplement to a mainstream course. After the experiment, the writing performance of learners had increased significantly. Apart from writing skills, other English skills were also increased. The fully SRL group, which worked by itself without instructor assistance displayed greater impact on all skills of language performance in comparison with the semi SRL group which was supported by instructor assistance whenever they needed it. The SNE encouraged students to interact with others and exchange ideas. This created a friendly and relaxing atmosphere. Results obtained confirmed that the SNE had a positive impact on students' writing and also other skills of English that were not necessarily dependent on instructor help or time spent on task. It also provided positive emotional support to students in many situations that might increase their desire to learn the language. The results of this study suggest that writing programs based on social networking platforms are likely to reinforce positive language learning outcomes for students. Most importantly, the optimal conditions for learning to write in a foreign language may not necessarily depend on teacher instruction and/or support. Consequently, we may need to revise some of our established preconceptions about foreign language teaching and learning.

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