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INDIVIDUAL OR COLLABORATIVE *WHATSAPP* LEARNING? A FLIPPED CLASSROOM MODEL OF EFL WRITING INSTRUCTION

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Abstract

Flipped classroom innovation has attracted the attention of English Language Teaching (ELT) researchers to examine its effectiveness. This inquiry, therefore, elaborates on the effect of flipping (i.e. reversing) individual and collaborative instruction using a *WhatsApp* application on the cohesive ability of English as a Foreign Language (EFL) learners as one of the essential elements of writing skills. A quasi-experimental study with a non-equivalent control group and a pre-test/post-test design was implemented to find any significant difference between the two combinations. The first group (N=25) was treated using 5 to 10 minutes of cohesion-based video materials and tasks from the *WhatsApp* group activities of the group members. Meanwhile, the second group (N=25) was treated similarly using individual *WhatsApp* activities. The findings reveal that the mean score from the collaborative group at 66.17 is higher than the mean score of individual ones at 50.19 with a level of significance <0.05. This means that teaching the topic of cohesion in writing using a flipped approach instruction model through the *WhatsApp* group turns out to be more effective than the individual one. The results suggest that teaching cohesion using a flipped approach through collaborative *WhatsApp* learning activities may serve as one of the suitable alternatives to improve EFL learners' cohesion in writing.

Keywords: flipped instruction; collaborative writing; WhatsApp; cohesion

1. Introduction

Presently, classroom teaching utilizing technological tools and applications has become a necessity for teachers to adapt to worldwide challenges in teaching. This phenomenon also occurs in both EFL and ESL teaching models. Flipped classroom as one of the teaching models requiring electronic devices or media has gained considerable popularity among language

teaching researchers (Akçayır & Akçayır, 2018; Arifani, 2019; Hsieha, Wu & Marek, 2017; Nouri, 2016; Suranakkharin, 2017). In EFL teaching, flipped classroom has been increasingly regarded as an important model to improve both teaching quality and learning output, so that it is considered as an alternative instructional model for teachers to implement. Furthermore, Hamdan, McKnight, McKnight and Arfstrom (2013) suggest that the flipped classroom approach has a great impact on the fields of education and technology and may subsequently become a standard for teaching and learning practice. The flipped classroom approach in EFL and ESL settings shapes teaching and learning activities employing technological tools such as playing a video to be watched during the in-class teaching and out-of-class teaching process (Herreid & Schiller, 2013). The requirement of watching a video makes learners take extensive notes based on audio-visual materials and leads to activities autonomously involving either other learners or their own group during out-of-class activities. As Sales (2013) reveals, this type of flipped class encourages students to take responsibility for their learning process when watching videos in order to organize this process all by themselves.

Many researchers agree that student-centered learning theories such as active learning and collaborative learning can be fully accommodated in flipped classrooms (Lin & Hwang, 2016). Bishop and Verleger (2013) claim that student-centred learning realizes several theories encompassing active learning, peer-assisted learning and collaborative learning. These notions provide shreds of evidence that flipped classroom enlivens the teaching and learning process by centralizing the independent and collaborative learning process of the students.

In the context of English language teaching, flipped classroom has also been a major concern for researchers. For instance, Suranakkharin (2017) studied the effect of the flipped-classroom model on Thai learners' knowledge of English collocations, comparing this instructional design with traditional instruction. He found that the traditional approach to studying English collocations and the flipped classroom approach show similarity in terms of scores. He also observed that learners were more joyful and collaborative when they watched the video outside the classroom. This study could yield an unexpected result since the teacher does not actually monitor the flipped class.

Another study conducted by Arifani (2019) indicates that flipped classwork is very effective, as shown by the monitoring process of collaboration between students, whose scores are higher than the ones reached by students receiving individual instruction. Nonetheless, the principal aspect of collaboration remains invisible, especially during the out-of-class activity that cannot be optimally monitored. Moreover, the chat history is not indicated, either. These

two factors do not emerge in the teaching of writing skills when it comes to the specific aspect of cohesion.

Therefore, this current study attempts to investigate whether the flipped classroom model involving small groups via *WhatsApp* used for writing activities in small groups can improve EFL learners' cohesion more effectively than the individual flipped model via *WhatsApp* for individual writing activities.

2. Literature review

2.1. Cohesion

Cohesion deals with the use of linguistic devices that function to join sentences together such as conjunctions, references, ellipsis, substitution and lexical devices (Halliday & Hasan, 1976). This went on to become the foundation or the "grand theory" of Cohesion in English. Cohesion enables written or spoken texts to run coherently and be unified. This is accomplished by stringing words, phrases, clauses, sentences, or even paragraphs together to create relationships among these elements so that the flow of a text shows clarity and logic. As Grabe and Kaplan (2014) state, cohesion encompasses relationships between grammatical and lexical elements in producing written texts. The role of cohesion in writing is crucial. Enkvist (1990: 126) states that "Writing must have surface cohesion as well as overall coherence".

The term 'cohesion' cannot be separated from its counterpart, which is called coherence. These two terms are used all the time to tie together words, phrases or even sentences to create unity of a text or unified whole. However, the two terms are not the same. According to Clark (2006), cohesion is seen when sentences connect. Meanwhile, coherence exists if large parts of the text fit. Coherent writing produces sequential ideas and points logically and smoothly. Arranged cohesively, the relationships of ideas and points across words, phrases or sentences can be easily comprehended. Due to their important role in writing, it is a must for a text to be cohesive and coherent (Harmer, 2001). However, this study focuses its concern only on the cohesion aspect of writing since learners often have problems with using markers to create coherent texts. Markers used to signify reference, substitution, ellipsis, conjunction, and lexical cohesion are handicaps mostly encountered by EFL learners. A study conducted by Cox, Shanahan and Sulzby (1990) shows that the writing quality of EFL learners shows significant relationships with cohesion. Consequently, cohesive writing can assist EFL learners who find it difficult to develop a well-organized text.

Cohesion devices in learners' written assignments need to be assessed appropriately employing a particular assessment tool. Struthers et al. (2013) developed such a cohesion assessment instrument in the forms of a checklist to determine learners' ability to use cohesive devices. This instrument was developed to avoid subjectivity that many people encounter in cohesion scoring. Compared with two existing instruments of cohesive assessment, namely Oral and Written Language Scales (OWLS) (Carrow-Woolfolk, 1996) and Test of Early Written Language (TEWL) (Shanklin, 1989), this instrument is more comprehensive in assessing the cohesive ability of the learners since it attempts to measure five elements of cohesion in detail which could not be accomplished with the two previous models.

2.2. Flipped classroom writing model

Currently, research on education is focusing a considerable amount of attention on demonstrating the analysis of flipped classrooms related to learners' academic performance enhanced by advanced technology. This cannot be denied because the flipped classroom model develops the cognitive strategy of learners such as comprehension, elaboration, retention and information restructuring (Fooladvand, Yarmohammadian & Zirakbash, 2017; Ganbari-Taleb, Yousefi & Bothlani, 2013). The activities carried out following flipped classroom models (such as watching a video, making a presentation and participating in a discussion) prompt learners to actively comprehend, elaborate and transform information among them and substitute the role of the teacher in the learning process. As a result, independent and autonomous learning processes are automatically created. In the flipped classroom model, the teachers involve their students in both in-class and out-of-class activities. Classroom discussion and group activities are formed to build interaction among students as follow-up to activities that take place outside the classroom.

Concerning the practice of the flipped classroom model for writing skills classes/courses, this has been applied to English language teaching not only by way of teaching practice but also as a research object with a variety of research approaches. This implementation involves learners in watching a video and grasping its underlying concept during the out-of-class activity. Learners are subsequently engaged in classroom discussions during the in-class activity (Afrilyasanti et al., 2016; Ekmekci, 2017; Farah, 2014; Leis, Tohei & Cooke, 2015; Ling, 2015). The classes use the flipped model for writing skills providing a consistent framework that is appropriate and relevant for this present study that offers a class based on the flipped learning model that is more lively and involves more interaction during the EFL writing course.

Even though the flipped classroom model has become the object of research in the EFL context by using electronic devices or media, in practice the use of mobile phone applications for teaching writing skills is not yet fully established. Thus, this study has adapted the flipped learning instruction model proposed by Hamdan, McKnight, McKnight and Arfstrom (2013) and Suranakkharin (2017) to occupy the niche.

According to these researchers, there are four major principles in implementing the flipped instruction model. Nonetheless, this study only selected two out of these four. The first one consists of a flexible learning atmosphere where both the *WhatsApp* group and the individual one receive materials about cohesion in the form of a short video with project guidelines via *WhatsApp*. In this situation, the learners discuss the cohesion video materials with their small *WhatsApp* groups and submit their discussion results through *WhatsApp* as well.

This is applied to individual learning in a similar way. The flexible setting in this study was facilitated through the existence of the *WhatsApp* mobile application so that the writing skills teacher can monitor the out-of-class discussion in more flexible ways when compared to the usual flipped classroom model observed in the previous studies. The second principle comprises the intentional linguistic content. The two aforementioned principles serve as a theoretical foundation for the teachers of Writing Skills in applying an effective flipped classroom model for their academic subject. The third principle is language learning culture. It aims to create a learner-centred classroom. In the flipped learning approach, learning materials are delivered through electronic means outside of class session, while in-class time is implemented to construct learners' knowledge and to trigger their active classroom participation in more meaningful activities. Therefore, during in-class time, the learners are exposed to richer English input. Step by step, it will also create English learning culture out-of-class. The last principles deals with professional teachers. In the flipped classroom, teachers are more responsive to provide learners with meaningful and supportive feedback. In addition, learners' linguistic performance and language progress should also be monitored and assessed comprehensively. These activities would create professional English teachers.

2.3. Collaborative learning

Collaborative learning plays a significant role in building the quality of learning that all learners deserve and gives them the same opportunity to acquire it. Collaborative learning (CL) can be defined as a set of teaching and learning strategies promoting student collaboration in

small groups (two to five students) to maximize their own and each other's learning (Johnson & Johnson, 1999).

In the context of the present study, learning in small groups refers to a learning activity involving a small number of learners to bring up a particular issue in EFL settings to encourage or promote the development of learners' responsibility and roles as well as Foster their critical thinking towards their group members. The communicative and social competences of learners are expected to grow and develop through a learning activity in a small group.

Collaborative learning has become increasingly important for contemporary learning environments and the merits of the conventional teaching method can responsively accommodate this environmental learning situation. However, without diminishing respect to the merits of the conventional teaching and learning method, the implementation of collaborative teaching with its small group involvement with either EFL or ESL teachers has been practised on a vast scale considering its significant contribution to teaching and learning to attain better pedagogical outcomes. Several studies indicate that collaborative teaching has shown a positive effect on learners' writing skills (Arifani, 2019; Suranakkharin, 2017) and learners' speaking performance (Muslem, Mustafa, Usman & Rahman, 2017).

The implementation of collaborative teaching through small group learning still needs to be monitored and carried out very carefully since the focus of learners might rely on the communicative aspect instead of the written form. As Hyland (2000) and Liang (2010) suggest, collaboration in writing classes in small groups creates a limited activity where learners only collaborate during the pre-writing activity, and rely on peer correction during the post-writing activity.

Thus, the objective of small-group collaboration in the process of developing writing skills was found to be impractical and ineffective. The discussion activity did not effectively occur as learners tend to form face-to-face collaboration patterns. This present study attempts to cover this weakness by applying *WhatsApp* to build collaborative learning more effectively when it comes to developing the aspect of cohesion in academic writing.

2.4. Individual learning

The concept of individual learning is associated with autonomous learning, independent learning or 'learner-centred learning' that maximizes the ability of teachers, allowing them to use more various methods of teaching than one single method. This, consequently, shifts the role of teachers to become facilitators (Crumly, Dietz & D'Angelo, 2014). The concept of individual learning puts more emphasis on every learner's competence than group target

attainment because of its characteristic that empowers the ability of individuals to experience personal growth in interactions with the world around them, which, in turn, has an impact on knowledge development (Maxinus, 2004: 14).

The role of the teacher in this context is more prominent compared to small group learning. The teacher must ascertain that learners are actively engaged and involved in the teaching and learning process to make learners more autonomous and to assist teachers to achieve the learning objective. Masouleh and Jooneghani (2012) make the point that autonomous learning does not stress individuality but rather emphasizes the way learners interact with other learners in achieving the individual learning objective.

The important aspect of foreign or second language learning consists of the teacher tapping into learners' awareness of their learning styles and strategies to exploit their strengths and to work on their deficiencies. Focusing on individual learning strategies is quite urgent, as found in a study conducted by Farrell and Jacobs (2010), which reveals that awareness of learning strategies makes the learner more successful in language learning.

Moreover, various studies into individual learning have also been reported to enhance the speaking and writing skills of learners. Through the use of individual learning strategies, learners tend to be more active in classroom conversation to share their ideas in classroom discussions and practise writing skills more using computer-aided learning and the flipped model (Afrilyasanti et al., 2016; Chou & ChanLinh, 2015; Sullivan & Lindgren, 2002).

2.5. WhatsApp in language learning and teaching

Lately, applications related to instant messaging and social media have gained great popularity. *WhatsApp* has become one of the most used mobile-based social media with various features offered. Although there are many similar applications available on the market, *WhatsApp* is still a favourite choice for instant messaging. This is due to its collaborative features such as exchange of videos, text messages, images, and voice notes, supporting the interaction of up to 50 group members, along with unlimited messaging, cross-platform engagements, offline messaging, no charges involved, and pins and user names (Annamalai, 2019).

In the context of English language teaching and learning the use of *WhatsApp* has proved to be an effective tool to support language learning. Quantitative research using *WhatsApp* through collaborative learning has shown effective results, leading to the improvement of learners' reading comprehension and essay writing (Castrillo, Barcena, & Martin Monje, 2014; Hazea & Alzubi, 2016). Similarly, a qualitative study conducted by Annamalai (2019) in Malaysia indicates that the use of *WhatsApp* to extend learning in a

blended classroom context positively facilitates students' interaction, academic growth and self-efficacy. However, a negative impact of using *WhatsApp* is also reported from the above quantitative study. The use of *WhatsApp* in essay writing could not facilitate deep learning because it was only applied to change information, tasks, and exam procedures. Therefore, no deep learning gain was reported in the study. Next, a study using *WhatsApp* conducted by Plana et al. (2013) in Spain indicates that the students' motivation and enthusiasm for reading texts in English as a foreign language increased. Although many studies have scrutinized the merits and demerits of *WhatsApp* in EFL/ESL instructions, relatively few studies have investigated the use of *WhatsApp* to monitor collaboration during teaching and learning activities. Therefore, this study aims at elaborating how this mobile application can enhance students' collaborative writing activities during out-class session.

3. The present study

3.1. Research question

As this study is designed to measure the effect of the individual and collaborative *WhatsApp* approach using a flipped instruction model on EFL learners' cohesion, the following question is posed: Will there be any significant difference in the ability of EFL learners' cohesion after the implementation of individual and collaborative cohesion activities in *WhatsApp* using the flipped instruction approach?

3.2. Design

This quasi-experimental design herein is classified as quantitative, involving a non-equivalent control group and pre-test/post-test design. The objective of this study aims to to find any significant difference in terms of mastery of cohesive writing skills between individual and collaborative groups. Two different quasi-designs were classified. The first cohort was categorized as a collaborative group. Each collaborative group was assigned collaborative cohesion activities in their *WhatsApp* using the flipped instruction model. Each group consisted of 4 to 5 learners. The second one was attributed to an individual group. Each learner was assigned individual cohesion activities in his or her individual *WhatsApp* using the flipped instruction model as well. The instructional design for both groups is presented in Table 1.

Table 1. Summary of teaching cohesion in WhatsApp using a flipped approach

Stage	Collaborative cohesion activities in *WhatsApp* using a flipped approach	Individual cohesion activities in *WhatsApp* using a flipped approach
Stage 1: Introduction	1. Students are assigned to create *WhatsApp* groups consisting of 4 to 5 students in each group. 2. Pre-test for both groups	1. Each student is assigned to create an individual *WhatsApp*.
Stage 2: Learning materials	5 to 10 minutes of cohesion-themed videos are prepared for each group. They deal with: 1. Reference 2. Substitution 3. Ellipsis 4. Conjunction 5. Lexical Cohesion	5 to 10 minutes of cohesion-themed videos are prepared for each student. They deal with: 1. Reference 2. Substitution 3. Ellipsis 4. Conjunction 5. Lexical Cohesion
Stage 3: WhatsApp Flipped Implementation (week 1 to 6)	**1. Outside Class** (a) Each week, the teacher sends a cohesion video to the students' *WhatsApp* groups. (b) Discuss the cohesion video from their *WhatsApp* group. (c) Each collaborative group watches and discusses the concept of each cohesion topic from their *WhatsApp* group. (d) Each week, every group completes 10 items of cohesion exercises. (e) Submit the exercise to the teacher's *WhatsApp* each week **2. In Class (60 minutes)** (a) Every week, the collaborative group holds a classroom discussion and makes a group presentation to clarify the cohesion concept and its related exercises. (All 5 collaborative groups make a group presentation) (b) The teacher provides feedback and comments.	**1. Outside Class** (a) Each week, the teacher sends a cohesion video to each student's *WhatsApp*. (b) Each week, every student watches and studies the cohesion video individually. (c) Every student learns about the concept of each cohesion topic individually (d) Each week, every student completes 10 items of cohesion exercise. (e) Each student hands in their exercise to the teacher's *WhatsApp* individually **2. In Class (60 minutes)** (a) Every week, a classroom discussion and an individual presentation are employed to clarify the cohesion concept and its related exercises. A random individual presentation selection is appointed (5 individual presentations are arranged). (b) The teacher provides feedback and comments.
Stage 4: Assessment (Week 7)	Post-test	

3.3. Participants

The population consists of all the seventh-grade learners of *Sekolah Menengah Pertama Muhammadiyah (SMPM) 1 Gresik*, East Java, Indonesia (a private Islamic Junior High School in Gresik) which comprises five classes. Two of the seventh-grade classes had been selected as the sample of the study. To find the two homogeneous classes, the researcher had assessed the English scores reached by the learners using an English placement test designed by the school.

Next, the English teacher was asked to confirm and clarify matters to be convinced of their equivalent English mastery. Based on the above considerations, two classes from 7-3 with 25 learners, and 7-4 with 25 learners, were labelled. The first label of class 7-3 with 25 pupils (11 male and 14 female) was the collaborative cohort, which was assigned collaborative cohesion activities in *WhatsApp* using the flipped instruction approach (henceforth referred to as the "collaborative" group). The second label of class 7-4 with 25 pupils (12 male and 13 female students) was attributed individual cohesion activities in *WhatsApp* using a flipped approach (henceforth referred to as the "individual" group).

Two tests, namely the pre- and post-test, were administered in the study. The researcher prepared a writing test for the pre-test and post-test. During the pre-test and the post-test activities, the learners' writing score was measured using a cohesion rubric adapted from Halliday and Hasan (1976) and Struthers et al. (2013). The elements of cohesion that were assessed comprised reference, conjunction, lexical cohesion, substitution and ellipsis. To address the issue of validity and reliability of research findings, the researcher and the evaluator evaluated the students' writing portfolio and examined their cohesion development. Each evaluator assessed the students' cohesion score using the cohesion rubric (Halliday & Hasan, 1976; Struthers et al., 2013). Cohen's Kappa statistical analysis was employed to measure inter-rater reliability. This ranged from -0.1 to + 1.0.

The collected data were subsequently evaluated and subdivided into three phases. In the first phase, the Kolmogorov-Smirnov normality test was conducted to establish the normality of the data distribution, and a homogeneity test was also administered to determine the variance occurring in the research data. In the second stage, the researcher measured the average score. The pre-test and post-test results from both groups were analyzed to obtain the average score in each writing test. In the next step, a hypothesis test was carried out using a t-test.

3.4. Results

The results of normality and homogeneity of collaborative groups and individual ones were statistically calculated in the following table:

Table 2. Normality tests between the two groups

Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Collaborative Group (CG)	.139	25	.206*	.734	25	.266
Individual Group (IG)	.169	25	.157	.749	25	.159

Group	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Collaborative Group (CG)	.139	25	.206*	.734	25	.266
Individual Group (IG)	.169	25	.157	.749	25	.159

*Significant at $p < .05$.

Table 2 reveals the results of the normality test derived from the collaborative and individual groups. Since the results of the normality test derived from the two groups are beyond Alpha 5% with p= .206 and p= .157, the data from both CG and IG groups have been normally distributed.

Table 3. Homogeneity test

Levene's Statistics	df1	df2	Sig.
2.178	1	67	.146

*Significant at $p < .05$.

Table 3 illustrates the result of the homogeneity test derived from CG and IG groups. Levene's statistical computation amounts to 2.178. Meanwhile, the P-value (sig) from the homogeneity test amounts to 0.146 > .05 Alpha level. Since the result of the p-value is bigger than the alpha level (5%), the data are convincingly homogeneous.

Table 4. Mean score comparison between the two groups

	N	Pre-test Mean	Post-test Mean	Change	Std. Deviation	
					Pre-test	Post-test
Collaborative Group	25	40.72	66.17	22.24	5.30	10.78
Individual Group	25	38.55	50.19	11.64	7.57	12.79
Difference	0	2.17	15.86	+9.60		

Table 4 illustrates the result of the pre-test and post-test mean score comparison between the CG and IG groups. It was found that the learners from the Collaborative Group reached a mean score of 40.72 in the pre-test with standard deviation or SD = 5.30 and the mean score of the post-test was 66.17 with SD = 10.78. On the other hand, the learners who were taught in the Individual Group model reached a mean score of 38.55 with SD = 7.57, and their mean score in the post-test amounted to 50.19 with SD = 12.79.

Table 5. Mean score comparison

	Collaborative Group			Individual Group		
	Pre-test	Post-test	Change	Pre-test	Post-test	Change
Reference	2.37	3.66	1.26	1.86	2.36	0.50
Substitution	2.08	3.24	1.16	1.92	2.34	0.65
Ellipsis	2.14	3.24	1.10	2.07	2.69	0.62
Conjunction	2.34	3.56	1.22	1.64	2.84	1.20
Lexical cohesion	1.70	2.75	1.05	1.02	1.67	0.42
Total score	10.63	16.45	5.79	8.51	11.70	3.39

Table 5 illustrates the mean scores of learners who were taught in the Collaborative Group (16.45) with a mean change score (5.79) that was higher than the mean scores of those learners who were taught in the Individual Group's flipped model (11.70) with a mean change score (3.39) in overall elements of cohesion obtained namely reference, substitution, ellipsis, conjunction and lexical cohesion. It could be said that both collaborative and individual groups' cohesion score gains increased from the pre-and post-test. Although both collaborative and individual groups attained their positive score improvement, the score gain of the collaborative group was higher than those individual ones. This may serve to illustrate that the EFL learners' mastery of Cohesive Writing Skills could be fostered by implementing collaborative *WhatsApp* group (consisting of 4 to 5 learners) activities using the flipped instruction approach.

More specifically, the finding for the collaborative group indicates that out of all five cohesion elements, the reference topic proved to be the most familiar for the learners. This is why their reference score reveals the highest score gain (1.26) among the other cohesion elements. Meanwhile, learners' scores gains in the category of lexical cohesion are the lowest among the other cohesion elements (1.05). This indicates that lexical cohesion was the most problematic topic for them to grasp. It could be asserted that the collaborative *WhatsApp* group significantly contributes to the score improvement of the English reference and conjunction categories in developing Cohesive Writing Skills.

On the other hand, the results of the individual group indicate that out of all five cohesion elements, the topic of English conjunctions proved to be the most familiar for this group. Therefore, the score gain in this particular category ranks as the highest among other cohesion elements (1.20). Conversely, in the individual group, the topic of English lexical cohesion is considered to be the most challenging topic for its members. As a result, their score gain on lexical cohesion is very low (0. 42). This indicates English lexical cohesion is the most

problematic for this individual group as well. It could be affirmed that the individual *WhatsApp* activities significantly contribute to the score enhancement in the categories of English conjunctions and substitutions.

Table 6. Independent t-test results

	Levene's test					
	F	Sig	T	Sig. (2-tailed)	Mean Score	Mean Difference
Equal variances assumed	2.157	.146	5.028	.000	66.17	15.86
Equal variances not assumed			5.049	.000	50.19	15.86

Table 6 illustrates the results of an independent t-test. As evidenced in the above table, at the significance level (sig. 2-tailed) .000 < 0.05 H_0 is convincingly rejected and H_a accepted. It could be explained that there was a significant difference between the cohesion test results of learners who were taught collaboratively using the flipped instruction approach in *WhatsApp* group activities compared to the cohesion scores attained by learners who were taught using individual ones.

4. Discussion

The present study aimed at drawing a comparison between the effect on EFL learners taught using the collaborative *WhatsApp* model and the individual *WhatsApp* model (both adopting the flipped instruction approach) in activities to develop Cohesive Writing Skills. The results reveal that the EFL learners who were taught video materials on cohesion using the collaborative *WhatsApp* model achieved significantly higher scores than those using the individual *WhatsApp* model. The results also show that EFL learners' post-test scores for writing skills within the collaborative *WhatsApp* groups are statistically higher than their pre-test scores. The result of the study provides different notions toward the implementation of the flipped classroom wherein the traditional flipped approach video discussion and task activities carried out outside the classroom are accomplished through face-to-face discussion. One of the potential limitations is that when one of the learners cannot attend the face-to-face discussion model because of non-academic factors such as inclement weather, distance, or even limited time for the discussion meeting, the flipped classroom model will be far from optimal. Therefore, based on this study, by combining the flipped approach using the *WhatsApp* application, learners can discuss the video through their *WhatsApp* group without any boundaries or obstacles.

WhatsApp collaborative instruction is highly advantageous for its ubiquitous merits. In the experimental study of Suranakkharin (2017) on the collocation mastery of Thai EFL learners using a traditional flipped approach, the mastery of English collocations achieved by

Thai EFL learners who had been taught using the flipped classroom approach had significantly increased. Ironically, neither the experimental nor the control group responded positively to the flipped classroom model. One of the possible causes is the limitation of the traditional flipped classroom model in the out-of-class discussion and task activities. By applying the flipped approach using *WhatsApp* in this study, the researcher affirms that *WhatsApp* affords more flexible and unlimited space (without boundaries) in the out-of-class activities. In short, the learners' autonomy can also be enhanced through the *WhatsApp* mobile application in teaching Cohesive Writing Skills. Alzubi and Singh (2018) investigated the impact of social strategies using a smartphone on EFL Saudi learners' socio-cultural reading autonomy. The result of the study reveals that the implementation of smartphone applications promotes learners' reading autonomy.

It is also evident that the collaborative *WhatsApp* group writing activities support key principles in effective collaborative learning in the flipped writing class. As proposed by Raja and Saeed (2012), Arnold-Garza (2014), and Hazea and Alzubi (2016), the principle of collaborative learning, the flexibility of the flipped model and *WhatsApp* were the foundation for the current research. The flipped model through *WhatsApp* media allows the learners to view the concept of cohesion by way of lecture videos through their *WhatsApp* including reference, substitution, ellipsis, conjunction and lexical cohesion resulting in more flexible, dynamic and interactive classroom activities. Consequently, this leads to a higher level of ability in Cohesive Writing Skills among Indonesian EFL learners. Reports of this nature have been provided by several researchers. For example, Afrilyasanti et al. (2016) report that a flipped model situation enables EFL learners to succeed in writing using computer-aided flipped learning conditions.

Regarding collaborative learning, it seems that the small group *WhatsApp* flipped model in writing instruction has a positive effect on learning about cohesion. This result corresponds with the findings of Muslem et al. (2017) in the study of small group and individual learning approaches. These researchers claim that small group learning activities make a stronger impact on the speaking performance of EFL learners. However, it is challenging to determine how strong the impact of the collaborative learning in small groups is and whether it directly affects the learners' mastery of cohesion in writing. Besides, a previous study (Muslem et al., 2017; Raja & Saeed, 2012) demonstrates that collaborative learning has a positive effect on mastering English. The implementation of small group activities fosters the speaking ability of the group members because they can interact and share their ideas with others during the learning process in meaningful ways. It is also implied that collaborative *WhatsApp* activities outside the

classroom assist the learners' ability to write and speak cohesively. In the small group discussions about writing, the learners can discuss, share ideas, explore the concept through video and reflect on their thoughts so that their critical thinking can be fostered as well.

Writing materials specifically discussing elements of cohesion such as reference, substitution, ellipsis, conjunction and lexical cohesion derived from the flipped model via *WhatsApp* make a beneficial impact on the learners' development of cohesion. The finding of this study corresponds with that of Suranakkharin (2017), who used flipped instruction to develop the learners' mastery of English collocations. This researcher concluded that learning materials that have been designed based on the flipped model produces a positive impact on the way EFL learners perceive the learning situation and how they are exposed to the process of learning in more flexible and ubiquitous ways. The finding implies that the Cohesive Writing Skills materials or sources designed concerning video lectures and exercises through a *WhatsApp* mobile phone application greatly assist learners in the learning proces every time and everywhere, both inside and outside of the class time schedule.

More specifically, as shown in Table 4 above, the EFL learners attained the lowest mean scores in the category of mastering lexical cohesion. The result also illustrates that out of the five elements of cohesion (reference, substitution, ellipsis, conjunction and lexical cohesion) lexical cohesion ranks as the most difficult aspect of cohesion. This finding is supported by Suranakkharin (2017), who remarks that collocation mastery is one of the most difficult central aspects of communicative competence to express ideas fluently and accurately among Thai undergraduate learners. This is due to the fixed patterns of lexical cohesion in the native English context, whereas most EFL learners study English in a different setting and context. Consequently, it is quite difficult for them to produce proper lexical cohesion in their writing. This study offered EFL learners a chance to learn lexical cohesion from the video lecture shared by the teacher via their *WhatsApp* so that they could learn about lexical cohesion more authentically and obtain the real contexts of lexical cohesion.

5. Conclusion and recommendations for the future

This research was conducted to compare whether the learners taught by flipped models involving small groups via *WhatsApp* with writing activities carried out by small groups turn out to be more successful in writing cohesive paragraphs in terms of reference, substitution, ellipsis, conjunction and lexical cohesion than those taught according to the individual flipped model via *WhatsApp* with different writing activities. Overall, the findings reveal that learners'

scores for this category of Cohesive Writing Skills improved significantly. The results also demonstrated that learners who were taught using the flipped model involving small groups via *WhatsApp* performed better than those trained using the individual flipped model via *WhatsApp*.

It is recommended that the teacher of Writing Skills should implement the combination of the flipped classroom approach and *WhatsApp* as a supporting learning medium through small group discussion models in the teaching and learning process and should integrate this combination with the regular EFL/ESL curriculum. The findings also show that the learners reached the lowest score in the cohesion category based on lexical cohesion (word reiteration, superordinates, synonyms and collocations). Those lexical cohesion elements were considered to be the biggest stumbling-block. Consequently, further research to investigate one of the aforementioned lexical cohesion elements would be worth conducting.

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