

A Study of Learning Achievement Using Micro - Learning Grammar Lessons Through Facebook Classroom for Grade 8 Students of Bansuankwan School, Uthai Thani

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Abstract

The primary objectives of this study were 1) to develop and assess the effectiveness of grammar micro-learning lessons delivered through a Facebook classroom, 2) to implement the lessons and to compare learning achievements between before and after studying the lessons, and 3) to investigate students' satisfaction toward the grammar micro-learning lessons through the Facebook classroom. The study was conducted with a group of 15 students from grade 8, selected through purposive sampling. Data was analyzed using descriptive statistics, a developmental testing (E_1/E_2) and a T-test dependent.

The findings revealed that:

1) the grammar micro-learning lessons, which consisted of 5 short videos and handouts, were efficient ($E_1/E_2 = 70.10/72.22$), 2) students' learning achievements after studying the lessons through the Facebook classroom were significantly higher than before at the 0.05 level and 3) students' satisfaction of the use of grammar micro-learning lessons through the Facebook classroom was at the highest level ($\bar{x} = 4.73$).

Keywords: Micro-Learning; Grammar Lesson; Facebook Classroom

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Introduction

The significance of English as a medium of communication in global society is widely recognized. According to Statista.com (2022), a staggering 1.5 billion people worldwide use English as their language. Given this, it is essential for individuals to attain proficiency in English as a second language in order to communicate effectively on the global level. English plays a particularly important role in communication with international organizations such as the United Nations (UN), Council of Europe (COE) and Association of Southeast Asian Nations (ASEAN), as well as other regional and international specialized agencies, all of which use English as their medium of communication. Furthermore, grammar and vocabulary are fundamental elements of learning English, as Oxford University Press (2022) states that grammar constitutes a crucial component of the language learning process, as it aids in improving vocabulary, pronunciation, and communication skills. Learning grammar is critical for ensuring effective communication that is both clear and precise. Failure to employ grammar in communication may lead to inconsistencies and inaccuracies in conveying meaning. Nevertheless, there exists a captivating tool for instructing complex topics, particularly grammar, namely micro-learning. According to Chai (2020), micro-learning refers to an educational approach that involves breaking down complex processes into shorter learning units that can be accessed from any location and at any time. Micro-learning lessons typically last around 5 minutes and are designed to focus on specific topics or skills that learners wish to develop, allowing them to revisit the material as often as needed to achieve their learning objectives. At present, there is a dearth of research on the application of micro-learning in teaching English to Grade 8 students. However, existing studies suggest that micro-learning may be effectively applied to other academic subjects, as demonstrated by Marinskaya (2020) in the study on the implementation of micro-learning in foreign language teaching among university students found that micro-learning has been found to effectively enhance the acquisition and retention of content, as well as develop aspect skills such as vocabulary and grammar. Furthermore, Phontakorn et al., (2022) conducted a study on the use of micro-learning in social studies for Grade 8 students and found that all participants achieved excellent competency assessment results.

Given the importance of the English language and grammar at both global and national levels, it is observed that Thai students continue to struggle with understanding grammar rules and applying them correctly in sentences. According to the results of the Ordinary National Educational Test (ONET) from 2017-2021, the scores for the English subject of grade 9 students nationwide were 30.45, 29.45, 33.25, 34.38, and 31.11 percent lower than the criteria. Patiyasevee (2018) attributes this to the fact that many learners "think" in their first language, Thai, before translating into English, leading to inconsistencies in communication due to differences in grammatical structure between the two languages. This is further supported by the observation that 15 students in Grade 8 at Bansuankwan School, a school that offers a moderate level of opportunity extension, also encounters comparable obstacles in understanding English grammar. These students continue to struggle in applying grammar rules accurately. They lack sufficient knowledge and understanding of grammatical elements such as Present Perfect Tense, Past Simple Tense, Past Continuous Tense, Comparison of Adjectives, and Future Simple Tense which are grammatical contents that students must learn according to the subject matter and learning standards. The root cause of this challenge appears to stem from the teacher's use of a conventional teaching approach that relies heavily on lecture-based methods, particularly for grammar-heavy material. The teacher prioritizes delivering the curriculum's content in its entirety, irrespective of the students' grasp of the grammatical criteria, resulting in students feeling bored and disinterested in learning grammar.

To enhance students' achievements and satisfaction in learning grammar, a method will be employed to develop micro-learning lessons containing grammar content. These brief lessons, lasting no more than five minutes, will be available to students through a Facebook classroom. The content will be divided into short video clips and instructional materials, allowing students to learn at their own pace and review lessons as often as needed and enabling students to learn freely and independently. Moreover, the Facebook classroom will enable students to access lessons anytime and anywhere, encouraging continuous learning beyond the classroom.

Research Objectives

- 1) To develop and assess the effectiveness of the grammar micro-learning lessons delivered through the Facebook classroom,
- 2) To implement the grammar micro-learning lessons and compare the learning achievements of students between before and after studying the lessons through the Facebook classroom.
- 3) To investigate students' satisfaction with the use of grammar Micro-learning lessons through the Facebook classroom.

Research Methods

Participants

The group sample was a group of 15 students from grade 8 at Bansuankwan School, Uthai Thani, Thailand. The group was selected using purposive sampling. The students were from the second semester of 2022 academic year.

Research Instruments

The research instruments included: 1) grammar micro-learning lessons consisted of 5 short videos and 5 handouts, 2) lesson plans, 3) grammar pre-test and post-test, 4) satisfaction questionnaire

Methodology

The research was carried out through the utilization of 3 main developmental stages, namely:

Stage 1: Creating and assessing the quality of research tools consisted of 3 steps as follows:

1. Examined the basic education core curriculum, researches, handbook, documents related to the study of learning achievement in grammar and micro-learning.
2. Designed and developed research instruments using ADDIE model including
 - 1) grammar micro-learning of 5 lessons, 2) lesson plans designed with ESA method and used for 12 class periods, 3) a grammar knowledge proficiency test, consisting of two different sets administered as a pretest and a posttest. and, 4) a satisfaction questionnaire.

3. Verified the effectiveness and reliability of the micro-learning by three experts using a 5-level rating scale and Index of Item-Objective Congruence

4. Implemented an updated lessons among a pilot group. The results of the developmental testing were efficient ($E_1/E_2 = 70.10/72.22$), suggested that the lessons can be applied to the sample group.

Stage 2: The implementation of the grammar micro-learning lessons consisted of 5 steps as follows:

1. Clarified the research purpose to students.

2. Had students administer a pre-test to collect data.

3. Implemented the grammar micro-learning lessons to the sample group through the Facebook classroom along with the regular classroom for 5 lessons consisting of 12 periods of teaching.

4. During the class sessions, students were given learning activities such as sentence-forming, story writing, composing a story from pictures, and grammar exercises practice were undertaken by the students and were carried out for four weeks in conjunction with the 5 grammar micro-learning lessons.

Stage 3: The assessment after using the grammar micro-learning lessons.

Had the sample group took the post-test and the satisfaction questionnaire to checked, analyzed and interpret the data after using the lessons. The questionnaire comprising of 12 items was utilized to investigate students' satisfaction toward the grammar micro-learning lessons through the Facebook classroom. The sample group was requested to rate their level of personal satisfaction regarding the lessons using Likert rating scale comprising of 5 levels, ranging from strongly agree to strongly disagree.

Data analysis

Rating scale of 1-5 was used to assess the effectiveness of grammar micro-learning lessons and to assess the satisfaction of students after studying with the grammar micro-learning lessons. The developmental testing (E_1/E_2) was utilized to calculate the effectiveness of the grammar micro-learning lessons. The t-test dependent was used to

compare the learning achievements between pre-test and post-test. The Index of Item-objective Congruence (IOC) was used to assess the accuracy and suitability of the tests and the questionnaire included descriptive statistics (mean (\bar{x}), standard deviation (S.D.)).

Research Results

1. Results of Grammar Micro-learning Development

Grammar micro-learning lessons developed, namely; Present Perfect Tense, Past Simple Tense, Past Continuous Tense, Comparison of Adjectives, and Future Simple Tense. Each lesson comprises of five short videos, no longer than 5 minutes in duration, as well as five handouts. These handouts provided detailed grammatical content, including explanations of the tenses' definition, usage, example of sentence structure, sentences and translations, verb and adjective forms, and exceptions that align with the basic education core curriculum B.E. 2551 (2008) and were relevant to the learning objectives.

1.1 The results of the effectiveness assessment of grammar micro-learning lessons

Table 1 The results of the effectiveness assessment of grammar micro-learning lessons for students grade 8, Bansuankwan School

No.	Category	Results of experts data analysis		Interpretation
		Mean	S.D.	
1-19	Overall	4.51	0.45	Highest

From a table 1, revealed that the grammar micro-learning lessons, which consisted of 5 short videos and handouts, were efficient with the highest level of effectiveness (\bar{x} = 4.51, S.D. = 0.45)

Table 2 The results of the developmental testing (E_1/E_2) of grammar micro-learning lessons implemented by the sample group from students of grade 8 at Bansuankwan School

List	During-test score					Total	Post-test
	1	2	3	4	5		
Full score (specify)	10	5	10	5	5	35	30
Number of the samples	15	15	15	15	15		
Class total score	85	57	98	63	65	368	325
\bar{x}	5.67	3.80	6.53	4.20	4.33	24.53	21.67
Percentage	56.67	76.00	65.33	84.00	86.67	70.10	72.22
E_1/E_2	70.10						72.22

As depicted in Table 2, the results indicate that the efficiency value during the lessons (E_1) was 70.10. Additionally and the efficiency value after the utilized the lessons (E_2) was found to be 72.22. These outcomes suggest that the grammar micro-learning lessons were effective

2. The result of the learning achievements between pre-test and post-test.

Table 3 Comparison the learning achievement of students grade 8, Bansuankwan School between before and after studying the grammar micro-learning lessons through the Facebook classroom

Testing	\bar{x}	S.D.	\bar{D}	S.D. _D	t	Sig.(1-tailed)
Pre-test	5.73	2.34	15.93	2.94	21.00*	0.0000
Post-test	21.67	4.29				

According to a table 3, revealed that students' learning achievements after studying the lessons through the Facebook classroom were significantly higher than before at the 0.05 level

3. The result of students' satisfaction toward the grammar micro-learning lessons

Table 4 The result of grade 8 students' satisfaction toward the grammar micro-learning lessons

No.	Category	Results of students data analysis		Interpretation
		Mean	S.D.	
1-10	Total	4.73	0.36	Very satisfy

From table 4 showed that students' satisfaction toward the grammar micro-learning lessons through a Facebook classroom was at the highest level ($\bar{x} = 4.73$, S.D. = 0.36) with positive feedbacks.

Discussion of Research Findings

1.1 The results of the effectiveness assessment of grammar micro-learning lessons

The result revealed that the grammar micro-learning lessons were studied by grade 8 students of Bansuanknwan school were efficient ($E_1/E_2 = 70.10/72.22$). In addition, the outcomes obtained from the pilot group indicated that the grammar micro-learning was effective. The results were consistent with the subject of “The development of micro-learning lessons on social networks based on the constructivist approach to promote the analytical thinking of Matthayom Sueksa 6 students” by Boonmapan et al. (2021) and the study revealed that the lesson exhibited a criterion efficiency of 80/80 (81.87/80.89). And also consistent with Kachensuwan (2020) which the efficiency value of the lesson was 85.87/84.67 and higher than the set criteria at 80/80. The success of grammar micro-learning can be attributed to several factors, such as the lessons containing the alignment between the contents and learning objectives, the lessons development was carried out by following the steps of ADDIE model with helpful guidance from an adviser and experts who are specialized in different fields such as teaching grammar, developing instructional media, and learning assessment. In addition, the learning activities were structured to focus on sentence formation, story writing, composing stories from pictures,

and practicing grammar exercises. These activities aided students in improving their grammatical accuracy.

2. The result of the learning achievements between pre-test and post-test.

The research results indicated that the implementation of grammar micro-learning lessons through Facebook classroom led to a significant increase in the learning achievement of grade 8 students at Bansuankwan School, as evidenced by the T-test dependent with score of 21.00* and a comparison of pre- and post-test scores were found to be significantly higher than the pre-test scores at .05 level, which supports the hypothesis of this research. The finding in the subject of “Micro-learning efficiency for foreign language teaching” (Marinskaya, 2020) was consistent with the study result, claimed that teaching foreign languages using micro-learning techniques can improve the learning outcomes by enhancing language acquisition, boosting retention, and increasing student engagement. The factor that contribute higher learning achievement after the implementation of the grammar micro-learning as such, concisely summarizing the lesson contents within 5 minutes with handouts for further study, enhanced learners’ motivation by allowing them to revisit the lessons through Facebook at any time. Likewise, the study in the topic “Flipping micro-learning-based EFL classroom to enhance learners’ self-regulation” (Hosseini et al., 2020) was consistent with the results stated that learners who studied with micro-learning lessons were more motivated compared to those who underwent conventional learning.

3. The result of students' satisfaction toward the grammar micro-learning lessons

The result of the sample group satisfaction toward the grammar micro-learning lessons was satisfied at the highest level (Mean = 4.73, S.D. = 0.36). The students utilized their mobile phones to access the grammar lessons through the Facebook classroom, enabling them to study the material beforehand and review the grammar lessons at their convenience. The viewpoints that received the greatest level of agreement from students were: the lessons were comprehensive and aligned with learning objectives, the learning procedures are structured sequentially, and the lessons are conveniently accessible for

studying and reviewing knowledge. The results of the satisfaction toward the grammar micro-learning lessons was consistent to the finding of the topic “Development of Micro-learning for High Vocational Certificate Private Vocational College in Bangkok” (Kongsomboon, 2019) stated that micro-learning facilitated students in independently acquiring knowledge and accessing lessons with ease, thereby empowering them to learn without constraints of time or place.

Suggestions

1. Recommendations for application

1.1 To implement the grammar micro-learning lessons should not be limited to only video clips, but rather should include supplementary assessments or exercises as a secondary component to ensure that students have a proper understanding of the lessons even when they have proficient access to electronic devices or the internet and to create an alternative to select how to access the lessons according to their needs and convenience.

2. Recommendations for Future Research

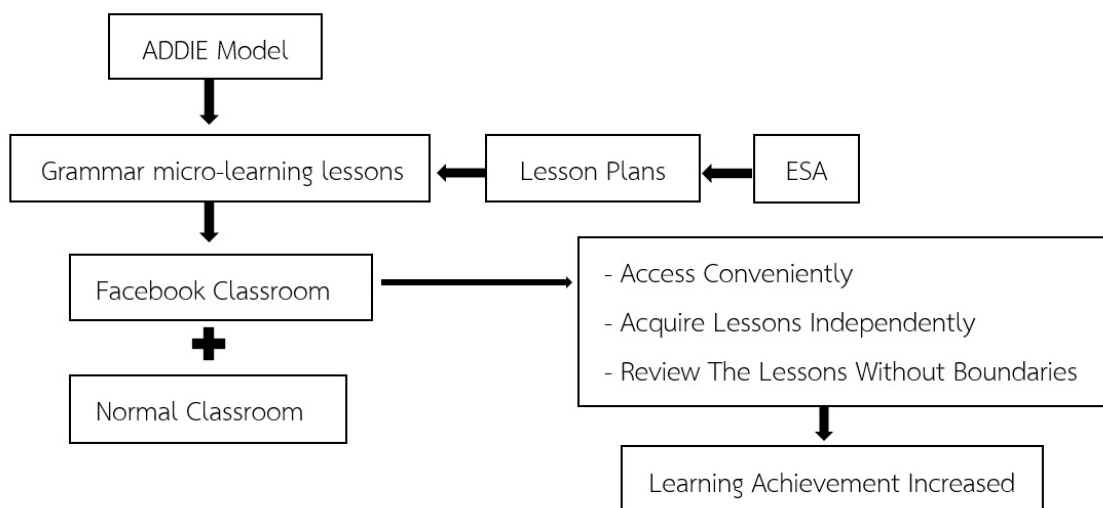
2.1 The utilization of micro-learning lessons through Facebook classroom should be applied to instruct on a diverse range of subjects.

2.2 An examination of the retention of grammatical knowledge acquired through micro-learning lessons should be conducted to further understand the effectiveness of this method.

Originality and Body of Knowledge

The research conducted in the study of learning achievement using micro-learning grammar lessons through Facebook classroom for grade 8 students of Bansuankwan school, Uthai Thani, yielded significant findings on the originality and body of knowledge. The grammar micro-learning lessons were developed using five procedures of the ADDIE model, while the lesson plans implemented with micro-learning lessons applied three

steps of ESA along with grammar practice, including sentence formation, story writing, composing a story from a picture, and grammar exercise practice. Both the normal classroom and Facebook classroom were used for delivering the lessons, which enabled students to study independently and review the material at any time, resulting in improved learning achievement which summarizes the findings as presented below.



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