How English Foreign Language Students' Autonomy and Digital Competence Relate to Their Writing Achievement

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Abstract: This study aimed to examine the correlation between learner autonomy, digital competence, and writing achievement. It involved 92 first-year English as a Foreign Language (EFL) students who were enrolled in an intensive course (IC) program of the English department of a state university in Indonesia. This study used three types of data: learner autonomy level elicited by using a questionnaire, digital competence level elicited by using a questionnaire, writing scores that were obtained from the coordinator of the IC program. The research methodology used in this study was quantitative research. The bivariate Spearman correlation was applied to know the correlations between learner autonomy and writing achievement and the correlation between digital competence and writing achievement. The multiple linear regression was computed to examine the correlation of the combination of learner autonomy and digital competence towards writing achievement. The results of the study confirmed that learner autonomy was strongly correlated with writing achievement and digital competence was moderately correlated with writing achievement. The result also showed that there is a statistically significant correlation between a combination of learner autonomy and digital competence towards writing achievement. Therefore, pedagogically, teachers of EFL writing are suggested to promote autonomous learning and at the same time, use technology to foster EFL students' writing achievement.

INTRODUCTION

Substantially, the outcome of writing achievement contributes to academic performance (Kyle & Crossley, 2016). In fact, for English foreign language (EFL) students, particularly in Indonesia, achieving higher writing performance is the most challenging aspect in language learning (Aunurrahman et al., 2017; Sihombing et al., 2015). Hidi & Boscolo (2007) states that writing achievement, in simple terms, is the level of students' self-efficacy of using various strategies to shape their writing attitude.

In upgrading writing achievement, several attributes can be involved to support a better writing learning process. Learner autonomy and digital competence are two essential attributes in the language learning process in this era of development of information and communication technology (ICT) nowadays (Alkan & Meinck, 2016; Beseghi, 2018; Cömert & Kutlu, 2018; Kim, 2014; Wilde, 2014; Yuliani & Lengkanawati, 2017). In language learning, in particular, autonomy and digital competence lead students to effective mastery of language skills

(Ayllón et al., 2019; Beseghi, 2018; Rohatgi et al., 2016). As far as concerned, students' autonomy can be understood as the degree of students taking control of several factors such as pace, time-frequency, the topic of interest, method of learning, and goals in the learning process (Benson, 2011). Figure 1 shows Benson defining autonomy as the capacity to take control over learning.

Another attribute attempts to digital competence that is the ability, literacy, and behavior of students in using digital media in the learning process for educational purposes (Hatlevik et al., 2015). Figure 2 shows the framework of digital competence.
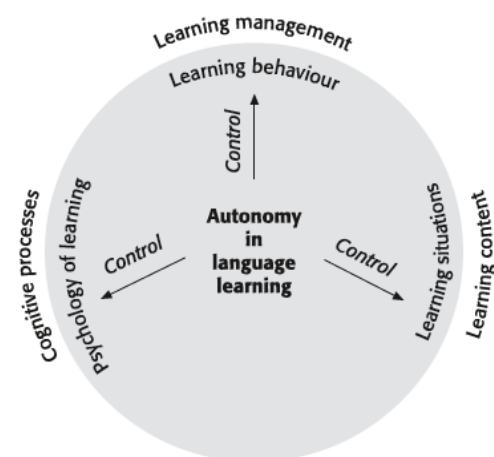
Figure 1. Dimensions of Autonomy (Benson, 2011)
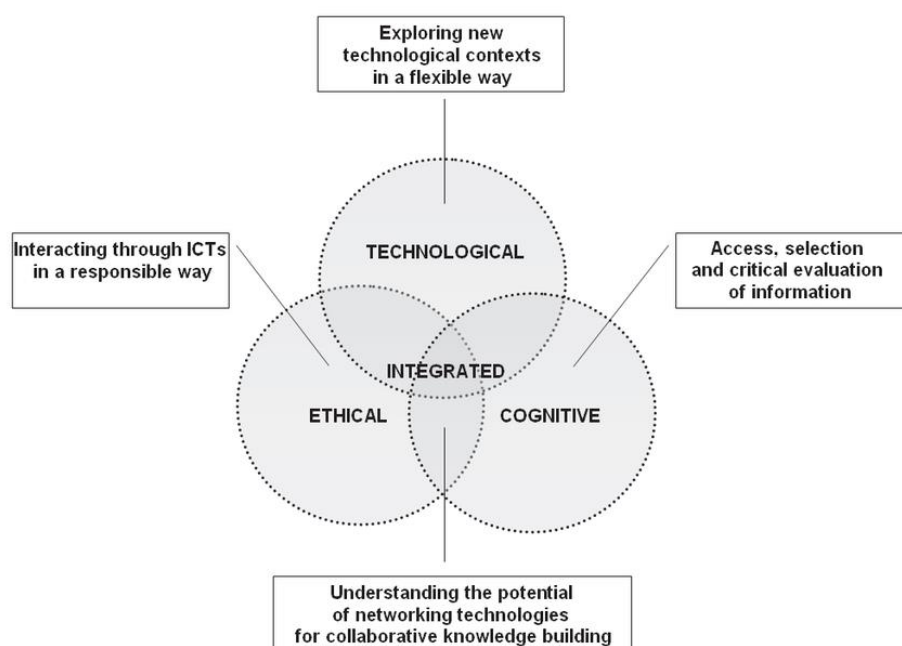
Figure 2. Digital Competence Framework (Calvani et al., 2009)

Figure 2 shows how the interdependence of three dimensions and their integrations (Calvani et al., 2009). Hence, the immense potential for autonomy and digital competence in every learner should not be neglected in the teaching and learning process.

Over the past few decades, specifically, much emphasis has been put on learners' autonomy towards the achievement (Amiri & Sharifi, 2014; Boyadzhieva, 2016; Ding & Stapleton, 2016; Tran & Duong, 2018). More recent research on autonomy orientates to examine the connection between learner autonomy and achievement in learning. A large scale study conducted by Ghorbandordinejad and Ahmadabad investigated 400 Iranian EFL students' autonomy level in secondary school and their achievement by considering foreign language classroom anxiety mediation. Their research indicated that there is a positive relationship between learner

autonomy and English achievement (Ghorbandordinejad & Ahmadabad, 2016). The more recent correlational study involving 630 Saudi Arabian EFL students reported a significant positive correlation between students' autonomy and their achievement. The students who reach a high score tended to have a high degree of autonomy and vice versa (Alrabai, 2017). Thus, the studies provide valuable insights into the potentiality of autonomous learners to succeed in the learning process.

Following the importance of autonomy in learning, Previous research suggested that it was beneficial to encourage students to use technology outside the class (Camilleri et al., 1999). The limited-time for learning in school should not be a problem for students and teachers today. In line with Camilleri, the previous study confirmed that students who have digital competence would effectively develop their autonomy for lifelong learning. Also, technology can accommodate learners' needs or modify their behavior toward their best strategy in learning (Echenique et al., 2015).

Several previous research has also found a significant influence between digital competence and language learning achievement (Alkan & Meinck, 2016; Hatlevik et al., 2018; Juhaňák et al., 2019; Rohatgi et al., 2016). These scholars believe that with digital competence, students have better achievement than students with lower digital competence (Rohatgi et al., 2016). In line with other studies, Juhaňák et al. (2019) state that students whom confidence with their digital competence will relish and endure challenges in learning. Another research finds that the more successful students might receive beneficial use of technology (Hatlevik et al., 2018). Together these results provide important insight into the linkage between digital competence and learning achievement. However, the research subjects in previous studies (Alkan & Meinck, 2016;

Hatlevik et al., 2018; Juhaňák et al., 2019; Rohatgi et al., 2016) were primary and secondary students. Thus, there is a need to understand the relationship of digital competence and learning achievement involving various subjects in the EFL context, such as adolescents or intermediate learners at the university level. Hence, the level of the students in the previous study was different from this current research.

Following the important role of autonomy and digital competence, numerous research on EFL writing has led to renewed interest in the transformation of the way students compose and write (Andina et al., 2019; Boudjadar, 2014; Widiati & Cahyono, 2016). Digital competence is considered a prominent factor to implement technology to enhance writing skills (Hatlevik et al., 2015). Technology provides a vast potential for students to access various resources in composing a writing product (Boudjadar, 2014). Also, providing various relevant sources would likely be helped students to improve their composition writing (Ilahiyah et al., 2019). Nevertheless, research on the relationship beyond autonomy, digital competence, and writing achievement is relatively rare in the EFL context. Particularly in Indonesia, this current research will shed light on the potential of autonomy, digital competence to promote writing achievement.

This current research seeks to obtain data that will help to address these research gaps. Three primary aims of this study are formulated into the following research questions: 1) To investigate any correlation between EFL students' autonomy level and their writing achievement, 2) To ascertain any correlation between EFL students' digital competence and their writing achievement, and 3) To discover any correlation between the combination of EFL students' autonomy level and digital competence and their EFL writing

achievement. The results of this current research showed the degree of relationship between students' autonomy, their digital competence, and writing achievement.

METHOD

This study applied a correlational design. It was employed in one of the universities in Malang, East Java, Indonesia. The population was all students enrolled in the academic year of 2017/2018 in the English department of the university. The sample of the study was taken by using non-proportional stratified random sampling from a total of 320 students. Considering the homogeneity of the population, the first-year EFL students were chosen in this study. Ninety-seven students consisted of 25 (27.7 %) male students and 67 (72.3 %) female students who were enrolled in the writing class as part of the intensive course (IC) program.

Students' writing achievement was obtained from students' writing scores in the IC program. The writing test was compulsory at the end of the program. The students were asked to write a 200-word essay with a self-selected topic. The students' essays were assessed based on five criteria consisted of content, organization, word choice, grammar, and mechanics (Jacobs, 1981). After the writing test administration, each participant was given two questionnaires. To measure the autonomy level, the questionnaire was adopted and modified from the language learner autonomy in tertiary-level learners' of English developed by Dixon (Dixon, 2011). The questionnaire contains 15 questions and covers four dimensions (control, strategies, confidence, and behavior), focusing on writing.

The digital competence questionnaire was adopted and modified from version II of the technology implementation questionnaire developed by the Centre for the Study of Learning

Performance (CSLP) at Concordia University, Montreal, Canada. Although the instrument was addressed to teachers, the process of integrating the technology section was also appropriate for students (Lowerison et al., 2006). The questionnaire consisted of 20 items that represented instructional, communicative, organizational, analytical, recreational, expansive, expressive, creative, evaluative, and informative dimensions. Both questionnaires were administered through an online questionnaire with informed consent to the 97 students and 92 of them completed and returned the questionnaires. Since the design of the study was partial correlational design, the bivariate Spearman and multiple regression were utilized by using Statistical Package for the Social Science (SPSS) 22 to analyze the result.

RESULT AND DISCUSSION

The results of the study are presented according to the order of the research questions.

Correlation between Learner Autonomy and Writing Achievement

A Spearman's rho was used to examine the correlation between learner autonomy and writing achievement. The result of the analysis is presented in Table 1.

Table 1. Correlation between Learner Autonomy and Writing Achievement

Spearman's rho			
Writing Achievement	Correlation Coefficient	1.000	.800**
	Sig. (2-tailed)	.	.000
	N	92	92
Learner Autonomy	Correlation Coefficient	.800**	1.000
	Sig. (2-tailed)	.000	.
	N	92	92

**Correlation is significant at the 0.05 level (2-tailed

Table 1 shows that there is a strong positive correlation between learner

autonomy and writing achievement (r = 0.800). In other words, the higher the level of learner autonomy to learn writing, the better their writing achievement. The score of the p-value (0.00) is less than α value (0.05).

Correlation between Digital Competence and Writing Achievement

Spearman's rho also was used to analyze the correlation between digital competence and writing achievement. The result of the analysis is shown in Table 2.

Table 2. Correlation between Digital Competence and Writing Achievement

Spearman's rho			
Writing Achievement	Correlation Coefficient	1.000	.443**
	Sig. (2-tailed)	.	.000
	N	92	92
Digital Competence	Correlation Coefficient	.443**	1.000
	Sig. (2-tailed)	.000	.
	N	92	92

**Correlation is significant at the 0.05 level (2-tailed

Table 2 depicts that there was a moderate relationship (r = 0.443) between the capability of using technology in writing and writing score. In other words, the more capable of students in using technology, the higher their writing scores.

Correlation between Learner Autonomy and Digital Competence towards their Writing Achievement

Multiple regressions were carried out to determine whether writing achievement could be predicted from learner autonomy and their digital competence. The result of the analysis is shown in Table 3.

Table 3. ANOVA Output from Regression Analysis

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2656.61	2	1328.31	56.73	.000[b]
	Residual	2083.68	89	23.41		
	Total	4740.30	91			

a. Dependent Variable: Writing Achievement
b. Predictors: (Constant), Learner Autonomy, Digital Competence

Table 3 presents the result of the ANOVA F-test, which indicated that the null hypothesis was rejected. In other words, 55.3 % of the variance in writing achievement is explained by learner autonomy and digital competence. The F-test (56.736) is higher than F-table (3.10), meaning that the model explained had a highly significant amount of the variance in writing achievement. The result of the p-value (0.00) is lower than the α value (0.05). It can be seen that there was a simultaneous relationship between the combination of learner autonomy and digital competence towards writing achievement.

The result of further analysis is presented in Table 4, which revealed the coefficient between learner autonomy and digital competence.

Table 4. Unstandardized and Standardized Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.25	6.93		2.05	.043
	Digital Competence	.025	.045	.039	.55	.481
	Learner Autonomy	.705	.066	.749	10.65	.000

a. Dependent Variable: Writing Achievement

As shown in Table 4, the coefficient of learner autonomy (0.00) is less than 0.05. However, the coefficient of learners' digital competence (0.481) is higher than 0.05. Thus, while the combination of learner autonomy and digital competence is correlated with writing achievement, learner autonomy contributes more than digital competence in predicting the correlation.

This study has examined the relationship between 1) learner autonomy and writing achievement, 2) digital competence and writing achievement, and 3) the combination of learner autonomy and digital competence towards writing achievement. Therefore, this study offers some significant theoretical and practical contributions. Several previous studies revealed the relationship between learner autonomy and writing achievement. The current study found that the higher level the learner autonomy to learn writing, the better their writing achievement. This result confirms the previous research, which revealed a moderate positive relationship between learner autonomy and writing ability (Bazrafkan & Bagheri, 2014).

A previous study showed that there is a positive effect of learner autonomy towards students' writing achievement (Masita, 2016). She found that higher learner autonomy is critical to enable students to achieve a better score in writing. The finding has an important implication for promoting learner autonomy in the teaching and learning process of writing, as verified by Cömert and Kutlu (2018). In other words, developing autonomous language learning is necessary to improve the quality of teaching and learning. Another important practical implication is that selecting proper methodologies and techniques to create an autonomous learning environment might be valuable for an effective teaching and learning process. Figure 3a is one of the examples of a learner's composition in which the writer has less autonomous and Figure 3b is one of the examples of a learner's writing which the writer has more autonomy.
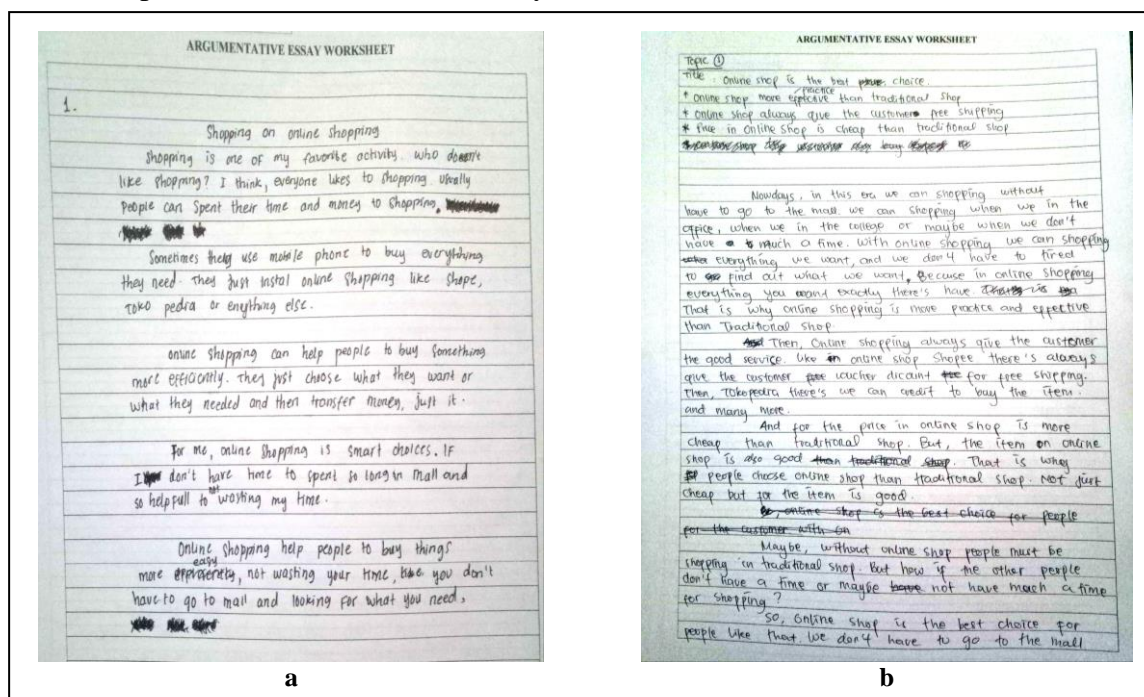

Figure 3. Learner's Writing Product

Numerous studies investigating digital competence and achievement have been carried out on a correlational study. The result of the study indicates that the

decisive point on the moderate value of the relationship between students' capability in using technology and their writing score. It is assumed that the digitally literate students are the students who can use appropriate technology to help them in writing a composition. It demonstrates the students who can navigate the educational technology for writing; are likely to will achieve great accomplishments in writing. Figure 4a is one of the examples of a learner's composition in which the writer has a lower capability score in digital competence and figure 4b is one of the examples of learner's writing in which the writer has a better capability score in digital competence.
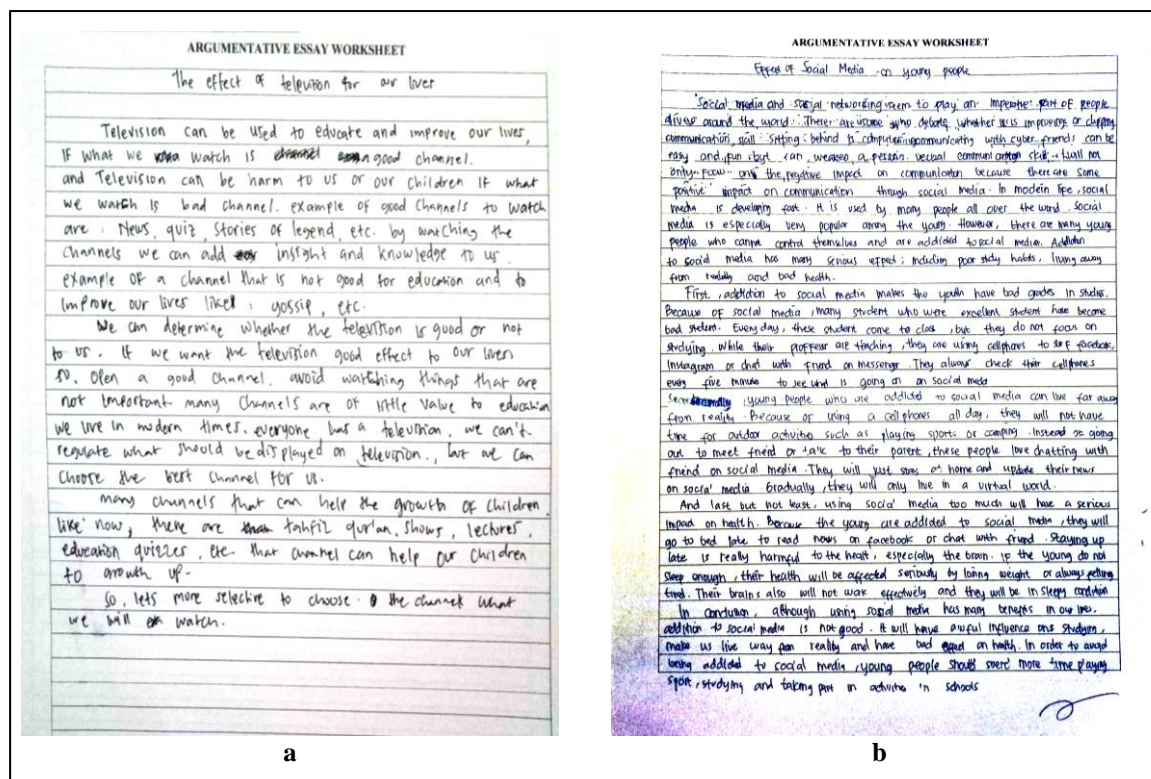

Figure 4. Learner's Writing Product

This finding further supports the idea that there is a link between technology and writing achievement, in which the previous study found a minimal relationship with it (Sisco & Thomas, 2008). In contrast, the present study revealed a moderate relationship between students' digital competence and writing achievement.

However, the previous research finding Sisco and Thomas (2008) found that there is no statistically significant relationship between the capability of using technology and students' writing score. Further, they attempted to focus on secondary students (Sisco & Thomas, 2008). One of the issues that emerge from these findings is the maturity of students in integrating technology in learning writing. From the finding of the present study, it can be assumed there is a different result of the relationship between digital competence and students' writing achievement in secondary and higher levels. There is ample room for further progress in determining other levels of students.

Several research studies proved that there is a close relationship between learner autonomy and digital competence in students' writing achievement. Some prior studies revealed that the contribution of learner autonomy and technology had accomplished better writing achievement

(Janfaza et al., 2014; Tan-Ooi, 2013). The present study also demonstrated that there was a positive correlation between the combination of learner autonomy and digital competence towards writing achievement.

CONCLUSION

The results revealed that there is a strong correlation between learner autonomy and writing achievement, and there was a moderate correlation between digital competence and writing achievement. Besides, there was a significant correlation between the combination of learner autonomy and digital competence towards writing achievement. It shows that when students get better with digital tools, they can experiment more with the writing style and thus become better writers.

In light of these findings, EFL teachers are recommended to consider encouraging or training the students to enhance their autonomy, and digital competence while teaching writing. Accordingly, both learner autonomy and digital competence play essential roles in the successful learning of writing. In learning to write, in particular, the students need to be trained in using appropriate educational technology, which promotes learner autonomy to achieve good writing. However, these findings are limited by the use of a quantitative research design. It is recommended to further study to examine more closely the linkage of learner autonomy, digital competence, and writing achievement.

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