

DEVELOPING LEARNER AUTONOMY IN WRITING THROUGH THE USE OF E-PORTFOLIO

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Abstract: Learner autonomy is mandated to be developed by the newest Curriculum of 2013. This research explored the use of E-Portfolio to develop learner autonomy especially in the area of learner involvement, reflection, and target language use. The mixed method design involving the quantitative and qualitative data was used in this research. The data itself was collected in the naturalistic settings of two vocational high school classes. The two classes were taken from the population which consisted of 440 participants. Inventory tests were specifically designed to measure changes in the participants both before and after a writing program applying e-portfolio documents was given. Meanwhile, document analysis was used to indicate the development of learner autonomy in writing. The results of the initial inventory test show that the profile of initial autonomy development of the population was moderate which indicates that the participants had not yet reached the optimum capacity to carry active involvement, reflection, and target language use in writing it means that a type of preventive intervention such as that of e-portfolio was needed. Whereas, the results of the intervention or experimental study and document analysis suggest that there was an improvement regarding the degree of learner autonomy development. In this case, the results indicated that the requirements of the e-portfolio for the participant to constantly use the target language may have possibly supported the initial autonomy development in writing, while the participants' independence in deciding aspects of writing in the e-portfolio may play a role in supporting the constructs of learner autonomy especially in terms of learner involvement, and lastly, the segment of learner reflection provided in the e-portfolio may have a critical role to play in the subsequent learner autonomy development of the participants.

Keywords: *learner autonomy; writing; e-portfolio.*

INTRODUCTION

In Indonesian context, learner autonomy is encompassed as an integral part of attitudinal or social competency and acknowledged in the educational policy number 65 and 66 Year 2013 (Curriculum of 2013, National ministerial regulations of education and culture, 2013; Marhaeni, 2015). Besides the requirement of nurturing and measuring learner autonomy as stated in the 2013 Curriculum, nowadays, it is also found that the all-sudden shift of language curriculum due to the spread of Corona Virus from what was initially face-to-face to online learning, the absence of the teachers' direct presence, and the more restricted form of socialization among class

members, have further escalated the demand for inserting the construct of learner autonomy in the teaching and learning process. The teaching and learning process of English writing is no exception.

Numbers of research also support the importance of fostering learner autonomy in foreign language learning especially during the crisis of Pandemic Covid-19 (Zhang, Zhang, & Zhang, 2021). They acknowledge that the lack of support on developing learner autonomy at this time of crisis where students are obliged to study more independent through online media is the source that can create a tendency for the students to be unmotivated and passive in learning the writing material online. In such a case, the lack of learner autonomy can be

determined as an initial step toward the failure of gaining success in learning English writing especially through online media (Müller & Goldenberg, 2020). Therefore, it can be concluded that finding a learning model that can develop learner autonomy that can be used adaptively both online or offline is critical.

Referring to its definition, learner autonomy is reckoned as the students' capacity to take responsibilities and make decisions concerning aspects of their learning both in online and offline situations. In either situation, the capacity itself always encapsulates two major constructs, namely ability and awareness as originally declared by Little (1991). Ability refers to as the learners' active involvement for planning, monitoring and evaluating the process of online or offline learning activities. Meanwhile awareness reflects the psychological construct of the learner to make critical reflection over their learning both offline and online. Many experts specify that the learners who are autonomous in their learning are those who are able to employ their ability for making independent decision, action, critical reflection (Lengkanawati, 2017; (Hedry, 2020). To sum up, from the definition of learner autonomy above, it can be deduced that there are three principles that should be applied in the process of developing the growth of learner namely; constant target language use, active learner involvement, and reflection.

It is stated that finding and possibly testing a model of online learning that can measure and nurture learner autonomy is as urgent as determining the construct of learner autonomy itself (Thanh Loan & Tan Tin, 2016). One of the promising examples that is adaptable for both offline and online learning would be the use of e-portfolio (Al-Qutaiti, Ahmed, & Mohin, 2020). E-portfolio is a model of learning that can nurture and measure many competencies including autonomy of the learners. Through the use of e-portfolio, learners are directed to use their experience as a source of learning, thus they can be directed to gradually take control over their learning, in other words, becoming autonomous learners (Obaid, 2020).

E-portfolio is defined as a purposeful collection of the students' works that exhibits the efforts, growth, and achievements of the students in language skills such as writing (Choi & Lee, 2020). The addition of the word "e" in the e-portfolio refers to as electronic. In e-portfolio, the collection

of the students' work is provided in a form of electronic file. The file can be further saved in online media such as e-learning or can also be printed as needed. The way of saving students' writing electronically provides many benefits, one of which is the ease for sharing the material among the teacher and the class members. This way, the flow of information or knowledge is expected to be much smoother. E-portfolio enables to show the development of learner autonomy (Obaid, 2020). It is asserted that in order for the e-portfolio to be able to exhibit the intended goals then the e-portfolio itself should at the very least includes three major components namely; inventory writing tasks, self-assessment/ self-reflection and showcase (Thanh Loan & Tan Tin, 2016). All of these three elements are interrelated and are meant to support the growth of the constructions of learner autonomy (constant TL use, learners' active involvement, and reflection).

Writing inventory task is the first component of the e-portfolio. In the inventory task, the students can save a set of self-selected writing samples. Ideally, it is stated that the self-selected sample in inventory task should illustrate the students' accomplishment of the standard and educational goal so that the growth of learner autonomy can be in line with the expectation of the curriculum. The inventory task leads the students to get involved more in the writing process and it reflects one of the principles of developing learner autonomy, namely active involvement or decision making process (Cakici, 2017). Self-reflection is the other component of e-portfolio. Self-reflection refers to written justifications that the students made regarding the selections of the writing samples in the inventory tasks. At this stage, students will judge their own work as well as reflecting on their strategy of completing the assignments/works given to them. The self-reflection is given periodically throughout a semester of completing the e-portfolio. Self-reflection mirrors the second principle of the promotion of learner autonomy, namely reflectivity (Yang, 2021). Showcase is the last component of the e-portfolio. Showcase is an activity that students conduct in order to inform publicly to their peers and teachers regarding their work in the inventory writing tasks. E-portfolio enables its user to be much freer with their selection of showcasing their work. This means that it can be saved in a form of audio, video, or any other form of multimedia. This

component is meant to reflect the last principle of learner autonomy, namely target language use (Zhang et al., 2021). Again, the above components of the e-portfolio are selected and arranged in order to create an environment where students can gradually involve and reflect upon their own writing development.

Based on the rationale above, it can be assumed that applying the use of e-portfolio especially at the crisis of Pandemic Covid-19 is critical (Müller & Goldenberg, 2020). E-portfolio is predicted to be able to nurture and measure the construct of learner autonomy although there is restriction in teaching and learning process. Thus, this research investigated the use of e-portfolio by applying it as a classroom intervention so that the effectiveness of e-portfolio in developing learner autonomy in writing can be revealed. It is stated that when a program is projected over a course of time then it may be able to provide direction for the students to exercise their innate ability to become autonomous learner by continuously getting involved, reflect, and use target language more in their learning.

Additionally, it is also revealed that implementing e-portfolio is also in line with the assumption of reciprocal determinism in which there is a connection in among individual, behavior and environment (Behforouz & Frumuselu, 2020). This means that when individuals are provided with suitable learning environment that can support their initial ability to becoming autonomous then they will shift their behaviour accordingly (Wiraningsih & Santosa, 2020). Therefore, referring to the aforementioned aims then the research questions are as follow: (1) How is the profile of learner autonomy of the population? (2) To what extend does the e-portfolio develop the construct of learner autonomy in writing?

METHOD

Referring to the nature of the research questions, then, a mix method design which combines both quantitative and qualitative data were used

(Creswell & Creswell, 2018). In this research the data were gathered by quantitatively employing Non-equivalent Pre-test -Post-tests Control Group Design and by qualitatively using document analysis. The first research design indicates that in order to gain the data needed there were two kinds of test required. The tests were aimed in order to find out whether the intervention, in this case the e-portfolio, could cause a significant difference in regards to the autonomy development of the participants. Meanwhile the document analysis was conducted as a form of collecting qualitative data. The document analysis was administered once the e-portfolio programs were completed as it was intended to depict the development of the learner autonomy in specific area of writing skills (Cohen, Manion, & Morrison, 2018).

The population of the research was consisted of 440 tenth graders of vocational high school. The pre-test on learner autonomy was administered to all of the population of the research so that two intact groups that relatively had the same level of autonomy could be taken as the samples of the research. The participants were selected on the basis of purposive sampling using intact group technique (Leavy, 2018).

The first class (Class A) was consisted of 39 students. This class got a pre and post-test and was exposed to the use of the e-portfolio program. The other class (Class B) was consisted of 30 students. This class took a pre and a post-test followed the regular learning program. The two classes were selected as the sample of the research since they have a particularly equal degree of initial autonomy development. The initial equality of the samples is paramount as it controls the validity of the research. Several sources also confirm that the more similar the groups in their recruitment and the more this similarity is confirmed by the score of pre-test , then, the more valid the interpretation of the research becomes (Leavy, 2018). The initial autonomy development of the two classes is as follow.

Table 1. *The initial autonomy development of the samples*

Class	Number of Students	Mean Scores
Class A	39	34,00
Class B	30	34,07

Research instrument

In order to gather the data about the use of the e-portfolio in developing learner autonomy, then

inventory tests were administered to the e-portfolio class and the e-portfolio free class. The inventory tests were in a form of questionnaire that consisted

of attitudinal measures (Nguyen & Habók, 2021). Three pedagogical principles for learner autonomy development namely Learner Involvement, Increase English Use, and Learner reflection were used as a basis for developing the questionnaires. The construct of the inventory test was adapted from Loan and Tin (2016). In addition, the principles of the learner autonomy were also adjusted as it is aimed to reflect the development of the students’

writing skills. In the questionnaire, there were 27 items which belonged to the aspect of Active Involvement. The aspect of active involvement captures three interrelated sub-aspects namely planning, monitoring, and evaluating. The other 8 items were constructed to reveal the degree of the Target Language Use. Lastly 10 items were aimed to capture the effort of the students’ reflection in writing as shown on the Table 2.

Table 2. *Specification of the research instrument on learner autonomy*

Aspects	Sub-Aspects	Number of Item
Learner Involvement	Planning	27
	Monitoring	
	Evaluating	
Reflection	Metacognition	8
	Metalinguistic	
Target Language Use	Spoken	10
	Written	
	Language of Thought	

Document analysis was also conducted in order to support the findings on the impact of e-portfolio on the development of learner autonomy. There were 39 e-portfolio files collected from the research participants. The collected documents were kept and analyzed accordingly. In this case, in order to ease the researcher in interpreting documents, then the documents were clustered and labelled. The results of the document analyses were sorted into two main categories of information. The first category of information is focused on revealing the indicators that could signify the impact of e-portfolio in developing learner autonomy in general. Meanwhile, the second category of information is focused on revealing the evidence of the development of learner autonomy in each aspect.

The teaching instrument

E-portfolio was used as a means of developing the construct of learner autonomy. The sections in the e-portfolio were specifically developed to match the pedagogical purpose of English writing skills in vocational high school level. The overall construct of e-portfolio is expected to be able to improve learners’ ability to carry actively involvement in, reflection on, and target language use in writing. Accordingly, the e-portfolio was consisted of three components, namely; inventory task, self-assessment and showcase. The implementation of the teaching program took about 16 weeks to be fully completed. The e-portfolio files were kept in the e-learning that was owned by the school in which the study took place. Yet, individual soft file was also kept by each of the research participant.

Table 3. *Teaching procedure of the e-portfolio*

Week	Program
1	Preliminary test & Introduction to and training about the e-portfolio and its platform
2-4	Inventory Writing Task (Writing Project 1)
5	Reflection & Inventory Writing Task
6-7	Inventory Writing Task (Writing Project 2)
8	Reflection & Inventory Writing Task
9-10	Inventory Writing Task (Writing Project 3)
11	Reflection & Inventory Writing Task
12-13	Showcase
14	Reflection
15	Post-test
16	Evaluation of the e-portfolio program & Closing

RUSULTS AND DISCUSSION

Learner autonomy profile

The profile of learner autonomy was used as a blue print in formulating e-portfolio and testing the extent to which e-portfolio can be used to develop the degree of learner autonomy. The profile of learner autonomy (in general and in the three aspects) was gathered by means of learner autonomy inventory test which was administered to the population of the study.

The profile of learner autonomy in general

The first segment is aimed to depict the profile of learner autonomy in general. Based on the learner autonomy inventory test which was administered to the population that consisted of 440 students, it was revealed that the mean score was 36,15. Mean score around 36,15 can be classified to be in the moderate category of learner autonomy. To be more precise, the frequency distribution of the students' score based on the category of learner autonomy is on the Table 4.

Table 4. *Frequency distribution of the students' scores in the pre-test*

Categories	Score Interval	Frequency	Percentage	Mean Score
High	>67	1	0,23	36,15
Moderate	34-66	284	64,55	
Low	<33	155	35,23	
Total		440	100	

From the mean score it is found out that the population had moderate category of autonomy in writing. This category signifies that the students generally had not yet reached the optimum capacity to use target language constantly either in a form spoken, written, or in a form of language of thought both in face-to-face or online learning practices. In addition, the moderate category of autonomy also indicated that the students relatively had difficulties in carry active involvement as they had just begun adjusting themselves with new learning environment due to the all-sudden shift form what was originally face-to-face to full online teaching and learning process. In such a case, the students were still uncertain of how to get involved in the process of planning, monitoring, and evaluating their writing task especially the ones that were conducted online. Lastly, the students were not used to reflect on the process and product of their writing. This finding further indicated the need for developing a media that could assist the students to be more autonomous especially in doing the online teaching and learning process as required by the government due to the rapid spread of Corona Virus in Indonesia.

In this case, there were two dominant factors that might have caused the moderate profile of learner autonomy of the population. The factors are the students' age and the teaching and learning context that the students newly faced. The first factor is the students' age. The participants of the research were the tenth graders of vocational high school. It indicated that the students' age were in between 15

to 16 years old and they are categorized as adolescents. As adolescents, the students were on the transition phase from junior to senior high school therefore they might find it difficult to recognize their role and responsibilities in learning. These difficulties might have risen especially at the crisis of Pandemic Covid-19 where the students were required to learn more independently through online media. Online media, in one hand, could offer its user with abundance of benefits starting from the ease of sharing learning material up to learning without space limitation, yet in other hand, it is found that without exact media or route that could capture the progress and process of the students' learning, then the students might find learning difficult to follow. As the consequences, their motivation or willingness to take the roles and responsibilities in learning could be different and relatively unstable.

The second factor is the teaching and learning context. In this case, the teaching and learning context that the students encounter can also contribute to the moderate profile of learner autonomy. At this stage, it is possible that the online teaching and learning context that the students recently encountered did not provide enough contextual learning choices and opportunities to develop learner autonomy especially in writing. For instance, the students worked on many forms of writing tasks but then at the end they tasks were scattered. Thus, they might not realize on their progress in writing. On the contrary, there might have been too wide variety of the learning choices

and opportunities for the students yet they might have difficulties in accessing it due to the limitation of the internet connection. This finding, again showed the need for an adaptive learning platform such as that of e-portfolio where it can be saved and access both offline and online.

The profile of the three aspects of learner autonomy

In order to give more empirical evidence regarding the profile of learner autonomy, the data gained from the test was further analysed based on the three aspects of learner autonomy namely; target language use, learner involvement, and reflection. The mean scores were used as a basis of revealing the profile of learner autonomy in every aspect. The general finding of the mean scores of the three aspects of learner autonomy is shown in Chart 1.



Chart 1. *Mean scores of the three aspects of learner autonomy.*

As shown in the Chart 1, the mean score of the target language use, learner involvement, and learner reflection were 35,53, 35,28, 38,64, respectively. All of them were on the moderate category. The result indicated that the degree of autonomy of the population could not fulfil the expectation stipulated in the newest curriculum of 2013 (educational policy number 65 and 66 year 2013, National ministerial regulations of education and culture, 2013) and the recent requirement about online teaching and learning process due to the crisis of Pandemic Covid-19 as stated in the educational policy number 4 year 2020 (The Ministry of Culture and Education, 2020). The result showed that the students generally had not yet reached the optimum capacity to carry active involvement, reflection and using the target language properly in writing both the ones that were conducted offline and online. Thus, this finding showed the urge of developing and implementing learning platform that could support the

development of learner autonomy both in offline or online types of learning situations. Again, e-portfolio was signified as the finest choice as it was adaptable to be applied in online or offline form of teaching and learning processes. In this case, as the degree of autonomy of the population was relatively low then the e-portfolio program was implemented as a form of preventive intervention.

The impact of the e-portfolio on learner autonomy

This section addresses the second research questions guiding the study: *To what extend do writing e-portfolio develop the construct of learner autonomy?* Accordingly, the finding and discussion in this section involves: 1) The impact of the e-portfolio on developing learner autonomy in general and 2) The impact of the e-portfolio on developing the three aspects of learner autonomy (target language use, learner involvement, and learner reflection).

The impact of the e-portfolio on learner autonomy in general

The impact of the e-portfolio on developing learner autonomy can be inferred by analysing the difference of the mean scores of the class with the e-portfolio program and the class without the e-portfolio both in the pre-test and post-test. From the quantitative data analysis (Chart 2), it was found that the mean scores of both classes improved on the post-test as shown in Chart 2.

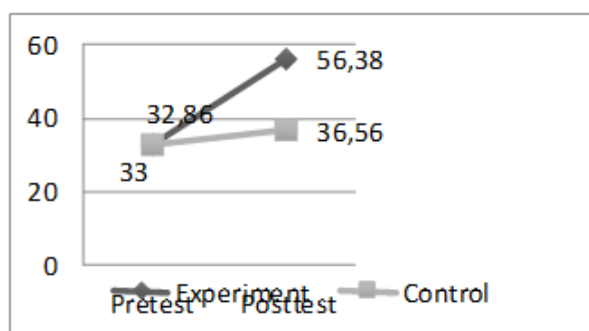


Chart 2. *Mean scores of experimental and control groups in pre-test and post-test*

Chart 2 depicts the mean scores of the class with the e-portfolio program and the class which did not. The mean scores of both classes signify that in the pre-test both groups were in the low category of autonomy. Different to that in the pre-test, both groups made improvements in the post-test. The improvements are signified by the increase of mean

scores and by the change in the category of learner autonomy. The mean scores of the control group increased from 33,00 to 36,56 meanwhile the mean scores of experimental group increased from 32,86 to 56,38. In addition, the category of autonomy of the experimental group had also shifted from the low to the moderate category of autonomy. The

moderate category of autonomy indicates that the students had gradually begun to take control of their own learning.

As the students made improvements, then an analysis of significance of difference between the mean scores of both groups using the nonparametric independent sample t test was conducted.

Table 5. *Independent samples t test of pre-test and post-test*

Aspect	Test	Assumption Sig (2-tailed)	A	Category
Learner	Pre-test	.998	0.05	Not Significant
Autonomy	Post-test	.000	0.05	Significant

Table 5 shows that in the pre-test, the significance of probability (.998) was higher than alpha (.05). The result indicates that there was no significance difference between the class with e-portfolio and the class without the e-portfolio in the pre-test score. Conversely, in the post-test the significance of probability (.000) was lower than the alpha (0.05) which means that the null hypothesis was rejected in the level of probability of .01 (1 per cent). Thus, the finding shows that the class with the e-portfolio outperformed the e-portfolio free class in terms of degree of autonomy in writing. This further indicates that the e-portfolio was empirically proven to be effective in developing learner autonomy in writing.

Based on the document analysis it is proven that the effectiveness of e-portfolio in developing learner autonomy in writing might due to the fact that e-portfolio had given more opportunities for the students to use more target language, to get involve and to reflect on the learning process. The opportunities themselves were adaptive in a way that they can be applied both online or offline. The example of the target language use, the learner involvement, and reflection as the result of the implementation of the e-portfolio can be seen on Figure 1.

writing projects were provided and in each teaching project the students followed a cycle of preparation, modelling, joint construction, and independent construction. This cycle followed the principle of writing development. In every stage e-portfolio assisted the students to document the writing progress that they have made. At the stage of preparation and modelling, for instance, the students decided the writing topics, used writing samples or models that they gathered from various sources and using various forms such as that of figure or multimedia ones. At this stage they also had more flexibility in accessing the writing materials such as that of Power Point Presentation program or e-book.

In addition, Figure 1 also shows that he e-portfolio also lead the students to reflect on the process and product of writing by filling the section on the reflection log which was conducted on regular basis at the end of every writing project and at end of the semester. On the reflection log the students mostly reflected their reaction of the process and product of the writing projects that they had conducted. In the reflection log the students also put forward their experiences on the revision or comment that was given by their peer or their teaching during the process of independent construction of the writing project.

Lastly, by the use of the e-portfolio the students were also offered opportunities to continuously use target language as a medium of communication both in the writing product and in communicating with their classmates or teacher. The use of language itself was well documented as it can be saved online. One of the evidences was in a form of the students writing drafts. The drafts were consisted of comments which were given both by their peers or by the teacher. The result of the document analysis shows that the well documented

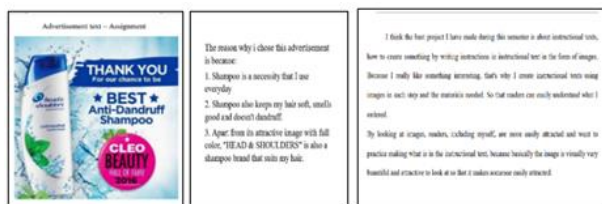


Figure 1. *The use of e-portfolio on developing learner autonomy in general*

Figure 1 shows that in the e-portfolio program every student was guided and challenged to get involved in completing the writing projects. Three

and constantly used of the target language may have possibly supported the initial autonomy development in writing. Similar finding is also shown by Büyükdumana & Şirina (2010). In this case they found that the learning portfolio enhanced the autonomy of the students.

The impact of the e-portfolio on the three aspects of learner autonomy

The impact of the e-portfolio on the three aspects of learner autonomy was also analyzed. In this case, the mean score gained from pre-test and post-test was further analyzed based on the three aspect of learner autonomy namely; the target language use, learner involvement, and reflection. The data is shown in the chart below.

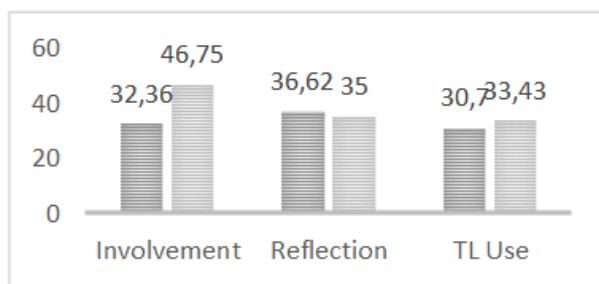


Chart 3. Mean scores in the pre-test

Chart 3 depicts that in the pre-test the mean scores of all aspects of learner autonomy both in the e-portfolio class and the e-portfolio free class were on the low and the moderate category of autonomy. It signifies that the two classes had relatively similar conditions. They were all in the low

category. Conversely, the result of the post-test is in Chart 4.

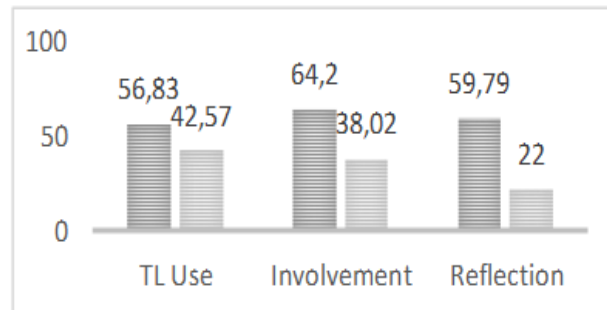


Chart 4. Mean scores in the post-test

Chart 4 shows that the mean scores of the e-portfolio class and the e-portfolio free class in the post-test varied. Mostly they showed improvement. However, although most of the aspects showed some improvement yet it can be seen that the e-portfolio class made better improvement than that of e-portfolio free class. This indication is proven from the fact that in the e-portfolio class there was no aspect found to be in low category. The detail of the findings and discussion in each aspect will be depicted in the following section.

The impact of the e-portfolio on the target language use

The impact of the e-portfolio could be explored by revealing the independent sample t test between pre-test scores of the two sample classes. The result of the independent t test can be seen on Table 6.

Table 6. Independent samples t test of pre-test and post-test on the aspect of TL use

Aspect	Test	Assumption Sig (2-tailed)	A	Category
TL Use	Pre-test	0.207	0.05	Not Significant
	Post-test	0.000	0.05	Significant

The result in Table 6 indicates that the significance (2 tailed) of probability was higher than alpha (.05). This proves that there was no significant difference between students means scores in the pre-test in 1% significance. Conversely, a particularly different result was gain on the post-test. The data showed that the significance value of the post-test was .000. This means that the significance of probability was lower than alpha (0.05) which indicated that the null hypothesis was rejected in other word there was such significant difference between mean scores of experimental and control groups in the post-test in 1% significance. This finding strengthens the notion

that e-portfolio enables to increase the use of English as TL during writing practice.

The findings signify that the e-portfolio had an effect on maximizing the students' use of English as target language. In this case, students who used the e-portfolio in completing their writing projects could better increase their use of target language than those who completing their writing projects in the e-portfolio free condition. In sum, the development of target language use might have occurred due to the requirement given to the students to constantly use English in form of spoken, written or language of thought in order to

complete writing projects, reflections, and showcases (Fadaee, Marzban, & Karimi, 2021).

In the use of the e-portfolio the students were exposed to the cycle of preparing and constructing the different type of texts. At the stage of constructing the text type that the students were working on, they constantly conducted the editing and revising process. This process was conducted with their peers. The students received written comments on the drafts of their writing projects. Based on this comment they could make some revision in order to make the text achieved its purpose more effectively. It might have supported the initial autonomy development in writing. The students' language use ability was constantly exercised in a much more communicative way. The form of communication itself was well documented and easily shared among the class members.

In addition, the requirement for the students to conduct the showcase showing their most 'proud' of writing project might also has its own contribution on developing the students spoken language use. Although the spoken interaction was not recorded

on the e-portfolio yet the students can keep the documentation in a form of phonograph or figure at the time the showcase presentation was held. This form of documentation can be very beneficial in maintaining the students' autonomy development.

Lastly, the students were also required to regularly write their experiences on producing the writing projects. This had possibly supported the development of the students' ability of using language of thought. They openly expressed their learning strategy in completing the writing projects as well as evaluated it.

The impact of the e-portfolio on the learner involvement

The initial result of learner active involvement shows that the students both in the e-portfolio class and in the e-portfolio free class made improvement (Chart 3 and Chart 4). The result of nonparametric independent sample t test is in the following table supported that the class with e-portfolio program outperformed the class without e-portfolio program.

Table 7. Independent samples t test on the aspect of learner involvement

Aspect	Test	Assumption Sig (2-tailed)	A	Category
Learner Involvement	Pre-test	0.774	0.05	Not Significant
	Post-test	0.000	0.05	Significant

The result of the post-test showed that there was such significant difference in terms of the degree of active involvement between the class with e-portfolio and the class without e-portfolio. The significant difference was indicated by the fact that the significance of probability (.000) was lower than the alpha (.05) which means that the null hypothesis was rejected. In this case, the class with e-portfolio outperformed the other class in terms of active involvement in writing. It means that the e-portfolio has proven to be able to give significant effect on the different ways by which students can increase their involvement in writing.

The positive impact of the e-portfolio in developing learner active involvement can be caused by several interrelated factors as shown from the data gained from the document analysis. Firstly, the components of the e-portfolio had provided the students with adaptive and contextual learning choices so that they can get involved more in their learning. In this case, there were three indicators that signify the increase of the students' involvement in writing. These indicators are shown

in the examples of the documents that the students uploaded into their e-portfolio as follow.



Figure 2. Examples of learner involvement

The first indicator is in a form of the students' effort on collecting self-selected writing samples and inferring writing materials from them (Figure 2a). In completing the writing tasks, it was found that once the students previewed the writing purposes then each of them decided to bring their own self-selected sample of writing texts (advertisement text). This stage was considered as the initial stage toward completing their writing projects. In several references this stage was also known as the stage of preparation in writing a text. The students' willingness and initiative to bring the

sample texts indicates the students' motivation to get involved more in their learning. At this stage the students' motivation was much more pronounced as some of them were willing to bring sample texts that they have previously made. In Class A, one of the students showed a sample text that she had previously made. She tried to test whether or not the text that she made fit in the schematic structure of the intended writing project (Figure 1). This activity showed the students motivation to get involved more in completing their writing projects.

The other indicator is in a form of the students' attempt on making the format to present their writing tasks and the students' ability in determining the writing project deadlines. Deciding the format of presenting the writing project as well as deciding its deadline might also have challenged and boosted the students to get involved more in the learning process. As the results the students tried to

get involved by identifying the goals, the tasks' requirements, and the plans to accomplish the tasks.

The impact of the e-portfolio on the learner reflection

The impact of the e-portfolio on learner reflection was also revealed. Here, it is depicted that the mean scores of both groups in the pre-test were 36,62 and 35,00 respectively. In other words, both groups were on the initial moderate category of learner reflection. Yet on the post-test the mean score of the class with e-portfolio program had risen. This means that the category of learner reflection of the e-portfolio class had shifted from low to moderate meanwhile the e-portfolio free class stayed on the low category of learner reflection. The result of the independent sample t-test on Table 8 supports this finding.

Table 8. *Independent samples t test of pre-test and post-test on the aspect of learner reflection*

Aspect	Test	Assumption Sig (2-tailed)	A	Category
Learner Reflection	Pre-test	0.309	0.05	Not Significant
	Post-test	0.000	0.05	Significant

In this case, the independent sample t-test shows that in the post-test the probability significance (.000) was less than alpha (.05). This means that the null hypothesis was rejected in the level of probability of .05. By this it means that there was such significant difference between the mean score in the post-test of the e-portfolio class and the e-portfolio free class. Again, in learner reflection the class with the e-portfolio program showed better progress than that of the class without the e-portfolio program.

In this regard, the quantitative findings indicate that the students who used the e-portfolio in completing their writing task were found to better reflect on the process and product of their learning than those who practiced in the e-portfolio free condition. In this case, the requirements given for the students to reflect on the product and the process of completing their writing task might have possibly led the students to better understand and differentiate the process and product of writing itself. Accordingly, the students' ability of reflecting on their learning had improved. In such a case, there are several indicators that can signify the improvement of learner reflection as the result of the use of e-portfolio.

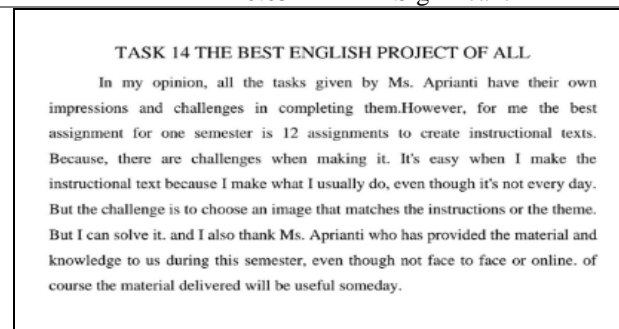


Figure 3. *The example of reflection log in the e-portfolio.*

The first indicator of the improvement of learner reflection is the students' willingness to identify the strategy of learning that they typically used as well as evaluating its strengths and weaknesses. The second indicator is the students' awareness of the importance of having purpose of learning. The third indicator is the increased their awareness of their strengths and weaknesses. The third indicator is especially shown as the students could identify one writing project that they like the most as well as declaring justification for it. The last indicator is the students' willingness to continuing the cycle of doing the writing project, showcase, and reflection also indicated that portfolio can be used to support the reflectivity skills of the students.

CONCLUSION

All in all, it can be concluded that the data showed that there is significant difference between the pre-test and post-test scores of the e-portfolio class and the e-portfolio free class both in terms of autonomy in general and in every aspect in particular. In other words, the implementation of e-portfolio had been empirically proven to be able to improve learner autonomy in writing. Accordingly, the result of the research supports the earlier evidence that the use of the e-portfolio can be implemented to develop learner autonomy. The findings also may reinforce and enrich the existing theories stating that e-portfolio have a positive role in developing learner autonomy in writing.

Additionally, there are also some recommendations for English as foreign language teachers and further research. In this case it is recommended for EFL teachers to play their role in making students aware of and fostering autonomy in language learning. Additionally, teacher should be made aware of the barrier on the classroom management that can hinder the development learner autonomy. This may be achieved by providing them with support in a form of e-portfolio both as teaching and learning models. Meanwhile for the further research it is recommended to investigate the use of e-portfolio in a more electronically friendly environment and possibly tailor it into e-portfolio, to explore the use of portfolio to develop learner autonomy not only in writing skill but also in other skills as well and lastly to use more classes or groups as the comparison for the experimental group so that the significance difference or the effectiveness of the e-portfolio can be truly depicted. Figures and tables should be placed either at the top or bottom of the page and close to the text referring to them if possible.

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REFERENCES

- Al-Qutaiti, Y. O., Ahmed, I., & Mohin, M. (2020). Effects of using e-portfolios on EFL teachers' reflections. *International Journal of Psychosocial Rehabilitation*, 24(5), pp.1968-1987.
- Little, D. (1991). *Learner Autonomy*. Dublin: Authentik.
- Marhaeni. (2015). Aplikasi ruang baca. *Incomtech*, 4(1), pp. 1-8.
- Ministry of education and culture. (2013). Government regulation No. 65 Year 2013 regarding process standard. Jakarta: National Ministerial of Education and Culture.
- Ministry of education and culture. (2013). Government regulation No. 66 Year 2013 regarding assessment standard. Jakarta: National Ministerial of Education and Culture.
- Behforouz, B., & Frumuselu, A. D. (2020). The impact of text messaging as an instructional tool to enhance learner autonomy and perception. *International Journal of Learning, Teaching and Educational Research*, 19(11), 184–202. <https://doi.org/10.26803/ijlter.19.11.11>
- Cakici, D. (2017). An Investigation of Learner Autonomy in Turkish EFL Context. *International Journal of Higher Education*, 6(2), 89-99 <https://doi.org/10.5430/ijhe.v6n2p89>
- Choi, H., & Lee, C. H. (2020). Learner autonomy in EFL reading with digital technology at secondary school level. *Journal of Asia TEFL*, 17(4), 1323–1345. <https://doi.org/10.18823/asiatefl.2020.17.4.11.1323>
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. UK: Routledge.
- Creswell, W. John & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. SAGE Publications.
- Fadaee, E., Marzban, A., & Karimi, S. N. (2021). The relationship between autonomy, second language teaching styles, and personality traits: A case study of Iranian EFL teachers. *Cogent Education*, 8(1), pp. 1-27 <https://doi.org/10.1080/2331186X.2021.1881203>
- Leavy, P. (2018). *Research Design: Quantitative, Qualitative, Mixed Methods, Art-Based, and Community-Based Participatory Research Approaches*. New York: The Guilford Press.
- Lengkanawati, N. S. (2017). Learner autonomy in the Indonesian EFL settings. *Indonesian Journal of Applied Linguistics*, 6(2), 222–231. <https://doi.org/10.17509/ijal.v6i2.4847>
- Müller, L.-M., & Goldenberg, G. (2020). *Education In Times of Crisis: The Potential Implications of School Closures For Teachers and Students*. Chartered College of Teaching.

- https://my.chartered.college/wp-content/uploads/2020/05/CCTReport070520_FINA_L.pdf
- Nguyen, S. Van, & Habók, A. (2021). Designing and validating the learner autonomy perception questionnaire. *Heliyon*, 7(4), 1-11. <https://doi.org/10.1016/j.heliyon.2021.e06831>
- Obaid, Y. (2020). Effects of using e-portfolios on EFL teachers' reflections. *International Journal of Psychosocial Rehabilitation*, 24(5), 1968–1987. <https://doi.org/10.37200/ijpr/v24i5/pr201874>
- Hedry, H. (2020). The good, the bad and the unthinkable of learner autonomy in EFL. *Letras*, 1(67), 115–144. <https://doi.org/10.15359/rl.1-67.6>
- Thanh Loan, P., & Tan Tin, D. (2016). The effect of speaking e-portfolios on learner autonomy for non-English major students at PetroVietnam University. *Hirao School of Management Review*, 3(6), pp. 106-169.
- Wiraningsih, P., & Santosa, M. H. (2020). EFL teachers' challenges in promoting learner autonomy in the 21st-century learning. *Journal on English as a Foreign Language*, 10(2), 290–314. <https://doi.org/10.23971/jefl.v10i2.1881>
- Yang, F. Y. (2021). EFL learners' autonomous listening practice outside of the class. *SiSal Journal*, 12(4), 328–346. <https://doi.org/10.37237/110403>
- Zhang, W., Zhang, D., & Zhang, L. J. (2021). Metacognitive instruction for sustainable learning: Learners' perceptions of task difficulty and use of metacognitive strategies in completing integrated speaking tasks. *Sustainability (Switzerland)*, 13(11), 1-21. <https://doi.org/10.3390/su13116275>