Integration of Flipped Classroom Model for EFL Speaking

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Abstract—**This study examined the effects of integrating flipped classroom model to teach English speaking in an EFL context. A quasi-experiment was conducted with two groups of first year non-English major students at a university in Thailand. During the 12-weeks experiment, the experimental group (n=46) received flipped instructions on grammatical and lexical knowledge via online video lectures and spent class time to do constructive role-plays to practice speaking skills based on the knowledge learned online. Meanwhile, the control group (n=48) was taught with face-to-face instruction and required to do question-and-answer drills in the textbook as speaking activities. Speaking pretests and post-tests, student questionnaires, and student interviews were employed to collect data. The data show that the experimental group received significantly higher scores in the speaking posttest than the control group; students expressed supportive opinions towards the implementation of flipped instruction and constructive role-plays. The findings of this study may provide useful knowledge for other researchers who are interested in EFL teaching innovation or teachers who seek effective speaking teaching method.**

Index Terms—**EFL speaking, flipped classroom model, constructivism, role-play**

I. INTRODUCTION

Of all the four language skills, namely listening, speaking, reading and writing, speaking is regarded as the most important aspect in learning to communicate in a foreign language. As Ur [1] stated, "... people who know a language are referred to as 'speakers' of that language". However, it is difficult for second language (L2) learners to develop speaking skills especially in an English as a Foreign Language (EFL) context. Because, in EFL countries such as Thailand, English is not the primary language(s) used in everyday life. The majority of students only learn and speak English in language classes with limited class time and typically large class sizes. Thus, they lack the opportunities to acquire comprehensible input and produce comprehensible output in the target language, which is critical for the development of speaking skills according to second language acquisition theories [2]. Therefore, it is essential to seek for innovative teaching methods that offer students more opportunities to be exposed to English and speak in English, so as to enhance EFL students'

speaking learning. To this end, the modern technology may play an important role in meeting the demand.

Flipped Classroom (FC) is an emerging instructional model that provides a fusion of online learning elements powered by information technology and traditional face-to-face (F2F) learning elements, which involves the advantages of both online and F2F instruction and hopefully benefits teaching EFL speaking.

In flipped lessons, students typically learn new knowledge via online video lectures as homework; so that the class time that is traditionally used for F2F instruction is freed up for more interactive and creative activities and students can apply the learned knowledge in the classroom [3]. The rational of flipping the F2F instructions to online lectures is basically founded on the revised Bloom's hierarchical taxonomy of cognitive levels. According to the taxonomy, cognitive domains are categorized ranging from the simplest to the most complex. The six cognitive levels are described as remembering, understanding, applying, analyzing, evaluating and creating, in which the last three levels are higher-order thinking skills that require more cognitive work [4].

In the FC model, such lower levels of cognitive work as remembering new words and understanding grammar points are accomplished outside of class individually, and the higher forms of cognitive work as analyzing role-play scenarios and creating role-plays are accomplished in the classroom with the support of peers and the instructor. Comparatively, in the traditional teaching model, lower levels of cognitive work occur via lectures in a classroom, while the class time for higher levels of cognitive work that need more guidance are decreased or crowded out as homework with limited assistance. So it is clear that the instruction order in the FC model is optimized to better assist students' cognitive process.

Besides, by the flipping, direct instructions of new grammatical and lexical knowledge are moved from the group learning space to the individual learning space so that students can work at their own pace. They can rewind the lecture videos as many times as possible until they master the contents. Therefore, students have more opportunities to gain comprehensible input outside the classroom, which is the basis for L2 speaking. Inside the classroom, since the direct instructions are flipped to online learning, students have more time to apply their knowledge into speaking activities with teachers' guidance and peer collaboration. Most of the classroom

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activities in previous studies on the FC model are group-based interactive learning activities practicing through constructivism learning theory [5].

Constructivism is a school of educational psychology, which holds that knowledge is not mechanically acquired, but actively constructed by learners on the basis of their experiences [6]. Students acquire knowledge, skills and, attitudes both academically and socially through interaction or zone of proximal development with more experienced and capable persons [7]. Through this interaction, a person can go beyond his or her actual developmental level and acquire new understanding. Accordingly, teachers should provide meaningful activities or tasks for students to interact with other people in the target language. In order to achieve successful interactions, the guidance from more capable persons, or scaffoldings, is usually necessary. Scaffoldings help learners perform tasks that he or she cannot perform alone. It also minimizes the level of frustration of the learners [8].

In accordance with constructivism learning theory and flipped classroom, the present study adopted constructive role-plays as in-class activities to teach speaking. In language teaching, role-plays can be defined as activities in which participants are assigned roles that they act out in a given scenario that L2 students rarely have the chances to experience with the target language in their real lives. Role-play activities enable students to develop skills by engaging in real-life activities within the controlled environment of the classroom. Constructive role-plays are role-plays in constructivism learning environments. The constructivism environments include rich interactions between students, collaborative learning, active knowledge constructions and scaffoldings. The constructivism learning environment enables students to construct knowledge of L2 speaking by actively interacting with peers based on their existing knowledge in real-life situations. Moreover, constructive role-plays can help students integrate the learned knowledge into practice and help students become more interested and motivated in the classroom learning [9].

The main purposes of the present study focus on the integration of the FC model and constructive role-plays to enhance EFL speaking classes, so as to examine students' attitudes toward the FC model in terms of language learning. To achieve the purposes, this study addresses the following research questions:

1) To what extent does the integration of the FC model and constructive role-plays affect EFL students' speaking skills development?

2) What are students' attitudes toward the integration of the FC model and constructive role-plays for learning English speaking?

II. METHODOLOGY

The present study employs a quasi-experimental design. The study involved two intact classes of a first year undergraduate English course at Suranaree University of Technology (SUT), Thailand. It is an integrated skills course that aims to develop students'

proficiency in both academic and social communication with a special emphasis on helping students become confident and competent speakers of English. One of the classes served as a control group (48 students), and another served as an experimental group (46 students). All of the students in both groups were required to take a speaking pretest to measure their speaking performance before they were treated with the experiment.

In the 12-week experiment, both groups were required to learn 4 units of the Four Corner 3 textbook [10]. There are 4 lessons in each unit, where lessons A and C focus on vocabulary building, grammar introduction and leading to a speaking outcome, which were chosen as the lessons for the flipped instruction. While, lessons B and D were not flipped because they focus on listening, reading or writing that are not suitable for the flipped instruction. At SUT, lecturers normally have 3 hours per week to cover two lessons in the textbook, and the time for lessons A or C is around 90 minutes. In the experiment, both groups had the same amount of learning time, but they are taught with different time arrangements and instructional methods (see Table I).

TABLE I. A COMPARISON OF TIME ARRANGEMENTS AND INSTRUCTIONAL METHODS BETWEEN THE EXPERIMENTAL GROUP AND THE CONTROL GROUP

Control Group			Experimental Group		
Activities	Time*	Method	Activities	Time	Method
Classroom Management & Warm-up	10	F2F	Homework (Vocabulary Building & Grammar Instruction)	30	Online
Vocabulary Building & Grammar Introduction	30	F2F	Classroom Management & Warm-up	10	F2F
Exercises on Vocabulary and Grammar	20	F2F	Remedial Teaching	10	F2F
Speaking (Question-and-Answer Drills)	20	F2F	Exercises on Vocabulary & Grammar	20	F2F
Wrap-up	10	F2F	Speaking	40	F2F
Homework (Quizzes)	30	Paper Based	Wrap-up	10	F2F

*Unit: Minute

For the control group, a lecture generally begins with a Face to Face (F2F) tutorial session of grammar and vocabulary which takes around 50 minutes including instructions of vocabulary and grammar for 30 minutes. Instructional technologies, such as PowerPoint slides, online audios and videos are used to enhance the instruction. Then, students do exercises related to the new knowledge as comprehension check and practice, which take around 20 minutes. This session gives students the language input and prepares them to be ready for practicing speaking skills and other skills such as listening and writing. Then, students have around 20 minutes to do question-and-answer drills as a speaking activity, which mostly requires students to ask and answer some given questions in pairs, and note down

their partners' answers. After the lesson, students do homework with some quizzes on the newly learned grammar points and vocabulary to consolidate their learning, which takes around 30 minutes.

Comparatively, a lecture for the experimental group starts with the "homework". That is the online video lectures. There are two videos for a lesson. One focuses on grammar points and another on vocabulary. Each of the two videos is 7 to 8 minutes long recorded by the researcher and hosted on an online learning platform called EDpuzzle. Based on the platform, some in-video-quizzes are imbedded in the video to check students' understanding, and some after-video-quizzes are provided to check students' understanding and help them practice. Totally, it takes around 30 minutes to complete the online lectures, in which students obtain the language input that serves as a basis for constructing their knowledge of speaking in the classroom. Later, when they attend the F2F class, 10 minutes are spent on remedial teaching based on the results of the online quizzes. Then, students do group based quizzes to consolidate and extend the knowledge, which approximately last 20 minutes.

For the rest of the class time, around 40 minutes are arranged for doing constructive role-plays. First, the teacher scaffolds the role-plays by stating the aims of doing the role-plays and scenarios of the role-plays and gives modeling for the role-plays. Then, students work in group planning and rehearsing their own role-plays with peer assistance and collaboration. At the same time, the teacher walks around the classroom to give students individual guidance or help. After that, all the students act out their role-plays with their partners and record their voices via Facebook Message (an application on smart phones) and send to the teacher as their "homework". After the class, the teacher listens to their role-play recordings and gives them feedback via Facebook Message. Through the teaching process, learners actively construct their speaking skills via rich interactions among peers, role-play tasks and the teacher.

At the end of the 12-week experiment, a speaking post-test was conducted with students in both groups. The data obtained from the speaking pretest and post-test were analyzed quantitatively to determine the effects of the different treatments on students' speaking performance. In order to investigate students' attitudes toward the integration of the FC model and constructive role-plays, all the students in the experimental group were invited to do the questionnaires, and 16 of them were interviewed after the speaking post-test. The data collected from the questionnaires were used for quantitative analysis, and the data elicited from the interviews were analyzed qualitatively.

III. RESULTS

A. Results of the Speaking Tests

The scores of the two groups obtained from the speaking pre-test and post-test were analyzed through independent sample t-test in SPSS 16.0. As shown in Table II, in the speaking pretest there was no statistically significant difference between the two groups at .05 level since the p value is 0.580. However, the scores of the two group showed significant difference in the speaking post-test (p=0.002>0.05). The mean score of the experimental group (Mean = 13.89, S.D.= 2.677) was higher than that of the control group (Mean = 12.125, S.D.= 2.803). It indicated that the experimental group had statistically higher post-test scores than the control group, and the mean score of the experimental group increased more than the control group.

TABLE II. A COMPARISON OF THE TWO TESTS SCORES BETWEEN THE EXPERIMENTAL GROUP AND THE CONTROL GROUP

Test	Group	N	Mean	S.D.[*]	Sig.[**]
Pretest	EG[*]	46	10.782	2.581	.580
	CG[*]	48	11.083	2.664	
Post-test	EG[*]	46	13.891	2.677	.002
	CG[*]	48	12.125	2.803	

*EG=Experimental Group; CG= Control Group; S.D.=Std. Deviation
** p value of is significant at the 0.05 level (2-tailed)

Besides, a paired-sample t-test was also conducted to compare the posttest scores of the two group with their own pretest scores, which aims to find out the differences of the two group in terms of the amount of test scores improvement during the experiment. The results of the t-test is displayed in Table III. Accordingly, the scores of both the experimental group (p=0.000) and control group (p=0.000) were significantly improved during the experiment. While, the experimental group with a 3.109 mean score increasement did improve more than the control group that increased only 1.041.

TABLE III. A PAIRED-SAMPLE T-TEST OF THE TWO TESTS SCORES OF THE EXPERIMENTAL GROUP AND THE CONTROL GROUP

Group	Test	N	Mean	Paired Differences		
				Mean	S. D.[*]	Sig.[**]
CG[*]	Pre-test	48	11.083	-1.041	0.272	0.000
	Post-test	48	12.125			
EG[*]	Pre-test	46	10.782	-3.109	1.663	0.000
	Post-test	46	13.891			

*EG=Experimental Group; CG= Control Group; S.D.=Std. Deviation
** p value of is significant at the 0.05 level (2-tailed)

To sum up, the experimental group and the control group were statistically equivalent before the experiment in terms of speaking test scoress. While, after the experiment, the experimental group had higher speaking posttest scores than the control group, and their speaking test score increased more than the control group as well. These results suggest that students in the experimental group had more improvement and achieved higher in speaking skills than those of the control group. The findings answered the first research question, that the integration of the FC model and constructive role-plays had a significantly positive effect on EFL students' speaking skills development.

B. Results of the Questionnaires

The data elicited from the questionnaires were analyzed through descriptive analysis in SPSS. The results were presented in Appendix A, which indicated that firstly, students generally held positive opinions towards the integration of flipped instruction. For instance, 78.3% of the students agreed or strongly agreed that flipped learning method allowed them to prepare for classes in advance (item 1); 86.9% of them believed that they had enough time to learn new vocabulary and grammar points through the videos lessons (item 2); and 73.9% of them agreed that they felt more confident about their learning due to the video lessons (item 3). Moreover, the majority of them also thought that their speaking skill became better since they had more time to speak English in class (item 4) and they felt autonomous in their learning when they learned grammar and vocabulary by themself through videos lessons (item 5).

Secondly, the majority of students held positive opinions toward the integration of constructive role-plays. Since, more than 80 percent of the students had agreements on item 7, item 8 and item 9. They considered that the role-plays helped them improve their speaking performance, made the learning of spoken English enjoyable and they felt more confident to use grammar and vocabulary after doing role-plays.

Thirdly, the constructivism learning environment in the classroom also gained appreciations from students. To illustrate, 79.3% of the students considered that the instructions on why and how to do the role-plays were necessary (item 6), 89.1% of them reported that they and their partners helped each other when they prepared the role-plays (item 10) and the majority of them also agreed that the feedbacks from the teacher and classmates helped them improve their speaking skills (item 11).

However, 52.2% of the students reported that they felt shy when they do role-plays with their partners, and 43.5% of the students deemed that the time was not enough for them to prepare and act the roles out in the class. In addition, 15.2% of the students preferred the question-and-answer drills in their textbook to create their own role-plays.

C. Results of the Interviews

The qualitative data collected from the interviews were interpreted through content analysis. The data from the interviews showed consistent findings with the questionnaires. The results can be summarized as follows: 1) The majority of the interviewees (87.5%) preferred the flipped instruction method to the traditional method. For example, one of the interviewees reported that: "*I like the flipped instruction method because I could learn the knowledge from videos then I practiced it in class with my friends and shared the knowledge with them.*" 2) All the interviewees agreed that constructive role-plays were helpful for improving their speaking skills. For example, one of them explained that: "*I had to create new ideas from my mind. I felt relaxed because I did not have to remember the sentences from the textbook and I felt happy because I made a new conversation.* " 3) Most of them believed that their English speaking skills were improved due to the flipped instruction and constructive role-plays. As an example, one of them stated that: "*The video lessons had many sentence structures that I did not know before and I could practice these structures with my classmates. It made me felt confident about my English speaking.*"

Nevertheless, some interviewees pointed out some disadvantages towards the integration of flipped instruction and constructive role-plays. One interviewee expressed her disagreement with the flipped instruction. She said when she could not understand some points in video lectures, she could not ask teachers immediately. As for constructive role-plays, some interviewees thought that constructing role-plays were difficult, especially for those whose English proficiency were low.

In summary, the results of the questionnaires and interviews answer the second research question that most students had positive attitudes toward the integration of FC model and constructive role-plays for learning speaking skills. They considered the integration as helpful for their speaking skills development in terms of both learning outcomes and learning experiences. These findings are useful for interpreting how the integration became effective for speaking skills development. Whereas, some defeats of the FC model and constructive role plays are also found from the data, which will be helpful for improving the further research in the future.

IV. DISCUSSION AND CONCLUSION

The results of speaking tests showed that the students in the experimental group who received flipped instruction and constructive role-plays achieved higher and had more improvement in speaking skills than those of the control group. It indicated that the FC model combined with constructive role-plays was a more effective EFL speaking teaching method than the traditional teaching method.

There are two main reasons that may account for the higher speaking improvement in the experimental group. First, the FC model offers an optimized mode of instruction that better fits student's cognitive learning process. Lower levels cognitive work as learning vocabulary and grammar are accomplished via online video lectures instead of F2F instructions, so that students have more class time to construct their knowledge of speaking by doing the role-plays which require more cognitive work. Second, utilizing constructive role-plays in the classroom allows students to test out the knowledge that they have already had, and/or to study the new knowledge by interacting with group members and the class, as the constructivism learning theory suggests that a learner must actively build knowledge and skills based on his own knowledge and experiences [11]. The constructive role-plays encourage students to engage in L2 speaking interactively and creatively through the creative use of language [12].

The analysis the questionnaires and interviews demonstrated that the students hold supportive opinions towards the implementation of flipped instruction and

constructive role-plays as a speaking teaching method. The findings also strengthen the results of the speaking tests, which emphasize that the new speaking teaching method is not only subjectively effective, but also deemed to be effective by the students objectively.

The positive attitudes held by students may be due to the following reasons. The FC model is a fusion of online and F2F learning, which is currently viewed by many researchers as a better path to capitalize the strengths of both online and F2F learning [13]. In the online lectures, learners are able to proceed at the pace that is appropriate for them. They can pause and rewind the lecture without the pressure of others or interference of other learners. While, in the traditional whole class instruction method, quick learners may understand immediately and get bored waiting, while struggling learners require slower paces [14]. Therefore, the flipping provides better learning experiences for both struggling students and excel students [15]. On the other hand, struggling students can get more helps in class. These help may come from both the teacher and their classmates and could minimize the frustration in the learning process. Moreover, the flipping saves more time for interactive activities among students or between the teacher and students, and the classroom time can be used more effectively and creatively [16]. The present study employed constructive role-plays as a classroom activity. Role-plays benefit learners by bringing enjoyment to lessons and increasing their positive learning experiences [17]. The constructive role-plays in the present study can create a supportive and enjoyable learning environments that engage students into meaningful interactions in the classroom that promote learning and increase students' interest in second language speaking.

In conclusion, the present study investigated the pedagogical use of FC model and constructive role-plays in EFL speaking teaching with a triangulation research method. The quantitative data of the speaking tests showed that the integration of the FC model and constructive role-plays has positive effects on students' speaking skills development. Meanwhile, the qualitative analysis of the student questionnaire and interview data showed that students generally held supportive opinions toward the new teaching method, which can be considered as more informative evidences that support the findings of the speaking tests. The study concludes that the FC model combined with constructive role plays is an effective model for teaching speaking skills in EFL context. By the promotion of technology, the FC model provides an optimized fashion of learning, thereby enables deeper learning that educators are seeking for [14]. Role-plays in constructivism learning environment are a useful teaching technique that promotes learner-centered learning that helps students actively construct their L2 speaking skills with enjoyment. The findings from this study are directly beneficial to other researchers aiming at developing students' L2 speaking abilities. The researchers expect that more research studies in second language field will embrace the FC model for different aspects of language teaching.

APPENDIX A RESULTS OF STUDENT QUESTIONNAIRES ON THE LIKERT-SCALE (N=46)

Items	SD %	D %	UN %	A %	SA %
1. The flipped learning method allows me to prepare for my class in advance.	-	2.2	19.6	56.5	21.7
2. Through the videos lessons, I have enough time to learn new vocabulary and grammar points	-	-	13.0	63.0	23.9
3. I feel more confident about my learning due to the video lessons.	-	-	26.1	54.3	19.6
4. My speaking skill gets better since I have more time to speak English in class.	-	4.3	19.6	58.7	17.4
5. I feel autonomous in my learning when I learn grammar and vocabulary by myself through videos lessons.	-	2.2	30.4	47.8	19.6
6. The instructions on why and how to do the role-plays are necessary.	-	-	21.7	58.7	19.6
7. Creating and acting the role-plays help me improve my speaking performance.	-	-	17.4	47.8	34.8
8. I feel more confident in using new vocabulary and grammar points after doing the role-play activities.	-	2.2	15.2	54.3	28.3
9. The role-play activities make the learning of spoken English enjoyable.	-	8.7	19.6	50.0	21.7
10. My partner and I help each other when we prepare the role-plays.	-	-	10.9	52.2	37.0
11. The help and the feedbacks from my teacher and classmates help me improve my speaking.	-	4.3	21.7	43.5	30.4
12. The role-play activities motivate me to speak more English with my partners.	-	6.5	19.6	47.8	26.1
13. I feel shy and/ or nervous when I do role-plays with my partners.	4.3	4.3	39.1	37.0	15.2
14. I think the time is enough for me to prepare and act out the role-plays.	6.5	37.0	39.1	15.2	2.2
15. I like doing role play more than simply asking and answering questions with my partners.	4.3	10.9	26.1	41.3	17.4

*SD= Strongly Disagree; D= Disagree; UN= Undecided; A= Agree; SA= Strongly Agree.

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