The Application of Small WhatsApp Groups and the Individual Flipped Instruction Model to Boost EFL Learners' Mastery of Collocation

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Abstract

This current research investigated the effect of small WhatsApp group and individual flipped instructional design to promote EFL learners' collocation mastery and their attitudes toward the two different combinations. A quasi-experimental approach with a non-equivalent control group and a pre-test/post-test design was exploited. The small WhatsApp cohort was treated using small group flipped instructional design through WhatsApp with small group collocation activities as the experimental group (N = 25), and an individual class was exposed to individual flipped instruction model through WhatsApp with individual collocation activities as the quasi-experimental (N = 25). Two models of receptive and productive collocation tasks were allotted to assess the EFL learners' collocation mastery. A questionnaire was also distributed to assess their attitudes. The findings depicted that the mean score of the small WhatsApp group flipped instruction with small WhatsApp group collocation activities was higher than the mean score of the individual flipped model via WhatsApp activities. Learners' attitude towards the implementation of the small group flipped instruction through WhatsApp with small group collocation activities found more positively than the individual WhatsApp activities. Overall, the research presents shrewd implication to the body of research on flipped classroom in ELT context.

Keywords: flipped instruction, small and individual WhatsApp group, collocation mastery

Introduction

Nowadays, ELT research into flipped classroom implementation is becoming popular among EFL/ESL scholars (Davies, Dean, & Ball, 2013; Engin, 2014; Chen Hsieh, Wu, & Marke, 2017; Suranakkharin, 2017). The application of the flipped instructional design is different from the conventional teaching version. In the old teaching pattern, learners used to learn English from the classroom activities by way of various explanations and exercises given by their teacher. As a consequence, this caused a more teacher-centered classroom but under the flipped classroom circumstances, learners are having more flexible learning activities outside the classroom through electronic resources so they can take the opportunity to learn English outside the classroom in a more flexible way. Therefore, in the flipped classroom model the teaching-learning process revolves more around student–centered learning. A number of researchers have

different reasons for implementing the flipped instruction model. Some plausible ones include efficiency, practicality, flexibility and adaptability rationales. A contemporary research finding by Suranakkharin (2017) revealed that learners taught with the flipped instruction showed positive involvement when they were taught using the flipped model.

However, little study has so far been conducted to examine the tangible impact of the flipped instruction model on Indonesian EFL learners' mastery of collocations occurring in English (Astuti, 2015; Juita, 2015; Kweldju, 2015; Pangestuti, 2016). Most of these studies simply examine the mastery of learners' knowledge of collocation, but they do not elaborate on how EFL learners' mastery of collocation can be boosted through an effective teaching strategy. Kweldju (2015) examines the EFL English department students' mastery of collocation. Her research findings exemplify that the mastery of collocation of English department students is low. Furthermore, she recommends more intentional learning and teaching collocation to tackle the problem. "Collocations are frequently recurring two-to-three word syntagmatic units which include both lexical and grammatical words" (Henriksen, 2013, p.31).

Mastery of collocation is considered to be a fundamental aspect of communicative competence (Littlewood, 1996; Nation, 2001; Hsu & Chiu, 2008; Kweldju, 2015; Suranakkharin, 2017). Regardless of the importance of collocation mastery, it is reported that Indonesian EFL learners encounter serious problems in learning collocations (Astuti, 2015; Juita, 2015; Kweldju, 2015). Furthermore, the effectiveness of teaching collocation using the flipped model is still questionable in terms of the difficulty of monitoring the discussion process outside the classroom using the medium of video, which cannot be assessed and monitored directly. It seems that teachers tend to focus on product-based models rather than process-based ones as the monitoring process has been neglected so far. In addition, previous studies have not revealed how learners' class activities outside the classroom were investigated, either. Therefore, a mobile application is offered in this study as an online media-based device to assess the discussion process outside the classroom so that process-based flipped instruction implementation can be assessed more comprehensively. Moreover, this research aims at explaining whether teaching collocation using the flipped instruction model via WhatsApp can enhance EFL learners' mastery of collocation or not.

Research Question

As this study is formulated to gauge the effect of using a small group and the individual flipped model with WhatsApp on EFL learners' mastery of collocation, the following question is posed:

1. Will there be any significant difference in the ability of EFL learners' collocation after the implementation of small group flipped instruction through WhatsApp with small-group collocation activities compared to individual flipped instructional design via WhatsApp with individual collocation activities?

2. What are the learners' attitudes towards the implementation of the small group flipped instruction through WhatsApp with small group collocation activities and the implementation of individual flipped instructional design via WhatsApp with individual collocation activities?

Literature Review

Flipped Classroom in ELT

It is undeniable that since the emerging research into of the flipped classroom in the early 2010s, many L2 teachers have designed and implemented the flipped classroom model in the second language teaching and learning process to examine its effectiveness (Herreid & Schiller, 2013; Mehring, 2016; Adnan, 2017; Nguyen & Webb, 2017; Zhai, Gu, Liu, Liang, & Chin-Chung, 2017; Soltanpour & Valizadeh, 2018). The flipped classroom model is typically executed outside of the classroom where learners are facilitated with video materials. They are assigned to learn about certain discussed topics through small groups or discussions within a certain period of time before the classroom lecture occurs. The objective of the flipped classroom is to boost the learners' engagement in the learning content and to minimize the teacher-centered model which is claimed to be less effective in gaining the learners' communicative competence. Evidence of the effectiveness of flipped classroom instruction in teaching writing skills has been shown. Ahmed (2016), for example, affirmed that the flipped classroom model enhanced Saudi Arabian EFL learners' essay writing. It is also reported that learners highly appreciated the flipped model in which they could learn essay-writing outside of the classroom more efficiently in comparison with the traditional teaching model.

Recently, Suranakkharin (2017) avowed that the flipped teaching model helped university learners in Thailand perform better in collocation learning. He conducted an experimental study to explore the effect of flipping a classroom to facilitate English collocation mastery of Thai learners, and to compare this method to the traditional teaching pattern. He also closely examined the learners' attitude towards the flipped instructional model. The findings from his study illustrate that the experimental group learners' collocation mastery using the flipped classroom was superior to the traditional one. This indicates that the flipped classroom model has proved useful and effective in learning collocation but the learners' attitudes towards the flipped model did not yield unusual responses from either group. It also means that the attitudes of both the learners in the experimental and the control group toward the flipped and traditional classes were identical. Through his research findings Suranakkharin suggests conducting further research to apply mobile applications to clarify his previous findings.

The controversy between Ahmed's (2016) and Suranakkharin's (2017) findings regarding the different responses to the flipped model piqued the researcher's inquisitiveness to further probe what makes learners more engaged in the flipped classroom. Next, suggestions for further research derived from Suranakkharin's (2017) were made to apply a mobile application such as WhatsApp as a standardized way to

accomplish this study.

Collocation

Collocation is defined (derived from its function) as "combinations of words with a syntactic function as constituents of a sentence" such as nouns or prepositional phrases or verbs and object constructions" (Howarth, 1998, p.337). Although it is widely recognized that the mastery of collocation contributes to L2 communicative competence, current research evidence still reflects the challenge for second language learners in collocation mastery (Laufer & Waldman, 2011; Hou, 2012). Within the EFL context, several studies have revealed these challenges as well. In the case of Thailand for example, Meechai & Chumworathayee (2015) found that the use of verb + noun was the most challenging collocation for their international program students. Subsequently, a study by Phoocharoensil (2014) asserted that most Thai EFL learners encountered problems with collocation in essay-writing. In the Indonesian EFL context, the seminal work of Kweldju (2015) examined the EFL English department students' collocation mastery at one of the high-ranking public Universities in Malang, especially its English department students. Her research findings illustrate that their mastery of collocation is low.

As discussed previously, it can be seen that EFL learners within the context of an Indonesian EFL setting encounter specific problems trying to master collocation. Suranakkharin (2017) proposes two possible reasons for the EFL learners' collocation problems. First, he asserts that L1 learners' interference from their native tongue forms a predictable obstacle in mastering English collocations. This is quite logical, since the Indonesian and Thai contexts feature different L1 collocation patterns compared to the L2 ones. Lack of knowledge concerning collocation is also claimed to be causing further delay in mastering collocation.

This is possibly holds true for the Indonesian context where most of the English teachers still teach vocabulary in isolation, but where collocation itself has not been a plausible topic of discussion in EFL classes. Consequently, there has been no research investigating how collocation mastery is best taught within the Indonesian EFL context. Despite the effectiveness of the flipped classroom in teaching collocation mastery (Hung, 2017; Suranakkharin, 2017), it is likely that research into the effect of the flipped learning instruction using WhatsApp mobile application on Indonesian EFL learners has not been systematically addressed. As such, this current research study initiates filling the gap by investigating the impact of using a small group and individual collocation learning using WhatsApp in this flipped instruction model.

Learner autonomy: individual versus collaborative learning

The objective of second language teaching and learning, whether employed through a collaborative or an individual mode, is formulated to augment the autonomy of the learners involved. Consequently, learning autonomy is part of this purpose. Independent learning is actually the autonomous learning itself. In order to attain the principles above, a student-centered instructional model has to be carried out in innovative ways.

Little (1991) defines individual learning as a learning route with the existence of creative language teachers to promote independent or autonomous learning of the learners through optimizing the former's roles as facilitators with lesser roles. In other words, less means more. Also, collaborative learning (with its various names such as 'small group', 'seminar teaching', or 'collaborative learning') does not seem to be different from the individual one in terms of its objectives (Gibson, 2010; Mills & Alexander, 2013). Hence, the essential learning acquisition is made through collaboration with peers.

Learner autonomy is part of instructional objectives of a language course. As one part of pedagogical purposes, it is designed as falling under a learner-centered curriculum. It also aims to minimize the roles of the teacher in the classroom-based teaching and learning process. In promoting the autonomy of the learners through the use of mobile application or technology, it can be viewed from a constructivism approach and experiential learning paradigm as well. Viewed from the angle of the constructivist approach, it claims that "learners can be encouraged to learn through social context in order to create new understanding, solve problems, and develop creativity as well as learners' critical thinking skills" (Sadik, 2008, p. 502). On the other hand, from the viewpoint of experiential learning, experience is believed to be the central focus of the constructivist theory, stating that "knowledge can only be generated from learners' experience" (von Glasersfeld, 2008, p. 2).

The ultimate objective of learner autonomy is to facilitate English language learners to attain autonomous competence in using English as the target language. Some scholars mention several imperative factors in promoting the autonomy of the learners as a triumph. First, Kupetz & Ziegenmeyer (2006) took the initiative of stimulating EFL teachers to encourage learners to understand their individual learning responsibility and alternatives in L2 learning. Secondly, Spratt, Humphreys, & Chan (2002) offered the motivation factor as the most essential part in L2 learning. Next, Benson (2007) suggested the utilization of technology as an enormous potential for achieving learner autonomy.

Without ignoring the merits of the traditional teaching view, the increasing numbers of researchers who apply collaborative learning in a second language context illuminate the advantages of this application. Research conducted by Sugino (1994) has revealed that small-group activity has aided the learners to expand their vocabulary and perfect their pronunciation. Another study by Asnawi, Faisal, Bustami, & Aulia (2017) portraying speaking performance of the learners using individual and small-group activities using video clips claims that small groups perform better than individuals.

The current research seeks to illustrate small-group and individual learning using the WhatsApp mobile application within the flipped classroom atmosphere to augment EFL learners' mastery of collocation. The research foundation in implementing individual and collaborative collocation learning is based on the notion of learner autonomy as proposed by Littlewood's (1996) framework of "self-directed learning or independent work" and "the use of relevant learning strategies both inside and outside the classroom (Littlewood, 1996, p. 429). On this research site, the framework is devoted to the ability

to boost EFL learners' collocation mastery as had been pioneered by Vygotsky (1980), which affirms the effective feedback from peers during learning interaction.

WhatsApp in ELT

Fundamentally, the utilization of mobile applications in the L2 teaching and learning process is based on the social interaction theory developed earlier (Vygotsky, 1980). The latter claims that learners learn and develop their language mostly influenced by their interaction with the more knowledgeable learners. Within the context of mobile application in L2 teaching and learning, interaction can be enhanced through a mobile application and electronic resources to promote learning. If the classroom setting only has a limited interaction process within its in-class session, the emergence of flipped instruction offers more flexible forms of interaction, but using a mobile application such as WhatsApp offers more ubiquity and unlimited interaction than both the traditional and the flipped model.

Teaching English using mobile applications has become an admirable alternative due to the veritable explosion of mobile phone production. Mobile applications are more ordinary than computers and laptops in terms of their ubiquitous advantages. Klopfer, Squire, & Jenkins (2002) assert several merits of the mobile application for educational purposes, namely a) portability, b) social interactivity, c) context sensitivity, d) connectivity, and e) individuality. Among these merits, social interactivity of mobile application is the feature that particularly helps learners to interact with a huge amount of exposure, to exchange diverse types of content, and to collaborate with classmates and peers (Dehghan, Rezvani, & Fazeli, 2017). Among the mobile applications, WhatsApp is very popular because it allows learners to communicate rapidly at a very low cost for the internet package connection. Other advantages of WhatsApp related to its function such as the ability to encourage cooperation, amplify motivation, and user-friendliness have also been reported (Rambe & Bere, 2013). Several areas have been investigated through the use of WhatsApp such as the investigation into polite use of language conducted by Flores-Salgado & Castineira-Benitez (2018), falling under the domain of pragmatics. In addition, Hertzog & Swart (2018) made a WhatsApp-based design in the educational field of Engineering. Moreover, Çetinkaya & Sütçü (2018) report that combinations between WhatsApp and Facebook are claimed to be able to boost the vocabulary mastery of foreign language learners.

On the effectiveness of WhatsApp, a study conducted by Bouhnik & Deshen (2014) closely examined the effect of WhatsApp groups on improving specific interaction among high school learners. The findings convincingly promote interaction, social atmosphere, dialog, and sharing among learners to create a pleasant atmosphere and an intense collaboration with peers. Also, a study using WhatsApp implemented among Spanish EFL learners trying to master reading skills reveals that WhatsApp can enhance both EFL learners' reading skill and reading enthusiasm (Plana et al., 2013). However, results telling a different story have also been reported. Salem (2013) clarifies the negative effect of WhatsApp on Kuwaiti learners' writing skills due to the inexistence of appropriate punctuation. Moreover, Dehghan et al. (2017) have conducted a comparative study using WhatsApp to assess vocabulary mastery of Irani teenage

learners. The findings depict that there is no significant difference between the vocabulary mastery of teenage learners who were taught using WhatsApp and those receiving face-to-face instruction.

Method

This study can be classified as quantitative design. A quasi-experimental design with a non-equivalent control group and pre-test/post-test design has been conducted. The intention of this study was aimed at finding any significant difference between the collocation mastery of EFL learners taught using a small WhatsApp group-based flipped instruction with small-group collocation activities and individual WhatsApp flipped model instruction with individual collocation activities. Subsequently, two replicas of experimental cohorts which were similar in terms of the English achievement and classroom atmosphere of EFL learners were applied. The random sampling method was carefully performed to order the experimental group. Furthermore, both cohorts were administered by a pre-test followed by six weeks of treatment and a post-test.

There are two classifications of the experimental blocks in this study, specifically: (1) the small WhatsApp group taught using flipped model instruction through a WhatsApp group with the small-group collocation activities and (2) the individual activities that were taught using flipped model instruction through WhatsApp with individual collocation activities as well. The summary of the instructional design is presented in table 1 below.

Table 1. Summary of teaching collocation using the flipped WhatsApp model

Stage	Small WhatsApp group flipped	Individual WhatsApp flipped
Stage 1: Introduction	1. Students were introduced to the use of the flipped classroom through WhatsApp and assigned to create a small WhatsApp group of 4 to 5 students in each group to enhance their mastery of collocation. 2. Pre-test	1. Students were introduced to the use of the flipped classroom through WhatsApp and assigned to create an individual WhatsApp to enhance their mastery of collocation.
Stage 2: Learning materials	5 to 10 minutes of collocation videos were introduced to each group. They consisted of: 1. Adverb + Adjective such as *completely satisfied* 2. Adjective + Noun video such as *excruciating pain* 3. Noun + Noun such as *a surge of anger* 4. Verb + Noun such as *commit suicide* 5. Verb + preposition such as *burst into tears* 6. Verb + Adverb such as *wave frantically*	5 to 10 minutes of collocation videos were introduced to each student. They consisted of: 1. Adverb + Adjective such as *completely satisfied* 2. Adjective + Noun video such as *excruciating pain* 3. Noun + Noun such as *a surge of anger* 4. Verb + Noun such as *commit suicide* 5. Verb + preposition such as *burst into tears* 6. Verb + Adverb such as *wave frantically*

Stage 3: WhatsApp Flipped	1. Outside Class
	   (a) Each week, the teacher sent a collocation video to the
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		   (a) Each week, the teacher sent a collocation video to each

Implementation (week 1 to 6)	students' WhatsApp group	student's WhatsApp
	(b) Each week, the small WhatsApp group watched a 5 to 10-minute video clip.	(b) Each week, every student watched a 5 to 10-minute video clip.
	(c) Each WhatsApp group discussed the concept of each collocation topic via the group's WhatsApp	(c) Every student learnt the concept of each collocation topic individually
	(d) Each group was given a 10-collocation task to discuss and complete	(d) Each student was given a 10-collocation individual task to complete
	(e) Submit the group's WhatsApp task to teacher's WhatsApp	(e) Submit the individual's WhatsApp task to teacher's WhatsApp
	2. In Class (60 minutes)	2. In Class (60 minutes)
	(a) Group discussions and group presentations	(a) Classroom discussions and individual presentation
	(b) Teacher provides feedback to clarify collocation mastery of the students on each discussed topic.	(b) Teacher provides feedback to clarify collocation mastery of the students on each discussed topic.
Stage 4: Assessment (Week 7)	Post-test	
	A questionnaire was administered to both groups	

(The instructional stages of the introduction, learning materials, implementation, and assessment have been adapted from Hung, 2015)

Participants

The population consisted all the seventh-grade EFL learners from Sekolah Menegah Pertama Negeri (SMPN) 2 Cerme Gresik located in East Java, Indonesia (State Junior High School), made up of five classes in the academic year of 2017-18. Two of the seventh-grade classes were involved as the participants in the research. To attract the two homogeneous classes where the learners had an equal English mastery and environment, confirmation and clarification to the English teacher were also made. Next, the researcher examined the English scores of the learners to prove the English eqality between the two groups using Chase's (2011) World English placement test. Based on the above considerations, two consecutive classes of 25 learners from class VII-3 and 25 learners from class VII-4 were labeled. The first label of class VII-3 of 25 pupils (12 male and 13 female) was attributed as the experimental group, which assigned the small WhatsApp group with small group collocation activities via the flipped instructional model. The second label of class VII-4 of 25 pupils (11 male and 14 female) was treated using the individual WhatsApp with individual collocation activities through the similar flipped instruction model as the quasi-experimental one.

Two tests, the pre-and post-test, were administered in this quasi-experimental study. The researcher arranged a set of collocation tests for the pre-test and post-test. It entailed three receptive and three productive collocation tasks proposed based on Gyllstad (2007) which were overriding to evaluate collocation mastery in several collocation research studies (Bueraheng, 2014; Chorbwhan & McLellan, 2016; Suranakkharin, 2017). The sample of collocation tests is presented in Appendix A and B.

Each type of task encompassed 12 items of lexical collocation (adjective + noun and verb + noun) and grammatical collocation (adjective + preposition and verb + prepositions) evaluated using the 'Corpus of Contemporary American English (COCA)' to guarantee their recurrent use in a daily Indonesian context because most of the Indonesian English subjects use American English, so COCA is a relevant application in this context. Therefore, it was derived from 72 items of collocation tasks. This extraction model adjustment was also implemented in the previous study within the context of EFL in Thailand (Yumanee & Phoocharoensil, 2013; Bueraheng, 2014; Suranakkharin, 2017).

In the receptive collocation task format, the learners were obliged to select whether the collocation supplied in each item was correct. If so, the learners had to tick the 'yes' option. If not, they had to tick the box saying 'no'. In term of the productive collocation task, the learners were assigned to fill in the acceptable word combination. To maintain objectivity of testing in this context, the indication clue was not specified in each collocation item task.

The normality test, mean calculation and t-test were carried out to collect and interpret the data. The first stage, a normality test using the Kolmogorov-Smirnov normality test was examined to ascertain how normal the data distribution was, and a homogeneity test was also administered to determine the variance of the data. For the second stage, the researcher estimated the average score. The pre-test and post-test results from both experimental groups were calculated to obtain the mean scores. For the last stage, a hypotheses test was conducted, employing a t-test model.

To respond to the second research question, a five-point Likert scale with 14 items was formulated. This scale was rated from 5 (strongly agree) to 1 (strongly disagree). The questionnaire was designed based on Chen Hsieh et al. (2017) and Suranakkharin, (2017), while the others were constructed by the researcher to address learners' attitudes of the small group and individual flipped learning model using WhatsApp. Seven constructs following the aforementioned two studies were adapted as a theoretical base to develop the questionnaire, namely a) learning flexibility (1 item), b) learning culture (2 items), c) learning material & content (2 items), d) instructor (2 items), e) engagement and motivation (4 items), f) effect (2 items), and h) overall satisfaction (1 item). The questionnaire is presented in Appendix C. Hence, the researcher alternates the content of the questionnaire from the flipped classroom into the small-group flipped model via WhatsApp with small-group collocation activities for the experimental cohort and the individual flipped learning via WhatsApp with individual collocation activities in each construct of the questionnaire item. Consequently, the questionnaire was piloted with 25 learners from different quasi-experimental groups. Reliability checked with Cronbach Alpha illustrated the significant level of each construct within the questionnaire items (C), alpha = .84 (C1), .89 (C2), .88 (C3), .88 (C4), .86 (C5), and .89 (C7).

Findings and Discussion

The first objective of this study was to evaluate whether there was a significant effect found among the learners who were taught using the small WhatsApp group flipped instruction model and those learners who were taught using the individual WhatsApp flipped model on their mastery of collocation. To address the first objective, a set of receptive and productive collocation tests were administered, followed by statistical calculation using the normality test, while mean calculation and the t-test were conducted to collect and interpret the data.

The results of normality and homogeneity test from the small-group flipped instruction using WhatsApp with small-group collocation activities (SGFW) and the individual flipped model using WhatsApp (IFW) with individual collocation activities were statistically calculated in the following table:

Table 2 Normality tests between the two quasi-experimental groups

	Small WhatsApp Group Flipped Model (SWGF)		Individual WhatsApp Flipped Model (IWF)	
	Pre-test	Post-test	Pre-test	Post-test
N	25	25	25	25
Sign. (2-tailed)	.248	.519	.318	.415

*Significant at *p < .05.*

Table 2 illustrates the calculation result of the normality test, both from the SWGFM and IWFM cohorts. The index scores (sig 2-tailed) from SWGFM in pre and post-test with N = 25, amounted to .248 and .519. Meanwhile, the index scores (sig 2-tailed) from IWFM within the same sample with N=25, amounted to .318 and .415. Since the results of the normality test derived from the two groups were beyond the Alpha coefficient of 5%, the data from both SGFW and IFW groups were categorized into normal distribution. Therefore, it could be said that the samples of both groups were normally distributed in terms of their English score.

Table 3 Homogeneity test

Levene's Statistics	df1	df2	Sig.
2.168	1	.67	.146

*Significant at *p < .05.*

Table 3 describes the result of a homogeneity test from both the SWGFM and IWFM cohorts. Levene's statistical calculation amounted to 2.168. Meanwhile, the P-value (sig) from the homogeneity test amounted to 0.146 > .05 Alpha coefficient levels. Since the result of P-value is higher than the Alpha level (5%), the data were confirmed as homogeneous.

Table 4 Mean score comparison between the two groups

	N	Pre-test Mean	Post-test Mean	Change	Std. Deviation	
					Pre-test	Post-test
Small WhatsApp Group Flipped Model	25	41.97	68.19	26.22	0.35	0.84
Individual WhatsApp Flipped Model	25	38.78	54.72	15.94	0.78	0.57
Difference	0	3.19	13.47	+10.28		

Table 4 represents the results of the pre-test and post-test mean scores obtained between SWGFM and IWFM cohorts. The table above clarifies that the learners who were taught using the Small WhatsApp Group Flipped Model (SWGFM) with small-group collocation activities reached a mean score of 41.97 in the pre-test while the post-test mean score amounted to 68.19. The obtained scores of standard deviation were 0.35 and 0.84 consecutively. On the other hand, the learners who were taught using the Individual WhatsApp Flipped Model (IWFM) with individual collocation activities reached a mean score of 38.78 while their post-test mean score was 54.72. The standard deviation scores were 0.78 and 0.57, respectively.

This means that the students who were taught collocation subjects using the flipped instruction model via the small-group WhatsApp attained a higher degree of comprehension than those using the individual one. Therefore, they reached a better collocation score than the individual one. One of the causes may have been the flexibility to discuss the collocation videos and tasks during the implementation using their WhatsApp. As a result, they could browse the Internet and share their ideas with their fellow WhatsApp members to comprehend the topic and to carry out the collocation tasks using their mobile phone and share the result to the WhatsApp group. Meanwhile, the individual ones did not have this opportunity to hold a discussion with their peers as they studied and learned from the videos and completed the collocation tasks individually.

During the flipped implementation, the teacher did not regularly monitor the students' WhatsApp whether their WhatsApp were online or not. Therefore, no comparison could be made to determine which group had been more active in the WhatsApp discussion during the flipped implementation.

Table 5 Mean scores of receptive and productive collocation tests between the two groups

	Small WhatsApp Group Flipped Model			Individual WhatsApp Flipped Model		
	Pre-test	Post-test	Change	Pre-test	Post-test	Change
Receptive Collocation Test	46.16	75.94	29.78	44.53	62.42	17.89
Productive Collocation Test	37.78	60.44	22.66	33.03	47.02	13.99
Total scores	41.97	68.19	26.22	38.78	54.72	15.94

Table 5 illustrates the mean score results of the receptive and productive collocation tests from the two different groups. The results of pre-test and post-test mean scores for the receptive collocation test from the small WhatsApp group flipped model statistically illustrates a significant improvement. The pre-test mean score of this small WhatsApp group flipped model using the receptive collocation test was 46.16 and the post-test mean score was 75.94 while the increased score was 29.78. On the other hand, the results of the pre-test and post-test mean scores for the productive collocation test from the small WhatsApp group flipped model statistically illustrates a significant improvement as well. The pre-test mean score of this cohort was 37.78 and the post-test was 60.44 while the increased score was 22.66. If we compare the mean score of this group between the receptive and productive collocation test, the conclusion could be drawn that learners who were taught using the small WhatsApp group achieved better in their receptive score mean than the productive one.

The interpretation of the mean score of the individual WhatsApp flipped model in terms of their test results between receptive and productive collocation tests were subsequently elaborated. The results of pre-test and post-test mean scores for the receptive collocation test from the individual WhatsApp flipped instruction statistically illustrate a significant improvement as well. The pre-test mean score of this individual WhatsApp flipped model for the receptive collocation test was 44.53 and the post-test mean score was 62.42, while the increased score was 17.89.

In addition, the results of pre-test and post-test mean scores for the productive collocation test derived from the individual WhatsApp flipped model statistically illustrate a significant improvement as well. The pre-test mean score of this cohort was 33.03 and the post-test was 47.02, while the increased score was 13.99. If we compare the mean score of this group between the receptive and productive collocation test, the conclusion could be drawn that learners who were taught individual WhatsApp flipped instruction also achieved better in their receptive score mean than the productive one, but the mean score gain was lower than the small WhatsApp group flipped model.

The different findings of the collocation test results between the productive test and the receptive one initiated the discussion of this study. The productive test for the small WhatsApp group was higher that the individual activities. The learners who were taught using the small WhatsApp group flipped model might have more intentional forms of interaction through the small group discussion and sharing ideas with their peers. This differed markedly from the individual WhatsApp flipped instruction where each learner received similar collocation-themed video materials from the teacher by way of their WhatsApp mobile application, but they did not have the chance to interact and share ideas with their friends.

This is convincing evidence that interaction with peers using the small WhatsApp group could enhance students' literal comprehension, in this case, the receptive collocation test but both flipped instruction via WhatsApp experiments could not enhance their critical comprehension, in this case, collocation productive tests administered to make themuse their critical comprehension. A complex conception of collocation might be solved together within the small WhatsApp group. In the finding, it was verified that the

interaction learning theory plays an essential role in enhancing learner critical comprehension through peer discussion and sharing. This is in line with Vygotsky's (1980) theory, which states that language learners learn and develop their competence through interaction with peers. In addition, a previous study by Klopfer et al. (2002) already found several merits of the mobile application for educational purposes, namely a) portability, b) social interactivity, c) context sensitivity, d) connectivity, and e) individuality. Thus, this study offers social interactivity, portability and the possibility to develop learners' critical thinking which failed not emerge from the previous finding.

From the above findings, although Vygotsky (1980) successfully claimed that interaction could enhance students' learning achievement, the researcher could not fully support the argument because in this study it was proven that interaction works well for improving receptive collocation tasks (textual comprehension), though not the productive one (critical comprehension).

Table 6. Independent t-test results

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Mean score	Equal variances assumed	.033	.857	6.147	48	.000	.92000	.14967	.61908	1.22092
	Equal variances not assumed			6.147	47.455	.000	.92000	.14967	.61899	1.22101

Table 6 depicts the independent t-test calculation results. The table clearly illustrates that the significance level (sig. 2-tailed) .000 < 0.05. As a result, it was corroborated that H_0 was rejected and H_a accepted. It also verified that there was a significant difference between collocation test results of EFL learners who were taught using small WhatsApp group flipped instruction compared to the collocation scores of those who were taught using the individual WhatsApp flipped one.

The second objective of this study aimed to explain EFL learners' attitudes towards the implementation of the small-group flipped instruction through WhatsApp with small-group collocation activities and the implementation of individual flipped instructional design through WhatsApp with individual collocation activities. To address this objective, a five-point Likert scale with 14 items was formulated, rated from 5 (strongly agree) to 1 (strongly disagree). The questionnaire was designed based on Chen Hsieh et al. (2017) and Suranakkharin (2017), while the others were constructed based on the research conducted to address learners' attitudes of the small group and individual flipped ones using WhatsApp. In addition, statistical calculations using percentage and standard deviation were made.

In table 6, the statistical calculations derived from the questionnaire demonstrate the mean score of learners' attitudes towards the implementation of the small WhatsApp group flipped model (SWGFM) and the individual WhatsApp flipped model (IWFM) between the two groups. The difference between the attitude of learners towards the SWGFM group and the IWFM group's mean scores for each of the seven elements consecutively illustrates the degree of flexibility (3.52 : 3.50), learning culture (4.52 :

4.42), material and content (3.72 : 3.63), instructor (4.04 : 4.08), engagement and motivation (4.80 : 4.78), effect (4.60 : 4.57), and overall satisfaction (4.80: 4.72)

Table 7 EFL learners' perception of the small WhatsApp group and the Individual WhatsApp flipped instruction model

Elements	Small WhatsApp Group Flipped Model (SWGFM)		Individual WhatsApp Flipped Model (IWFM)	
	Mean	SD	Mean	SD
Flexibility (1 item)	3.72	1.04	3.50	1.07
Learning culture (2 items)	4.6 2	.97	3.82	.95
Material and content (2 items)	3.52	.96	3.06	.84
Instructor (2 items)	4.04	.84	3.08	.76
Engagement and motivation (4 items)	4.80	.50	4.78	.57
Effect (2 items)	4.60	1.08	3.57	1.02
Overall satisfaction (1 item)	4.80	1.00	3.72	1.45
Average mean score	4.30		3.65	

As illustrated in table 7, the finding confirms that the learners who were taught using the small WhatsApp group flipped model performed better than the ones who were taught using the individual WhatsApp flipped model. Overall, both groups responded positively to the implementation of the WhatsApp flipped model through the small-group and individual model in learning about collocation. In Table 7, the average mean score between the two cohorts shows that the SWGFM model with (4.30) attained the higher average of mean score than the IWFM one (3.65).

This means that the learners' attitude was more positive after having been been taught collocation using the SWGFM model. Distinctively, the highest element of response from SWGFM was the *overall satisfaction* (4.80), *engagement and motivation* (4.80), while for IWFM *engagement and motivation* (4.78) were more prominent. This plainly means that teaching collocation through the small WhatsApp group flipped instruction could boost the level of learning satisfaction, engagement and motivation among learners. It is highly plausible that teaching collocation using both small WhatsApp groups and individual WhatsApp flipped instruction could enhance EFL learners' learning involvement and motivation.

Conversely, the lowest score response from the SWGFM group represented *material and content* (3.52) and for IWFM *flexibility* (3.50). This provides evidence that the EFL learners did not respond positively to the content and materials employed in teaching collocation through SWGFM. It could also be claimed that the actual suitability of material became one of the determinant factors in the success of the teaching metod or process. Meanwhile, the IWFM group reveals that flexibility (or lack of it) must have been one of the obstacles in teaching collocation using individual WhatsApp flipped instruction.

Three potential discussions emerging from the second question are described in this part. The finding derived from the learners' positive attitude towards the implementation of

the small WhatsApp group comprises the preliminary discussion. Another finding from the two different treatment groups of learners' positive attitude towards the elements of attitude (namely *engagement and motivation* reaching the highest scores) triggers another discussion. Finally, the findings from the learners' negative attitude towards the elements of attitude (such as flexibility, material and content towards the two different groups) are reviewed equally.

Firstly, the findings illustrate that EFL learners who were taught using a small WhatsApp group's flipped instruction model respond more positively than those using the individual WhatsApp flipped one. This result differs from the previous finding where there was no significant difference in response to learning collocation between the flipped and traditional models (Suranakkharin, 2017). One of the feasible rationales is the use of the WhatsApp mobile application which provides positive learning attitudes in this study. The learners' perceptions of all attitude elements such as *engagement and motivation, learning effect, and overall satisfaction* have been verified. Therefore, teaching collocation with the flipped classroom model using the small group's WhatsApp triggered positive responses among the learners. Marek & Wu (2012) and Hamdan, McKnight, McKnight, & Arfstrom (2013) support these current findings. Hamdan et al. (2013) states that teaching collocation using the flipped model results in more effective classes and learners can effectively interact with peers and teachers to review collocation outside the classroom. Furthermore, Marek & Wu, (2012) and Çetinkaya & Sütçü (2018) corroborate that smartphone application facilitates communicative interaction between learners and their peers outside of the classroom.

Secondly, looking at the result of the attitude assessment questionnaire, one of the attitude elements, namely *flexibility,* apparently resonates from the implementation of the small WhatsApp group flipped model. It is verified that learning collocation with peers through videos uploaded through their WhatsApp group is more flexible for them when it comes to to learning and holding discussions without conducting a face-to-face discussion. The result of this study diverges from Suranakhharin's (2017) project where both flipped and traditional ones are reported to be similarly perceived by the learners from both groups (Suranakkharin, 2017). Flexibility emerges from this study as there is a ubiquitous mobile application medium for the learners to learn collocation topics outside of the classroom using their WhatsApp mobile application without any boundaries. Finally, an unenthusiastic attitude is found resulting from the individual WhatsApp flipped model. The learners' attitude towards both material and content is low. This indicates that selecting these is essential for employing the individual WhatsApp flipped model. Selecting relevant collocation material and content suitable for the learning needs and English competence of the learners will be highly beneficial.

Conclusion

This research aims at determining whether the learners taught using the small WhatsApp group flipped model with small WhatsApp group collocation activities performed better in collocation mastery or not. This study also attempted to determine EFL learners' attitude towards the two pre-determined implementations above. The

findings exhibit that the EFL learners that were taught using the small WhatsApp group's flipped instruction model achieved better than those who were taught the using individual WhatsApp flipped model to achieve mastery of collocation. EFL learners expressed various rewarding attitudes towards the implementation of the small WhatsApp group flipped model. Specifically, EFL learners were more engaged and motivated within both different treatments. In addition, EFL learners' learning satisfaction was emerging when they were taught using the small WhatsApp group flipped model but it did not appear in the individual one.

In the Indonesian EFL context, researchers wishing to flip a classroom can use a mobile application, such as WhatsApp. As supported by the present research findings, the principles of teaching collocation in the EFL context using the small-group WhatsApp flipped model can encourage learners to discuss topics, share ideas with peers, materials and teachers. As material and content constituted the lowest element in learners' attitude within the small WhatsApp group flipped model, carefully designed assortments of collocation material should be provided to facilitate effective collocation learning. Sufficient time allotment has to be considered in applying both models of collocation teaching as in the individual WhatsApp flipped learners did not show positive results regarding the flexibility element. Flexible time between learning outside the classroom through small and individual WhatsApp flipped and classroom discussion should be considered to minimize the inflexible learning effect. The findings also verified that among the seven elements of attitude, engagement and motivation represented the highest response of the two dissimilar cohorts. Consequently, further study investigating the learners' learning engagement and motivation would be worth undertaking.

Acknowledgments

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Appendix

Appendix A. Receptive collocation test

1. Mental health	2. Central class	3. Public opinion	4. Create sense
o Yes	o Yes	o Yes	o Yes
o No	o No	o No	o No
5. Take place	6. Make advantage	7. Related with	8. Interested on
o Yes	o Yes	o Yes	o Yes
o No	o No	o No	o No
9. Full of	10. Talk about	11. Deal to	12. Focus about
o Yes	o Yes	o Yes	o Yes
o No	o No	o No	o No

(Adopted from Gystall (2007) and Suranakkharin (2017))

Appendix B. Productive collocation test
1. You should go to see a doctor if your leg hurts that much. It's just _____ sense!
2. The most dominant _____ parties in the US are the Democratic and the Republican parties.
3. The term "_____arts" is used to refer to the visual arts such as painting and

architecture.
4. If you don't _____ attention now, you will get it all wrong.
5. She usually _____ a lot of her time reading.
6. Susie was unable to _____ part in the game because she wasn't feeling well.
7. Before trying any extreme sports, you need to be aware _____ the great risk involved.
8. The first step towards moving into a happy state of mind is to understand that nobody is more responsible _____ your happiness than you are.
9. It is normal that brothers look very similar _____ each other.
10. If I spend too much money on clothes, I won't have enough left to pay _____ my rent.
11. Jack wants to stay longer in Jakarta but nobody agrees _____ his plan.
12. For thousands of years, people have strong believed _____ supernatural powers.
(Adapted from Gystall (2007) and Suranakkharin (2017))

Appendix C. Learners' attitude towards the flipped using WhatsApp instruction

Element	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
1. Flexibility (a) The flipped learning method via WhatsApp allowed me to view the video lecturers anytime and anywhere.					
2. Learning culture (a) In the flipped instruction, I was encouraged to be responsible for my own active learning.					
(b) I enjoyed learning the target collocations by means of a student-centered approach via WhatsApp.					
3. Material and content (a) The collocation videos helped immense me in the flipped learning environment.					
(b) The collocation video materials helped me fully understand the target collocations.					
4. Instructor (a) The instructor made meaningful connections between the topics in the videos and in-class activities.					
(b) The instructor could engage					

me in the flipped classroom activities via WhatsApp.

5. Engagement and Motivation
   (a) I participated and engaged myself more in learning the target collocations in the flipped classroom via WhatsApp.
   (b) I became a more active learner in the flipped learning environment via WhatsApp.
   (c) I felt more motivated in learning the target collocations in the flipped classroom via WhatsApp.
   (d) The flipped classroom has inspired me to start learning collocations outside the classroom using WhatsApp.

6. Effect
   (a) I think the flipped classroom is effective in learning the target collocations via WhatsApp.
   (b) After the implementation of the flipped classroom, I can use the target collocations more accurately.
   (c) I am satisfied with the flipped learning experience taught via WhatsApp.

(Adapted from Gystall (2007) and Suranakkharin (2017))