

The Contribution of ICT-Based Instruction towards Students' Autonomy and Self-Discipline

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Abstract: It is well known that open universities promote an autonomous learning for distance learning. However, the possibility of dropping out in distance learning is generally affected by the lack of learner autonomy, self-discipline and good understanding towards technology instructions. Therefore, the aim of this research is to investigate the contribution of e-learning instruction towards students' autonomy and self-discipline of undergraduate English students in the open universities. This correlational research was conducted in four open universities from two provinces, Special Region of Yogyakarta (DIY) and Central Java. The data was collected by distributing the questionnaires to 126 students. To analyze the data, Simple Regression of LISREL program and SPSS version 25 were applied. The findings showed that the e-learning instruction has 15% contribution toward students' autonomy and 16% contribution toward students' self-discipline. Even though the percentage was low, it has significant and positive correlation between the research variables. Furthermore, the limitations and the recommendations were provided in order to be beneficial for the other researchers who had the same interest of this field.

Keywords: students' autonomy, self-discipline, e-learning, e-learning instruction, distances learning.

Introduction

Nowadays, ubiquitous presence of technology has dominated almost all spheres of life as well as in business, government, administration and education. The usage of Information and Communication Technology (ICT from now on) in the academic field must not be seen as a new term anymore since it has been commonly used ICT in the teaching process inside or outside the classroom. Also, this innovation of technology has been integrated for English Language Teaching (ELT). By applying ICT-interactive media in ELT, the teaching and learning process can be done easily and effectively (Prasetyo, 2017). It is one of several impacts of ICT in language teaching. In fact, the impact of the emergence of ICT in ELT has influenced the way of teaching in advance.

The impact of ICT has significantly shifted traditional teaching and learning approach into educational practices with new community, environment and instructional modalities (Marti, 2006). The main concern in traditional teaching approaches lies at the center of the teaching and learning process. Moreover, the conventional teaching approach has been still indicated as teacher centered. Since the process of language teaching is focused on the teacher, in odd moments, this approach makes students act passively in the learning process and they are much seen as under the control of the teacher (Richards, 2006). Eventhough some of conventional teaching methods are believed efficient for teaching in this 21st century yet the aim of traditional teaching is not close enough from the function of language as a means of communication. Regarding this fact, Broughton, Brumfit, Flavell, Hill and Pincas (2003) state that conventional teaching method still considers English language as a battery of grammatical rules and a vocabulary book.

Nonetheless, it cannot be denied that the learners in the past and nowadays are

diverse. The traditional approach might be effective for the learners in the pre-method era but not for those who live in this 5.0 society. The current needs of teaching and learning demand ICT to be used inside and outside classrooms since its existence cannot be neglected. In fact, the teacher centered approach has been used for decades in all institutions in the pre-method era. Also, some techniques of this method are still used currently. Mbodila and Kikunga (2012) argue that the traditional approach implements behaviorism perspective which is considered as a fashionable practice. Thus, ICT comes and contributes in the language teaching today. The modified teaching and learning instruction which combines traditional approach and technologies is considered appropriate for the 21st century learners. Benefits by using ICT in language learning have been proved by various studies. Technology changes what people do and also what people can do. By using technology, teachers would have new opportunities in improving their teaching instruction. Reid (2002) reveals that ICT usage in language teaching changes the relationship between teachers and students which fosters students' confidence in the learning process. In addition, ICT shifts the teacher centered to learner centered approach and entails teachers to be more creative in modifying and adapting teaching media and materials.

Therefore, English language teaching today integrates ICT in language classrooms in some ways such as combining traditional teaching with ICT in the classroom. Teachers often use ICT tools to support their teaching for example in creating teaching media, preparing materials and even giving instructions to the students. In fact, various ways in language learning have been integrated as the development of ICT in ELT inside and outside classrooms. Some experts have integrated cutting edge ICT tools with language learning activities in extraordinary ways. The teaching and learning process becomes more efficient and not time consuming. By enhancing ICT in language learning, teachers and

students are able to communicate, share, and work collaboratively anywhere and anytime (Koc, 2005). The teaching process can be held outside the classroom in which people today call it e-learning.

E-learning is a learning which occurs only through the Web or platform and does not require face to face interactions between teachers and students since the teaching process is conducted through online learning (Nichols, 2003). The learning process is student centered which entails students to explore their self-access learning. On the other hand, the role of teachers is as facilitators who guide and instruct students in searching or exploring the materials related to the English language subject on the Internet. The teacher will no longer become the main source of knowledge (teacher-centered) since the role is being replaced with the instructional technology (Haron, Zaid, and Ibrahim, 2015). The instructions given by teachers in e-learning are addressed as ICT-based instruction since teachers do not need to meet students in a real classroom. (Condie and Livingston, 2007) state that online learning has a number of features including course materials, revision exercises, self-assessment facilities and a discussion forum.

ICT-based instruction through online learning will lead students to learn through the Internet independently. Herein, students can follow teachers' instructions in exploring information, doing and submitting tasks, working in collaborative way through websites or online platforms such as Google Classroom, Edmodo, Moodle, and Ruang Guru. These online platforms have similar characteristics and functions as e-learning. Haron et al. (2015) also mention some of the benefits in using e-learning as follow; it is accessible, has eliminated the barriers of cost and time. Furthermore, e-learning through its ICT-based instruction can foster

students' autonomy or independence to learn English. On top of those problems, autonomy cannot be separated with self-discipline in language learning. As Wong (2007) claims, e-learning is not suitable for students who do not have self-discipline since it closely relates to their capability in completing all tasks. Thus, having great motivation and self-discipline in following the instructions in e-learning especially in accomplishing assignments are highly required in order to be successful in e-learning. Nevertheless, one problem regarding e-learning is the skills of mastering ICT. In addition, the 21st century students who are categorized as digital natives may be able to settle the problem. However, they need to be well-trained so they can get used to the e-learning environment.

In accordance with e-learning platforms, the present schools, higher institutions and universities start to apply online classrooms in their teaching process. In most of cases, they combine the online and offline classrooms. Interestingly, some institutions conduct almost all the teaching activities through online or virtual meetings. In line with the current situation, due to the spread of Corona virus, generally students attend their school through virtual classrooms. Therefore, the teachers and schools should adjust the curriculum with the government policy. In this case, they do not change the entire curriculum since they still need to monitor the changes of the update condition so it could change again in the future. However, this pandemic situation do not affect some higher educations like open universities which specifically focus their teaching methods for distance learning. The Open University is commonly found in all provinces in Indonesia and the main branches of it are usually located in the capital city of the province.

Furthermore, it is well known that the Special Region of Yogyakarta or DIY is

often called an “education city”. In fact, various students in Yogyakarta come from different islands in Indonesia. In addition, Central Java is the closest province to DIY province. Central Java also has the similar quality in its education system. Therefore, it is common to see students from these two provinces compete in many competitions such as academic and sports fields and the quality of competition is much greater when it comes to university category. Moreover, English teaching in higher institutions in DIY and Central Java varies. The teaching process in higher education in such a university degree has a different teaching method or different curriculum in accordance with its own policy. In example, the curriculum used in common universities might be different with the curriculum applied in open universities.

An open university has its own teaching method or approach which is greatly dissimilar with the ordinary university. Different from an ordinary university which has used a conventional teaching classroom and, in some ways, combined with ICT tools, the English teaching and learning process in an open university has fully integrated ICT in its language teaching. Herein, an online learning classroom, such as websites and online platforms, is a common way to be conducted in open universities. E-learning has been used with several considerations. Furthermore, the researcher had interviewed the head staff of the service and information center in several open universities (UPBJJ UT) in both provinces. They said that students who enrolled in the open university are categorized as learners with special needs since most of them have to work while studying. They registered for the program in this university because of various reasons related to their business. The flexibility of schedule, the convenience and effectiveness of taking online classes, the good fit with their goals, for professional development, to obtain an advanced degree in the field, and also the strong reputation of the university itself are considered as reasons of enrolling

the university which has online based learning (Willging and Johnson, 2009). Moreover, the staffs explained that all of the teaching and learning processes were conducted through a website. Resources (documents, links and videos, printed and non-printed materials) and assignments are accessed through the website. In line with the explanation before, this learning process needs students' autonomy and self-discipline in time.

Based on the situation above, the use of ICT-based instruction in e-learning has contributed various aspects in students' learning process towards English. Autonomy in learning English is needed in online learning classrooms. It is proved by several studies related to integration of ICT in e-learning. The success of e-learning requires students to be autonomous since they have to do all instructions in e-learning independently. In fact, this case cannot be fulfilled if students lack self-discipline in time towards the learning process specifically in completing tasks. Moreover, several issues regarding learner autonomy and self-discipline have been revealed by previous studies. For instance, lacking of autonomy in e-learning can be caused by duties from maturity, a lack of abilities to perform certain sorts of tasks, a lack of awareness of certain actions, and their experience from secondary school (Altunay, 2019).

Thus, the researcher is interested in conducting descriptive research to investigate how much e-learning instruction has contributed in students' autonomy and discipline regarding to English language learning through e-learning in open universities of DIY and Central Java provinces.

Methodology

Research design

This study entirely applied a correlational research which utilized quantitative approach. This study was conducted to investigate how e-learning instructions contributed to students' autonomy and self-discipline. Therefore, by applying a quantitative approach through this study, the data were collected in numerical data and analyzed by using SPSS and LISREL program in a detailed and comprehensive way. Participants and Setting.

This correlational study was conducted through online in four open universities (UPBJJ UT) of Special Region of Yogyakarta (DIY) and Central Java provinces (Purwokerto, Semarang and Surakarta). The population of the study was all active students in English education study program in UPBJJ UT DIY and Central Java. Therefore, the whole population of this research were 126 students from English education study program in undergraduate category of UPBJJ UT DIY, Purwokerto, Semarang, and Surakarta. The English students in UPBJJ UT DIY were 34 students while there were 38 students from UPBJJ UT Purwokerto, 35 students from UPBJJ UT Semarang and 19 students from UPBJJ UT Surakarta. The researcher used a convenience sampling since not all students were willing and available to participate in this research. Moreover, the sample of this research was 72 students who responded and submitted the questionnaire.

The instruments and data collection techniques

In collecting the data, the researcher used a questionnaire as the instrument or survey as the data collection technique. Questionnaires were addressed to the students in order to seek the answers of the research questions. Moreover, the questionnaires were distributed through online by using Google Forms since the students come from different cities so the distance was the main consideration in using Google Forms in this study. Therefore, the researcher used three questionnaires for three different variables. The first questionnaire was to reveal

students' perception towards e-learning instruction used on the website of their universities. Then, the second questionnaire investigated the students' autonomy in e-learning. Therefore, the last questionnaire was to assess students' self-discipline. Herein, the researcher utilized the questionnaire from Stefanovic et al. (2011) for investigating students' perception on the e-learning instructions in their university. They used the questionnaire to measure students' satisfaction in e-learning in his research. Thus, the researcher selects and adapts several items which fitted to the students' background. Also, few items were removed and not selected as considered as not in accordance with the background of the research participants. For gaining students' autonomy in e-learning, the researcher decided to apply the e-Las scale adopted from Firat (2016). There were six indicators and the total of questions was ten items. The researcher decided to adopt the model due to the background and the field of the research were similar. It was used to determine the learner autonomy in distance learning which were in line with one of the purposes of this research.

Meanwhile, to obtain the data of students' self-discipline in e-learning, the researcher adapted a model of questionnaires created by Barnard, Paton and Lan (2008). The original model was used for investigating students' online self-regulatory learning. Since self-regulatory was related to self-discipline thus the researcher needed to sort out several items which suited with the research participants. Herein, structured and closed questionnaires were used by the researcher. The components in the questionnaire were formulated in six Likert Scales from 1 to 6. Therefore, 1 indicated 'strongly disagree' and 6 were 'strongly agree'. Moreover, the original version of the questionnaires was written in English. Thus, the researcher translated all the three questionnaires to Indonesian language.

Validity, readability and reliability of instruments

The researcher used content validity to validate the questions distributed in the questionnaire. As mentioned before, the researcher translated all questionnaires to Bahasa Indonesia. Moreover, to ensure the items were properly translated, the researcher requested a backwash translation to a professional English translator. Furthermore, the questionnaire was validated as an external validation by the expert judgment of the English education department appointed by the UNY Graduate School (Pascasarjana program).

In order to prove the readiness of the questionnaires, the researcher then conducted a pilot study to the non-selected students from the research population which consisted of thirty students. Therefore, the students who participated in the pilot study did not partake in the data collection stage. The scores result of pilot study was obtained by applying Pearson Product Moment Correlation (PPMC). Herein, the researcher utilized the PPMC to seek the strength of the relationship of one research variable to another. This research used three different questionnaires to measure each variable. The first questionnaire had 24 question items with four dimensions or indicators. Therefore, nineteen items were valid with a significant value less or equal with 0.05. The results showed that five items (SP1: 0.221, SP2: 0.028, SP13: 0.229, SP19: 0.337, and SP24: 0.219) were invalid. Secondly, the validity test of questionnaire of students' autonomy showed that all ten items were valid. Lastly, the third questionnaire for measuring students' self-discipline consisted of fifteen items. The result of each question items indicated that two of ten items were not valid (SD5 and SD13). The item of SD5 revealed of the significant value of 0.360 and so that for SD13 was 0.301 which meant invalid. All in all, the remaining thirteen items were valid and could be used to obtain the data.

The reliability of the instruments was used in this study in order to maintain the trustworthiness of the questionnaires. The researcher tested the valid items of each questionnaire to seek its reliability by using SPSS Cronbach's Alpha. Therefore, the entire valid items were tested reliable.

Data analysis techniques

In this study, the researcher applied three kinds of data analysis techniques. The first technique was descriptive statistics which was done to analyze e-learning instruction of universities based on students' perception. Moreover, to analyze the contribution of e-learning instruction (X) toward students' autonomy (Y1) and self-discipline (Y2), the researcher applied factor analysis by using LISREL software which purposed to examine the contribution shown in the factor coefficient on the diagram between variables X, Y1, and Y2. Thus, the causal relationship of each variable could be seen by factor analysis. The factor loading coefficient, which displayed the direct influence of an independent variable on the dependent variable, suggested this causal relationship.

Results and Discussion

In order to investigate and meet the purposes of the study, the researcher obtained the whole data information from the students' answers and analysed them with a simple statistics through SPSS software. Further, the data was provided to investigate the contribution of e-learning instruction (X) toward students' autonomy (Y1) and self-discipline (Y2). From the distributed questionnaire, the response rate was quite good. There were 71 students returned the forms from 126 students which meant 56.35% of the total population. Therefore, the response rate was good and acceptable since it was more than 50% of the population (Creswell, 2011; Lodico, Spaulding and Voegtle, 2010). In line with that, the researcher found out that the students of the Open University

generally work while studying. In most cases, students were continuing their degree in order to get the degree certificate as the requirement of their job as a teacher. Herein, the researcher perceived that this righteousness became one of the obstacles in data collection since 55 students from the population did not return the questionnaire.

Students' perception towards the e-learning instruction

To examine the students' perception of the e-learning, the descriptive statistics was used to find the result of the perception whether it was positive or negative. Accordingly, the e-learning instruction has four dimensions or indicators which considered as the key factors of great e-learning platform, those are; Instructor Dimension (ID), Course Dimension (CD), Technology Dimension (TD), Environment Dimension (ED) (Stefanovic et al., 2011). Herein, the assessment results of the student perception indicator were provided in the form of a frequency distribution of skills and percentages based on the five categories of all participants. According to (Azwar, 2017), the frequency distribution of students was classified into five as mentioned below (Table 1).

No.	Ability Intervals	Category
1	$M+1,5 \sigma < X$	Very High
2	$M+0,5 \sigma < X \leq M+1,5 \sigma$	High
3	$M-0,5 \sigma < X \leq M+0,5 \sigma$	Medium
4	$M-1,5 \sigma < X \leq M-0,5 \sigma$	Low

Table 1. Interval score category

Hence, the data provided above could be concluded in several points.

Furthermore, the following points were based on the students' perspective toward e-learning platform they used at their universities. Furthermore, the inference of the analysis regarding students' perspective toward instructions used on e-learning was positive (Table 2).

	N	Minimum	Maximum	Mean	Std. Deviation
ID	71	10.00	25.00	20.7042	3.07243
CD	71	21.00	49.00	38.5634	4.95619
TD	71	19.00	40.00	27.8169	4.67305
ED	71	1.00	5.00	2.4648	1.14431
Valid N (listwise)	71				

Table 2. Interval score category

1. The indicator of Instructor Dimension (ID) in e-learning was categorized as medium (M=20.7042).
2. The indicator of Course Dimension (CD) in e-learning was categorized as medium (M=38.5634).
3. The indicator of Technology Dimension (TD) in e-learning was categorized as medium (M=27.8169).
4. The indicator of Environmental Dimension (ED) in e-learning was categorized as medium (M=2.4648).

As the findings of this research show, there are four indicators included in e-learning instruction; instructor dimension (M=20.7042), course dimension (M=38.5634), technology dimension (M=27.8169) and environmental dimension (M=2.4648). Therefore, based on the average value of students' perception, the instructions used in their online learning are categorized as medium. On the other hand, this positive belief of the students is sequentially influenced by the

course dimension, technology dimension, instructor dimension and environmental dimension as the lowest one.

The data show the contribution of each indicator in e-learning instructions toward the dependent variables. Course dimension has contributed the most among other indicators ($R^2=0.80$) in e-learning instructions. This explains that e-learning course quality and flexibility have become the key factor that students consider as the most crucial in distance learning. Likewise the study of Barnard, Paton and Lan (2008), they reveal that the course on online learning is importantly in line with the students' achievement. There is positive relationship in these two variables which means if the quality and flexibility of online courses is low then the students' achievement might be poor and vice versa. Accordingly, considering this fact, the students of UPBJJ UT decide to continue their study through distance learning since it is designed for the learners to be able to access the course anytime and anywhere.

In contrast, the indicator that has the lowest contribution in e-learning instructions is environmental dimension ($R^2=0.026$). There is only 2.6% of this indicator that students assume does not significantly affect the instructions in their online learning. Meanwhile, the findings of Stefanovic et al. (2011) have revealed that ED, which consists of diversity assessment and students' interaction in e-learning environment, positively and significantly affects students' satisfaction with e-learning. However, the result of the present study provides the information that ED does not significantly contribute in students' perception toward online learning instructions. In fact, this distinction might occur due to the different background of the students. The participants of the previous study are obtained from e-learners of thirty three faculties at several

state universities in Serbia. Meanwhile, the present study is addressed to English students at four open universities in Special Region of Yogyakarta and Central Java, Indonesia. This different background might explain the different result in this aspect since autonomous learning could be affected by internal and external factors of the student (Tabiati, 2016).

Factor Analysis Results

Factor analysis between variables: The data analysis was done by testing it using LISREL program. The purpose of this analysis was to determine the correlation between dependent variable (e-learning instruction based on students' perception) and independent variables (students' autonomy and self-discipline). Moreover, there were the criteria of the fit model should meet in path analysis; those were RMSEA and P values. Prasetyo and Retnawati (2017) stated that the criteria would be accepted if the $P > 0.05$ and RMSEA value was close to 0. Meanwhile, Ghozali (2017) mentioned that the RMSEA value should be < 0.08 . Accordingly, the result of the analysis presented that RMSEA value of the data was 0.035 ($RMSEA < 0.08$) and P value was 0.23477 ($P > 0.05$) (Figure 1).

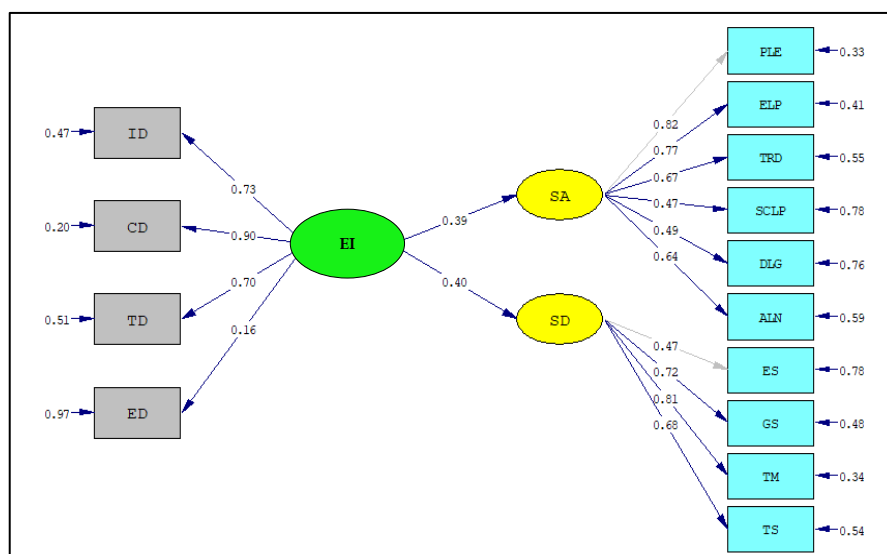


Figure 1. Analysis result of LISREL program

Analysis result of LISREL program

Furthermore, the R square value of students' perception toward e-learning instruction was 0.15% or 15%. The result showed only 15% of the instructions contributed on students' autonomy and 85% more was influenced by variables other than this model (Table 3).

Dependent Variables	R	R Square
Students' Autonomy	0.39	0.15
Students' Self-discipline	0.40	0.16

Table 3. R and R square values

On the other hand, standardized coefficient of students' self-discipline variable was 0.40. Then, this coefficient determined the R square=0.16. Accordingly, there was 16% contribution of e-learning instructions toward students' self-discipline category. Further, the researcher analyzed the data in order to determine the significance of the contribution of e-learning instructions by seeing the T value in the following (Figure 2).

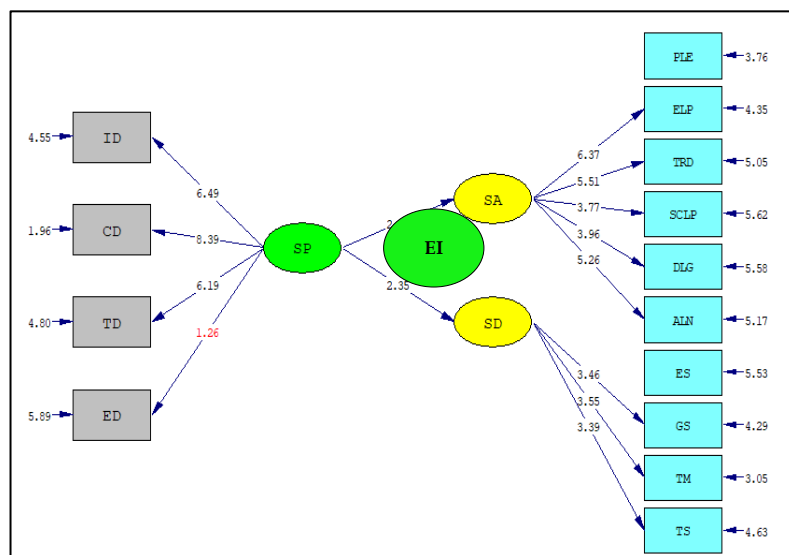


Figure 2. Significance of variables based on T value

Prasetyo and Retnawati (2017) pointed out that the criteria of t value could be determined if $t < 0.96$. Therewith, the t value was significant if the value shown on the path diagram was not colored red. In fact, the above figure indicated that the t value of e-learning instructions by students' perception toward students' autonomy was 2.82 ($t > 0.96$). Importantly, the color of the t value was not red. It could be concluded that the 15% of the contribution of e-learning instructions toward students' autonomy was significant. Meanwhile, the t value of e-learning instructions toward students' self-discipline showed about 16% and it was significant as well (t value=2.35 and it was not colored red).

The findings of this research show the significance of the contribution of e-learning instruction towards students' autonomy. In contrast, the findings of Nugraheni and Dina (2017) represent that there is no significant correlation between an e-learning teaching method and learner autonomy. Their study shows the mean of students' autonomy in an experimental class is increased (M=3.48) comparing to their controlled class (M=67). Moreover, in this context, the present findings of this research is in line with the previous study. The significance of the data on relationship between e-learning instructions and students' autonomy is quite good. Eventhough the contribution of e-learning instruction towards students' autonomy is only 15% yet it is categorized as significant and positive correlation between two variables.

In addition, when the researcher asked the participants to fill the form of the questionnaire, some of them stated that they dropped out and did not continue the study. Considering this fact, Lynch and Dembo (2004) find that students with low self-efficacy tend to be less autonomous and therefore predicted having greater difficulty in completing their degree. Nevertheless, the lack of self-efficacy is not the only determinant factor which causes dropped out students since there are several considerable factors that promote learner autonomy (Arnold, 2006). In line with that, the statistics results show the remaining 85% contributions to students' autonomy might come from other factors outside the e-learning instruction variable. Those might come from students' intrinsic extrinsic motivation which constructs their fundamental premise to be autonomous (Ryan and Deci, 2017).

The findings related to self-discipline of this research has been in line with the study conducted by (Howland and Moore, 2002) which shows that students who participate in more online self-regulatory learning activities have more favorable views of online courses. In accordance with that, the researcher finds that e-

learning instruction based on student positive perceptions significantly contributes on their self-discipline ($R^2=0.16$, $t>1,96$). Eventhough the contribution is categorized as low (16%), the researcher finds that it is necessary to improve the quality of e-learning instructions since this aspect significantly affects students' self-discipline in e-learning. Accordingly, enhancing the students' self-discipline would improve students' achievement. Similarly, the previous study reveals a great relationship of students' self-regulation with achievement and also the importance of self-regulation on e-learning to achieve their learning goals (Bol and Garner, 2011; McLoughlin and Lee, 2010).

Moreover, from the learner's perspective; studying in virtual environments has significance and behavioral shifts in their posture. Several studies present that psychological aspects are very necessary and linked to each other in order to be successful in their learning. Thus, eventhough the present study does not investigate the relationship between students' autonomy and self-discipline, the researcher is aware that these two important aspects could not be ignored regarding their roles in distance learning. It is stated that these aspects autonomy, motivation, self-discipline and maturity have a strong relationship and play as a key success factor in e-learning (Goulão and Menezes, 2015). The findings show that greater autonomy entails greater maturity, motivation, and self-discipline. Therefore, Goulão and Menezes (2015) imply that greater independence requires greater responsibility on the students.

Therefore, according to the equation explained in the previous research findings, the students' autonomy and self-discipline could be predicted by applying the formula of regression fit model ($Y=a+bX$). It is tested that the results show if the quality of e-learning instructions is increased then the students' autonomy and

self-discipline are growing up as well. This finding confirms the same result of (Firat, 2016) which reveals that the students' autonomy of distance education would be improved if they are given better training of ICT literacy and technology use.

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Factor analysis between indicators of e-learning instructions

The output of LISREL displayed the magnitude of the effect on each of the constituent indicators of these variables. Hence, the findings of the analysis also included details about indicators that have the greatest impact on student perception on other variables. The sum of the path coefficient on the indicator could be seen in the following figure. In fact, the course dimension (CD) was the greatest contributor in the e-learning instruction variable which was 0.90 while the lowest one was on environmental dimension (ED) with the coefficient of 0.16. Further, finding out the contribution of each indicator could be done by looking at the R square (Table 4).

Indicators	R	R Square
Instructor Dimension	0.73	0.53
Course Dimension	0.90	0.80
Technology Dimension	0.70	0.49
Environmental Dimension	0.16	0.026

Table 4. Statistical data of indicator's contribution

In consequence, the findings of this data could be sorted as follows.

1. dimension significantly and positively affected students' perception (R square=0.53, $t > 1.96$).
2. Course dimension significantly and positively affected students' perception (R square=0.80, $t > 1.96$).
3. Technology dimension significantly and positively affected students' perception R square=0.49, $t > 1.96$).
4. Environmental dimension insignificantly and positively affected students' perception perception (R square=0.026, $t < 1.96$).
5. The indicator of course dimension provided the greatest or 80% contribution toward students' perception (R square=0, 80, $t < 1.96$).

Conclusion

Fostering students' autonomy and self-discipline is important especially for students of online learning since these two aspects are the keys of the successful learning process. Moreover, the contribution of e-learning instruction towards students' autonomy of English students in UPBJJ UT DIY and Central Java is

uncovered as low (15%) and considered as significantly and positively affected. The same contribution towards students' self-discipline is 16% and proved similar with the students' autonomy.

The most influential indicator which students believe to be the greatest effect in their e-learning instructions is the CD indicator. On the other hand, the ED is categorized as the lowest contributor which insignificantly yet positively affects students' perception towards the e-learning instruction.

Recommendations

Considering the fact about distance learning, especially in Indonesia, UPBJJ UT is the first university which has curriculum for online learning from the very first time it is established. Eventhough several meetings are held through offline, generally the teaching and learning process is done online (Internet based). Thus, students' autonomy and self-discipline are crucial to make students to be successful completing their study on or in time. In fact, the preliminary study data reveals that there are many students who have not graduated yet and still pay for the tuition fee for the next semester (more than eight semesters). This is in line with the previous research which shows the causes of distance learners to drop out from their study (Willging and Johnson, 2009).

Furthermore, this research highly recommends UPBJJ UT to improve their students' autonomy and self-discipline by enhancing the e-learning instructions. Moreover, since the result of this research shows that course dimension is the most influential factor in e-learning instructions, it is greatly suggested that enhancing the quality of these indicators also followed by other indicators could

significantly improve students' autonomy and self-discipline. Also, this research is greatly expected to be more developed by the future researchers with the same interest. Other researchers might be able to correlate both students' autonomy and self-discipline with the possibility of dropping out. Furthermore, the research might be able to be applied to different provinces or participants such as non-distance learners.

Implication

Referring to the research result which reveals the significant and positive contribution of e-learning instruction toward students' autonomy and self-discipline in open universities in DIY and Central Java, this findings could be used to predict that learner autonomy and self-discipline of distance learners in all open universities in Indonesia are affected by the instructions used in their e-learning as well. In line with that, open universities in Indonesia are managed and ruled by the government so that all the curriculum and instructions used in ELT are generally same and equal in all provinces.

References

1. Altunay, D. (2019) EFL students' views on distance English language learning in a public university in Turkey. *Studies in English Language Teaching*, 7(1), 134.
2. Arnold, L. (2006). Understanding and promoting autonomy in UK online higher education. *Int J Instructional Tech & Distance Learn*, 3(7).
3. Azwar, S. (2017). *Metode penelitian psikologi* (2nd edition). Yogyakarta: Pustaka Belajar.
4. Barnard, L., Paton, V., & Lan, W. (2008). Online self-regulatory learning

- behaviors as a mediator in the relationship between online course perceptions with achievement. *International Review of Research in Open and Distance Learning, 9(2)*.
5. Bol, L., & Garner, J. K. (2011). Challenges in supporting self-regulation in distance education environments. *J Comput in Higher Edu, 23(2-3)*, 104-123.
 6. Broughton, G., Brumfit, C., Flavell, R., Hill, P., & Pincas, A. (2003). Teaching English as a foreign language. (J. Eggleston, Ed.). New York: Taylor & Francis e-Library.
 7. Condie, R., & Livingston, K. (2007). Blending online learning with traditional approaches: Changing practices. *British J Edu Tech, 38(2)*, 337-348.
 8. Creswell, J. W. (2011). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. (P. A. Smith, C. Robb, & M. Buchholtz, Eds.) (4th ed.). Boston: Addison Wesley.
 9. Firat, M. (2016). Measuring the e-learning autonomy of distance education students. *Open Praxis, 8(3)*, 191-201.
 10. Ghozali, I. (2017). Model Persamaan Struktural Konsep dan Aplikasi dengan Program AMOS 24 Update Bayesian SEM. Semarang: Badan Penerbit Universitas Diponegoro.
 11. Goulão, M. de F., & Menedez, R. C. (2015). Learner autonomy and self-regulation in eLearning. *Procedia - Social and Behavioral Sciences, 174*, 1900-1907.
 12. Haron, N. N., Zaid, Y. H., & Ibrahim, N. A. (2015). E-Learning as a platform to learn English among ESL learners: benefits and barriers. In M. Stapa & H. Jaafar (Eds.), *Research in Language Teaching and Learning* (pp. 79-106). Johor: UTM Press.

13. Howland, J. L., & Moore, J. L. (2002). Student perceptions as distance learners in internet-based courses. *Distance Education, 23*(2), 183–195.
14. Koc, M. (2005). Implications of learning theories for effective technology integration and pre-service teacher training: A critical literature review. *J Turkish Sci Edu, 2*(1), 2–18.
15. Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research: From Theory to Practice*. San Frasisco: John Wiley & Sons, Inc.
16. Lynch, R., & Dembo, M. (2004). The relationship between self-regulation and online learning in a blended learning context. *Int Rev of Res in Open and Distance Learning, 5*(2).
17. Marti, M. M. C. (2006). Teacher training in ICT-based learning settings: Design and implementation of an on-line instructional model for English language teachers. Universitat Rovira I Virgili, Tarragona.
18. Mbodila, M., & Kikunga, M. (2012). The use of ICT in education: A comparison of traditional pedagogy and emerging pedagogy enabled by ICT's. Proceedings of the 11th International Conference on Frontiers in Education (FECS'12). WORLDCOMP'12.
19. McLoughlin, C., & Lee, M. J. W. (2010). Personalised and self regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian J Edu Tech, 26*(1), 28–43.
20. Nichols, M. (2003). A theory for eLearning. *Educational Technology & Society, 6*(2), 1–10.
21. Nugraheni, A. R. E., & Dina, D. (2017). Pengaruh penerapan pembelajaran e-learning terhadap kemandirian dan minat belajar mahasiswa pada mata

- kuliah wawasan dan kajian MIPA. *EDUSAINS*, 9(1).
22. Prasetyo, M. T. (2017). ICT-based instructional material development: a study of communication department students. *IJET (Indonesian J English Teach)*, 6(2), 229–247.
23. Prasetyo, J. D., & Retnawati, H. (2017). Pengembangan perangkat pembelajaran matematika berbasis masalah pada materi aritmatika sosial untuk siswa SMP kelas VII. *Jurnal Pendidikan Matematika - S1*, 6(5), 13–23
24. Reid, S. (2002). The integration of information and communication technology into classroom teaching. *Alberta Journal of Educational Research*, 48(1), 30–46.
25. Richards, J. C. (2006). *Communicative language teaching today*. New York: Cambridge University Press.
26. Ryan, R. M., & Deci, E. L. (2017). *Self-Determination theory: Basic psychological needs in motivation, development, and wellness*. New York: The Guilford Press.
27. Stefanovic, D., Drapsin, M., Nikolic, J., Scepanovic, D., Radjo, I., & Drid, P. (2011). Empirical study of student satisfaction in e-learning system environment. *Technics Technologies Education Management*, 6(4), 1152–1164.
28. Tabiati, S. E. (2016). Factors contributing to learners' autonomy in EFL reading. *Jurnal Pendidikan Humaniora*, 4(2), 82–94.
29. Willging, P. A., & Johnson, S. D. (2009). Factors that influence students' decision to dropout of online courses. *J Asynchronous Learning Network*, 13(3), 115–127.
30. Wong, D. (2007). A critical literature review on e-learning limitations. *J the Adv of Sci and Arts*, 2(1), 55–62.