

THE DEVELOPMENT OF ENGLISH GRAMMAR ACHIEVEMENT OF GRADE NINE STUDENTS USING AN INDUCTIVE LEARNING WORKBOOK WITH INFOGRAPHICS AT JOAN OF ARC SCHOOL

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ABSTRACT

This research aimed to develop grade nine students' English grammar achievement through an inductive learning workbook with infographics at Joan of Arc School and investigate their opinion toward the instruction. The participants were 14 grade nine students at Joan of Arc School. The research instruments were an inductive learning workbook with infographics, a pre and /post-test, and an opinion questionnaire. During the research process, the instruction started from reviewing a past lesson, studying examples in an infographic, finding grammar rules from the examples, summarizing the rules, and working on an exercise in the workbook. Also, the statistical treatment was dependent sample t-test, arithmetic mean, standard deviation, and p-value. The results revealed that (1) their post-test score was significantly higher than their pre-test score at 0.01 level and (2) they had positive opinion towards the use of an inductive learning workbook with infographics and the overall attitude was rated at 4.56 or "very satisfied". It could be reflected that this instructional innovation was of a good contribution to the participants' English grammar improvement because a student-centered approach was employed, and it facilitated self-directed learning.

Keywords: English Grammar, Inductive Approach, Infographics

INTRODUCTION

Although Thai people have studied English as a foreign language for a very long time from basic education to tertiary level, they still have problems in learning and communication in real life. One of several reasons for this setback is the lack of grammatical competence which causes diffidence to Thai students when uttering in English. For this reason, grammar is crucial for foreign English language learners as it is a rule for lexical, phrasal, sentential, and textual structures [1]. Furthermore, it helps students correct mistakes and improves their language skills as it is a key element in a language system which contributes to producing accurate sentences to express thoughts [2], [3], [4].

To ground grammar knowledge effectively, the provision of learning conditions and more opportunities in which students develop their English grammar through language experiences and activities can enhance their English proficiency. Thus, effective grammar learning strategies, which help them understand and realize grammar usage in content, are of a great benefit in terms of promotion of a thorough and enduring understanding of forms and functions [3], [5]. Nonetheless, difficulties in grammar learning are obvious in all levels of

language classes because of a number of ambiguous rules and subtle exceptions difficult to understand with direct comparison [6]. Teaching is also a factor to this as many are accustomed to the traditional method of teaching grammar [7] and some pay importance to communication rather than grammatical details [6] although they play a vital role in linguistic competence improvement [8], [4].

In Joan of Arc school, English proficiency of students is one of expected qualities representing academic success. In this aspect, teachers need to extend their instructional knowledge boundary to manipulate teaching methods strategically. In addition, students' language fluency needs to go along with accuracy. Among student diversity, there were still those who struggled grammar knowledge and always felt anxious when doing activities. After a grammar pre-test and learning observation, it was explicit to the authors that they needed a decent learning management strategy to replace the teacher-centered approach being used.

After reviewing a variety of methods, a comparison between the deductive approach or the traditional style teaching and the inductive approach was made. According to [7], the deductive approach for grammar teaching commences with explanation in a teacher's first language and formulaic practices with examples for students to remember as a teacher teaches. On the other hand, the inductive approach is more on critical thinking promotion and encourages students to learn on their own because it is clearly learner-centered and can better serve students' learning nature [3], [9], [10]. Though it may consume some more time in example preparation and grammar rule identification, a long-term benefit in terms of better understanding, more active brain process, self-learning promotion, longer retention, and lower anxiety makes it of a great value [11], [3], [9].

To put this into practice concretely, using a workbook is a right method to set a learning condition whereby students learn subject matter through practical tasks. The learning management this way is intentionally conditioned to make them learn through lesson review and helpful exercises [12] and can potentially result to higher grammatical competence. Furthermore, task commitment promotes self-efficacy, confidence, and then, motivation to achieve a goal [13], [14] as supported by the Law of Exercise by Edward Lee Thorndike in that the stimulus-response connection through repetition can strengthen a skill or solidify content understanding [15].

Since English grammar is an intrinsic difficulty in language learning and causes a negative transfer in case of structure differences between a native and a target language [16], assistance provision is imperative to facilitate procedural learning. In light of learning facilitation, infographics are extensively used to simplify and systematize information. Since an asset of infographics is its presentation pattern to aid people in understanding a lot of information quickly, they are applied to instruction to eliminate drawbacks of description presentation [17] and enable students to create scheme on their minds [18].

From all of the above, the authors aimed to integrate the inductive learning, the use of a workbook, and infographics as a tool to improve grammar learning achievement of grade nine students at Joan of Arc School so that they could have solid knowledge for a higher level of English learning and communicate confidently. In doing so, the learning procedure commenced with reviewing a previous lesson, studying examples in an infographic, identifying grammar rules from the examples, summing up the rules, and working on workbook assignment. Along this process, the students were to discover grammatical rules through language experiences, for

example, games, songs, and participatory activities. Besides, since they felt that grammar learning was too much on analytical content, the investigation of opinion was necessary to be conducted after implementing the created workbook.

OBJECTIVE

1. To improve grade nine students' English grammar achievement through an inductive learning workbook with infographics
2. To investigate grade nine student's opinion toward the implementation of instruction an inductive learning workbook with infographics

METHODOLOGY

1. Participant

The participants were 14 grade nine students who enrolled in an English course in the second semester at Joan of Arc school during the academic year 2022.

2. Instruments

The instruments were a pre-test and a post-test, an inductive learning workbook with infographics, an opinion questionnaire. The details of these can be elaborated below.

A pre-test and a post-test were written to evaluate the students' grammar achievement. There are 30 questions. Next, an inductive learning workbook with infographics for this study was created in accord with grammar topics approved by The Education Department of Bangkok Archdiocese and the topics were articles, comparisons, adjectives, and past simple tense. To elaborate, the workbook contained the instructional design starting from reviewing a learnt lesson, reading examples in an infographic, identifying grammar rules, making a summary of rules, and doing an exercise. Lastly, a questionnaire investigating the students' opinion was made and 5 Likert scales were adopted with the interpretation below:

4.21 – 5.00 = Very Satisfied

3.41 – 4.20 = Satisfied

2.61 – 3.40 = Neither Satisfied nor Dissatisfied

1.81 – 2.60 = Dissatisfied

1.00 – 1.80 = Very Dissatisfied

3. Procedure

Since this study aimed to develop Thai students' English grammar using the inductive learning workbook with infographics at Joan of Arc School and investigate their opinion after the instruction, the procedure is presented below.

In planning, the school's grade 9 curriculum, the inductive approach, principles of workbook, infographics, and opinion survey principles were reviewed. Then, all the instruments were evaluated by 3 experts and edited to make them ready for testing, teaching, and surveying.

In data collection, the pre-test was used to gain the students' score as data for consideration about their grammar achievement. In the learning management process, the created workbook with infographics was used. Within the timeframe of 1 month, the time allotment of 50 minutes for each class was determined and the schedule for 1 class each day in 4 days a week was

settled. Later, the post-test was used, and the opinion survey was conducted at the end of this stage.

4. Data Analysis

The quantitative analysis was implemented after gaining data. Dependent sample t-test, arithmetic mean, standard deviation, and p-value were adopted to examine the grammar achievement before and after learning.

Additionally, the arithmetic means was used to calculate and interpret student’s opinion toward the use of the inductive learning workbook with infographics.

RESULTS

1. Grammar Achievement Before and After Learning with The Inductive Learning Workbook With Infographics.

The statistical treatment for the learning achievement in this study was conducted and the results were displayed below.

Table 1
The Result of The Pre-Test and Post-Test on English Grammar

Test	Mean	S.D.	t	Df	sig
Pre-Test	13.29	6.107	10.540	13	0.01
Post-Test	27.43	5.557			

As shown in the table 1, the average score of the pre-test was 13.29 out of 30 and that of the post-test was 27.43 out of 30. In comparison, the average post test score was higher than the average pre-test score at a statistical significance of .01. This could be interpreted that integrating a workbook with infographics and the inductive approach was an effective strategy to enhance students’ grammar achievement. Because learning from examples could provoke thinking to act on knowledge rather than directly taking in [19], the students could keep their brains active while attempting to specify grammar rules from infographics. Thorndike’s Laws of exercise could be of a good theoretical support to their improvement in that adequate frequency of practice repetition in the learning management process could be of a contribution to longer retention and self-development success [15].

2. Students’ Opinion Toward Learning English Grammar Through the Inductive Learning Workbook with Infographics.

The students’ opinion toward the use of the inductive learning workbook with infographics. was surveyed and the results were calculated and presented as follows.

Table 2
Opinion of Students Toward the Inductive Learning Workbook with Infographics
(n=14)

Number	Items	Rate	Interpretation
1	The workbook is interesting.	4.57	Very satisfied
2	The workbook is easy to use.	4.64	Very satisfied
3	The workbook represents instructional creativity.	4.71	Very satisfied
4	The workbook supports thinking process.	4.57	Very satisfied
5	The workbook enhances learning retention.	4.50	Very satisfied
6	The workbook facilitates conceptual thinking	4.57	Very satisfied
7	The workbook promotes learning for discovery.	4.43	Very satisfied
8	The workbook facilitates analytical thinking.	4.43	Very satisfied
9	The workbook facilitates schema retrieval.	4.50	Very satisfied
10	The workbook emphasizes self-directed learning.	4.71	Very satisfied
Mean		4.56	Very satisfied

As shown in the table 2, the mean of the overall opinion toward the inductive learning workbook with infographics. was at the highest level which is “very satisfied” or 4.56. Among all the mean in every item, the students were the most satisfied with the instructional idea transforming the traditional teaching method to the cutting edge one as represented in the item 3 and 10. Though the items 7 and 8 were ranked the lowest, they were still interpreted as the highest level of opinion. It could be considered that the workbook creation encouraged a new way of learning to develop investigative thinking. Additionally, many students informed that they believed in their capacity to learn grammar rules themselves after learning with the workbook, therefore; they adapted the inductive approach to learn English grammar used in other materials such as novels and songs. This remarkable change of learning behavior may derive from self-efficacy gradually developed along each step of the learning management. This could be supported by [13], [14]in that self-efficacy is confidence in one's own capacity to set goals, plan for progress levels, and attempt to achieve them and this stems from a continuous course of self-development together with intrapersonal understanding in terms of strengths and room for improvement through active task engagement.

CONCLUSION AND FUTURE WORK

The findings revealed that integrating a workbook, infographics, and an inductive approach to teach English grammar was a creative way to promote student engagement, self-directed learning, and a positive attitude toward English learning. In a psychology aspect, employing the created workbook used in this study changed a teacher-centered class, where

the students were taught to directly memorize the grammar rules, to a worry-free environment supporting thinking skills and language experiences simultaneously. A teacher role was also changed to be a facilitator to suit the approach utilization.

Regarding learning English as a foreign language in general, this instructional innovation is beneficial for those who need a self-learning material and for a teacher to embark on an interactive self-learning module. For full effectiveness in class, giving some hints, necessary explanation, and feedback is allowed except telling answers directly. Nevertheless, before utilizing this innovation, a teacher should be aware of different learning nature in order to provide students suitable lessons and make appropriate adaptation. For further knowledge extension from this study, the integration of the inductive approach to higher order thinking in language learning is suggested for new aspects of academic discoveries and the learning behavior change levels of students should also be investigated in a formative manner in order to examine their self-learning habits.

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