Effects of Using Tiered Instruction and Gamification Teaching Method on English Oral Communication of Ninth Grade Students

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Abstract

This quasi-experimental research was conducted with two purposes: 1) to investigate the effects of tiered instruction and the gamification teaching method on students' English oral communication and 2) to compare the effects between tiered instruction and gamification teaching method and conventional instruction on students' English oral communication. The participants were ninth-grade students of a small-sized secondary public school selected by purposive sampling into an experimental group of 22 students learned by tiered instruction and gamification teaching method, and a control group of 18 students learned by conventional instruction. The research instruments consisted of parallel pre-test and post-test of English oral communication and lesson plans of tiered instruction and gamification teaching method and conventional instruction. The data were analyzed using descriptive analysis, paired t-test, independent t-tests, and effect size. The findings revealed that the experimental group had higher mean scores of English oral communication in overall view than before the experiment at .05 significant level and their mean scores in four out of five elements improved significantly. Besides, the experimental group had higher mean score of English oral communication than the control group at .05 significant level.

Keywords: English oral communication, tiered instruction, gamification, English Language Teaching (ELT)

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Introduction

Speaking well in English is a great challenge for all foreign language learners. They must master several difficult skills to perform speaking effectively. Good speakers rather produce spoken language as components in fluent, accurate, and socially appropriate ways (Burns, 2019). Many language learners in the ESL or EFL context commonly set speaking English as the achievement to master (Richards, 2006), over and above the other skills. However, in a setting where English serves as a foreign language, such as Thailand, students lack opportunities to speak English outside the classroom (Khamkhien, 2010; Noom-Ura, 2013). The only language input EFL learners are exposed to is from teachers (Renandya, 2013). In addition, one of the main reasons which students avoided speaking was anxiety and a lack of motivation (Goh & Burns, 2012).

Furthermore, a mixed-ability classroom context, where students in the same classroom display a broad range of language proficiency, is commonly found in any school context, especially in the typical classroom in Thailand. Having students of mixed ability may lead to boredom of higher proficiency students and caused some difficulties in arranging communication activities (Likitrattanaporn, 2014). Meanwhile, managing a wide range of ability classroom required the teacher to consider monitoring individual progress, and planning on the appropriate materials to attract students' interest (Ur, 2005). This scenario demands serious attention, as the teacher may fail to address individual needs and differences (Hedge, 2000).

Tiered instruction has been found to be one of the instructional and classroom management strategies that can cope with a mixed-ability classroom, and was originally intended to offer a better instructional match, based on a diagnosis of students' needs (Heacox, 2002). Varied levels of activities were developed for students to explore ideas at the level of their prior knowledge, and prompt continued growth (Tomlinson, 2001). Tiered lessons have the same objectives for all students, but become differentiated through the tiers and groupings, in which students choose or design their learning, according to given options (Fox & Hoffman, 2011).

In addition, to address the situation of students avoiding speaking and lacking motivation, gamification—the use of gameplay mechanics for non-game applications—is claimed to help engage people, motivate action, promote learning, and solve problems (Kapp, 2012). Several studies (Girardelli, 2017; Lam *et al.*, 2018) have been conducted in EFL classrooms, and they have revealed that gamification builds students' confidence and classroom engagement.

There are currently only a few studies on tiered instruction and gamification which have investigated English as a foreign

language in Thailand, especially English oral communication specifically, as demonstrated by the availability of limited research. Therefore, this study has filled a part of this gap, by investigating the effectiveness of the integration of tiered instruction and gamification on the English oral communication of EFL learners in Thailand.

Objectives

1. To investigate the effects of tiered instruction and the gamification teaching method on students' English oral communication.

2. To compare the effects between tiered instruction and gamification teaching method and conventional instruction on students' English oral communication.

Methodology

Research participants

The participants of this study were from two mixed-ability classrooms and the number of participants was total at 40 ninth-grade students. The participants were studying a mandatory course of English language in the second term of the academic year of 2019 and were purposively selected from one small-sized secondary public school. The researcher randomly assigned two groups of participants by comparing the mean score of English language subject in the previous term. The result revealed that the two groups had the same characteris-

tics in English language proficiency. Then, the researcher employed a simple random sampling to choose the experimental group and control group. The experimental group consisted of 22 students learning by tiered instruction and gamification teaching method. The control group consisted of 18 students and learning by conventional instruction.

Research Instruments

The research instruments employed in this study were the English oral communication pre-test and post-test, and two parallel sets of lesson plans based on tiered instruction and gamification teaching method and conventional instruction.

English Oral Communication Tests and Scoring Rubrics

The English oral communication tests were designed to assess the students' English oral communication in terms of the overall view and analytical views by elements consisted of content, vocabulary use, fluency, grammatical structure, and pronunciation.

Two parallel sets of English oral communication tests were developed to employ for pre-test and post-test. The test items required students to elicit using their oral language performance. They were created and adapted from Brown and Lee (2015) and Luoma (2004) which comprised of three items. The first item, description task, focused on conversing on the given picture spontaneously. The second item, narrative task, demanded students in a group of three

to narrate on the sequence picture. The third item, instruction task, required students to listen to the questions and give directions on the given map. The test item covered two functions of talk: transactional and interactional. The total score of one test item was summed up by totaling each element of English oral communication. The score in total of the test was 54. The tests were voice-recorded and lasted 12 minutes and rated by two inter-raters using oral communication scoring rubrics.

Oral communication scoring rubrics of the test was made to correspond with English oral communication tests and developed from Oral proficiency test scoring categories (Brown, 2001), and qualitative aspects of spoken language Use for A2 level (Council of Europe, 2018). The scoring rubrics were in analytical form, in which students' oral communication was categorized into five elements: content, vocabulary use, fluency, grammatical structure, and pronunciation. Each element had scores ranging from 1-4 (lowest-highest), except for grammatical structure and pronunciation that ranged from 1-3 (lowest-high). The total score of all elements would be 18. The score in total of all three test items was 54.

Both English oral communication tests and scoring rubrics were validated using the total index of Item-Objective Congruence (IOC) by three experts. The total IOC of the experts' opinion on English oral communication tests and scoring rubrics were at 0.82 and 0.71 respectively. The test was piloted with students who were equivalent to the research participants to verify the practicality and time allotment. Therefore, English oral communication tests were assessed by two inter-raters. Both raters studied on the tests and scoring rubrics. The inter-reliability interpreted by using Cohen's kappa method of the pre-test and post-test were 0.90 and 0.97 respectively.

In summary, the parallel English oral communication pre-test and post-test were used to assess students' English oral communication in terms of the overall and analytical views. The tests were voice-recorded and rated by two inter-raters using English oral communication scoring rubrics.

Parallel Lesson Plans based on Tiered Instruction and Gamification Teaching Method and Conventional Instruction

The lesson plans were designed to be parallel in terms of learning objectives and learning activities. The lessons were based on the indicators of English language of Basic Education Core Curriculum (Ministry of Education, 2008). Both lesson plans were developed for a 100-minute lesson for six weeks. Therefore, two sets of six parallel lesson plans were developed to enhance students' English oral communication.

The lesson plans of tiered instruction and gamification teaching method were designed based on the synthesized

principles of tiered instruction and gamification. Firstly, tiered instruction ensured that the students explored ideas based on their prior knowledge, and prompted continued growth (Tomlinson, 2001) through differentiated tiers, and groupings that depended on an individual's readiness, interests, or learning style (Fox & Hoffman, 2011). Moreover, the teacher needed to provide choices of tasks to accommodate individual differences, which were equally active, engaging, and interesting, to help achieve the same objectives of the lesson, regardless whether students were in a different tier (Heacox, 2002). The instruction offered students to learn through the adaptation by the assigned tiers including readiness tier, interest tier, and learning style tier (Fox & Hoffman, 2011). Secondly, the lessons were equipped with gamification that helped engage the students in the learning environment (Bunchball, 2016; Kim *et al.*, 2018) and meant to award due to academic success (De Byl, 2013) by integrating various game mechanics, such as points, badges, rules, or rewards. In addition, clear goals and a clear pathway of progression motivated students to learn through the content, and get engaged in the learning process such as, observing their progress on the leaderboard (Kapp *et al.*, 2014).

The other instruction was conventional instruction. The lesson plans of conventional instruction adopted mainly on Communicative Language Teaching (CLT) to be implemented in the classrooms. The lessons contained the structure of presentation, practice, and production. The lesson plans of conventional instruction mainly provided the learning activities focusing on intermediate-level tasks. The principles of the conventional instruction were outlined based on Bailey (2005) which involved negotiation in meaning in speaking tasks, designed both transactional and interpersonal speaking activities, and lastly personalized the speaking activities whenever possible.

Procedures

The study covered eight weeks of data collection. A pre-test of English oral communication was employed to both the experimental group and control group to assess students' English oral communication before the implementation of the instruction. The researcher implemented tiered instruction and gamification teaching method to the experimental group, and conventional instruction to the control group for 100 minutes once a week, for six weeks. A post-test of English oral communication was given after the instructions. Therefore, data on the participants' English oral communication were obtained both before and after the implementation of tiered instruction and gamification teaching method and conventional instruction.

Data Analysis

The quantitative data obtained from the English oral communication

tests were analyzed. The study employed descriptive statistics, including statistical mean and standard deviation, as well as inferential statistics, consisting of the paired-sample T-test and independent-sample T-test, effect size.

Results

The results from the study were aimed to investigate in accordance with two research questions which were presented as follows.

To what extent does tiered instruction and gamification teaching method effect students' English oral communication?

In order to explore any changes in the experimental group, which was taught using tiered instruction and gamification teaching method, a paired-sample t-test was used to compare the results of the pre-test and post-test of English oral communication. The result is presented in Table 1.

Table 1. Paired-sample Test of the Pre-test and Post-test Scores of Experimental Group

		Mean	S.D.	SE	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test (54) – Post-test (54)	-5.08	7.70	1.64	-8.50	-1.67	-3.10*	21	.005

*p < .05

According to table 1, the mean score of post-test of English oral communication test was higher than the mean score of the pre-test with a mean difference at 5.08, t-values -3.10, p-value .005. It can be proved that the mean score of English oral communication was higher after learning with the tiered instruction and gamification teaching method.

In addition, to determine the magnitude of the effectiveness of tiered instruction and gamification teaching method towards students' English oral communication, effect size value using Cohen's d was calculated. According to Cohen (1988), when $d < 0.20$, the effect size is small, when $0.20 < d < 0.80$, the effect size is medium, and when $d > 0.80$, the effect size is large. Therefore, tiered instruction and gamification teaching method had a medium effect ($d = 0.64$) in improving students' English oral communication.

Furthermore, each element of English oral communication was analyzed to

investigate the differences in analytical views. The posttest score of four of five elements of oral communication namely content, vocabulary, fluency, grammar increased significantly, but not pronunciation. The results are presented in Table 2.

Table 2.   Paired-sample test of Elements of Oral Communication of Experimental Group

Score of Elements of English Oral Communication		N	$\overline{X}$	S.D.	Total Score	Mean Difference	t	p-value
Content	Pretest	22	5.90	1.31	12	-1.28	-2.86**	.009
	Posttest	22	7.18	2.24	12			
Vocabulary use	Pretest	22	5.76	1.36	12	-1.26	-3.17**	.005
	Posttest	22	7.02	2.23	12			
Fluency	Pretest	22	4.85	1.21	12	-0.97	-2.86**	.009
	Posttest	22	5.82	2.18	12			
Grammatical structure	Pretest	22	3.59	0.84	9	-1.08	-3.88**	.001
	Posttest	22	4.67	1.60	9			
Pronunciation	Pretest	22	4.18	1.39	9	-0.48	-1.50**	.148
	Posttest	22	4.66	1.78	9			

*p < .05

**p < .01

Is there statistically significant difference in the English oral communication in the posttest between the experimental group and control group?

In order to investigate the effectiveness of tiered instruction and gamification teaching method, an independent-sample T-test was employed to observe the differences between tiered instruction and gamification teaching method and conventional instruction on English oral communication among two groups of students. The result is presented in Table 3 and 4.

Table 3.   Post-test Descriptive Statistics for the Control and Experimental Group

	Group	N	Mean	S.D.	SE
Scores	Experimental	22	29.35	9.67	2.06
	Control	18	23.34	6.87	1.62

Table 4.   Independent-sample T-test and Levene's Test for Equality of Variances of the Post-test between an Experimental Group and a Control Group in Scores of English Oral Communication

score	t-test for Equality of Means								
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	SE	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.803	.376	2.22*	38.00	.033	6.00	2.71	.519	11.392
Equal variances not assumed			2.30*	37.35	.028	6.00	2.62	.698	11.313

*p < .05

According to Table 3 and 4, the result showed the mean score of post-test of the experimental group was higher than the mean score of the control group with a mean difference at 6.00, t-values 2.22, p-value at .033. It can be proved that the mean score of English oral communication of the experimental group learned by tiered instruction and gamification teaching method was higher than the mean score of the control group learned by conventional instruction at the significant level of .05.

In addition, the magnitude of the differences of two instructions: tiered instruction and gamification teaching method and conventional instruction was examined using Hedge's g effect size value for a small sample size (Lakens, 2013). According to Hedges and Olkin (1985), when $g < 0.20$, the effect size is small, when $0.20 < g < 0.80$, the effect size is medium, and when $g > 0.80$, the effect size is large. The result can be indicated that tiered instruction and gamification teaching method had a medium effect size ($g = 0.70$) to students' English oral communication compared to conventional instruction.

Discussion

According to the result of the study, it can be concluded that the students who learned with tiered instruction and gamification teaching method performed English oral communication significantly. This study makes a case for the implementation of tiered instruction and gamification teaching method on English oral communication.

Firstly, tiered instruction and gamification teaching method provided

major opportunities for the teacher to develop students' proficiency, based on their zone of proximal development (ZPD) proposed by Vygotsky (1978). Therefore, the technique of scaffolding was developed to support students by providing them learning aids to accomplish tasks with their immediate capacity, which leads them to accomplish another goal with their previously built-up knowledge. Importantly, teacher planned ahead on activities to suit with students' different background, needs, interests, range of proficiency, and variety of learning profiles to best match with individual's needs (Ortega et al., 2018). Thus, readiness tier was an obvious instance of scaffolding which offered students with different proficiency the opportunities to perform at their own pace (Levy, 2008). For instance, students who were in lower received some Thai-translated vocabulary words to help them when exchanging information orally with their peers.

Secondly, the lessons integrating tiered instruction and gamification teaching method treated students with different proficiency equally, and fostered engagement. Since gamification utilizes game mechanics to foster engagement in people (Bunchball, 2016; Burke, 2016 ; De Byl, 2013 ; Girardelli, 2017), the students were seen to be highly engaged in these lessons. The fact that learning depended on the interest tier, or the learning style tier, was a notable example of the way in which students were

engaged to design their preferred option for working on their tasks. Moreover, students showed high interest when they or their peers received badges, the most visible achievement notes to engage learning. This example was in line with Hakulinen et al. (2015) that although achievement badges were optional for students to complete, they encouraged students to participate efficiently and the study of Chanut Poondej and Lerdpornkulrat (2016) that students who learned with gamified learning activities had a higher level of engagement in learning. Therefore, all students, whether with low-, intermediate-, or high-level proficiency, were equally engaged in the activities through the assigned tasks depended on interest tier and learning style tier.

Thirdly, tiered instruction and gamification teaching method offered transparency and progression. It offered students to keep track on their learning progress (De Byl, 2013). Throughout six lessons, the students could publicly view their achievement notes with the use of game mechanics including badges and leaderboard. Points are indicators of self-performance for students to track their achievement (Cheong et al., 2014). In addition, a pathway plan—a format for keeping track of students' skills—introduced by Heacox (2002) was given in each lesson to help students track their learning progress and skills they needed to achieve. These game mechanics and a pathway plan

were major roles that reflected on students' performance. When students could locate their learning progress whether comparing with themselves or their classmates, they may also be motivated to master their tasks.

Tiered instruction and gamification teaching method was a notable example of the instruction that help scaffold students to reach individual's potential development level, create the learning environment to get students engaged, and offer a clear progression for students to track their achievement.

Conclusion

The implementation of tiered instruction and gamification teaching method was an experiment to investigate the differences in how the instruction coped with common problems in English oral communication classroom that was full of mixed-ability students who may lack engagement to the class. This study has illustrated that tiered instruction and gamification teaching method conducted in English oral communication classes was effective in improving students' English oral communication both in overall view and in analytical views. The key concepts of the integration of tiered instruction and gamification provided various learning opportunities in a mixed-ability classroom to address individual differences according to their readiness, learning preferences, and interests, and offered a learning atmosphere which engaged students in the classes.

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