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ENGLISH TEACHER PARTICIPANTS' ENGAGEMENT IN ONLINE LEARNING SESSION OF TEACHING PROFESSION CERTIFICATION PROGRAM

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Abstract
This research analyzed the engagement of English teachers who participated in the preparation of the Teaching Profession Certification Program in Sanata Dharma University. There were 70 English teachers from schools in Central Java who participated in the online learning session before they followed the workshop session. The results showed that the level of active participation of the participants in the online learning session was very low. Although the mean score of the frequency of access (x = 42.39) was above the expected frequency of access (24), the mean score of frequency of message (x = 9.32) was far below the expected frequency of message (72). There were no significant differences between male and female participants and both the frequency of access and the frequency of messages. The frequency of access indicated a weak correlation with the scores of final examination ($r = 0.21$, $p < .05$), but the correlation between the frequency of access and the final examination scores did not significantly exist ($r = 0.02$, $p > .05$). It is recommended that future attempts to investigate online activities in professional development programs for English teachers should encourage instructors and participants to be more engaged in their online learning activities.

Keywords: engagement, frequency of access, gender, online learning

Introduction

Participant engagement is an essential component of an online learning environment. The engagement of the participants in online learning is indicated by the interaction among the participants and the participant and the tutor. In any online learning environment, the contribution from the participants is crucial in which they are expected to actively discuss the content of a course with other participants and the instructor. Learners' engagement has become an important issue in designing and establishing online learning activities. Purnama (2017, p. 1)mentions that "By highlighting youths' characteristics that tend to be visual and addicted to rapid information, memes and Instagram may be used as one of the strategies to develop an innovative teaching and learning process." It is in linewith Wulandari (2017) who suggests that flipped classroom in digital environment

gives positive learning atmosphere. Although the meaning of engagement may be the same both in online learning activities and in conventional classroom, it might be different in challenges (see Isworo, 2016, p. 12) and barriers. In general sense, engagement is "the time and energy students devote to educationally sound activities inside and out-side of the classroom" Kuh (2003, p. 25). An online learning environment also requires participants to devote "the time and energy" in "educationally sound activities" so that the objective of the curriculum can be attained.

This research is an exploration of participants' engagement in online learning program in preparation of in-service teacher certification program designed by the Ministry of Education and Culture (MEC) in Indonesia conducted in 2017 (see Harendita, 2017, p. 61). This research is limited on the analysis of English teacher participants who were assigned to join the program in Sanata Dharma University. There were seventy English teachers who were enrolled in Sanata Dharma University in 2017. Since 2007 Sanata Dharma University has participated in the teachers' professional certification program. Based on the Indonesian regulation of national education teachers who teach in schools must have a teaching profession certificate. The Indonesian Ministry of Education and Culture (MEC) is initially the only organization that has the privilege to design, manage, and carry out the teaching certification program for in-service teachers. The program is a nation-wide one in which the MEC assigned some universities to carry out curriculum activities of the program.

Starting in 2017, in-service teachers who are invited in the certification program must follow a pre-condition activity (matriculation) in the form of online learning activity. The Ministry of Education and Culture provides modules that teachers have to independently learn the certification program materials. The online-learning activities lasted in three months. One group consisted of ten to thirteen participants and guided by an instructor (mentor) assigned by the hosting university. There were four required assignments that the participants had tosubmit. The instructor arranged the time of submission. The participants had to access the learning portal designed by the technology team of the Ministry of Education and Culture. The online learning portal consists of interfaces that the participants were able to communicate in an online chat with other participantsand the instructor and submit the required assignments. Therefore, there was enough medium for the participants to conduct the interaction for discussing the materials.

The participants had enough time to engage in online learning activities. The have enough opportunities to actively engage by thinking, talking, and interacting with the content of a course, the other students in the course, and the instructor. Their activities became the key element in keeping the participants connected with the course and, thus, with their learning (Dennen, Darabi, & Smith, 2007; Kehrwald, 2008; Robinson & Hullinger, 2008; Shea, Li, & Pickett, 2006; Swan, Shea, Fredericksen, Pickett, Pelz, & Maher, 2000). This form of engagement is the most essential in this activity. Some instructors also reported that they opened the opportunities for the participants to communicate with other medium such as email, cellphone messages, and WhatsApp. Therefore, it was assumed that after

the online learning preparation, the participants have enough material mastery before they follow the certification program.

This study is an exploration of the participants' engagement in the online learning preparation program as part of the in-service teachers' certification training and education. It is a descriptive study to examine the participants'engagement in online learning environment. The guiding research questions for this study were

1. To what extent do the participants engage in online learning activity?
2. Is there any difference in participation between male and female participants?
3. Is there any positive correlation between the participation in online learning activities and the final learning assessment scores?

This research is limited of describing the participants' engagement on the online learning activities. The correlational study is limited on describing the degree of association of the frequency of access and messages and the result of final learning assessment. Further study is needed to explore the real impact of theonline learning activities on the final result of learning.

It has been pointed out that participants' engagement is essential for the success of online learning environment. Some works have discussed the importance of engagement in learning for a long time. For example, Engagement is defined in terms of interest (Dewey, 1913), effort (Meece & Blumenfeld, 1988),motivation (Pintrich & DeGroot, 1990) and time on task (Berliner, 1990). Natriello (1984) defined student engagement as "participating in the activities offered as part of the school program" (p. 14). Skinner and Belmont (1993) mention that learners who are engaged show sustained behavioural involvement in learning activities accompanied by a positive emotional tone. In more recent definition, engagement is used to refer to students' willingness to participate in routine school activities, such as attending classes, submitting required work, and following teachers' directions in class.

Engagement is, as a matter of fact, the core nature in constructivist learning approaches. The constructivist learning paradigm is characterized by the provision of opportunities for students to determine, challenge, change or add to existing beliefs and understandings through engagements in tasks that are structured (Richardson, 2003). In the root of constructivist learning pedagogy, learners' engagement in real-world or practical workshops becomes the important requirement for the success in learning. In this context the learners would have opportunities to demonstrate their knowledge through creativity and collaboration (Dewey, 1933). Research reports have indicated how learners' engagement is considerably important in constructivist learning environment (Li & Guo, 2015; Dev, 2016; Vaughan, 2014; Maheshwari & Thomas, 2017; Kahn et. al., 2016). In the basic sense, the success of learning, especially in online learning environment, relies on learners' commitment in carrying out the learning tasks.

Learner engagement is critically crucial in successful learning. When learners are engaged in intellectual activities, they will devote their time to explore, discuss, collaborate, and open their minds so that they will improve their knowledge. Considering the importance of learners' engagement becomes the highest need to prevent student drop-out and improve students' learning. In a

study, Whannell and Allen (2011) reported that students who had not completed secondary school indicated significantly lower levels of emotional engagement with school and poorer relationships with teachers. Moreover, Gunuc (2014)reports that significant relationships exist between the students' academic achievement and student engagement. The study covers multiple domains of engagement: cognitive engagement, behavioural engagement and sense of belonging. Similar findings have been reported that learning engagement has important effect on students' success of learning (Kuh & Hu, 2001; Chen, Lambert, and Guidry, 2010; Duderstadt, Atkins, & Hoeweling, 2002; Thurmond & Wambach, 2004). Wara, Aloka, Odonge (2018) claim that cognitive engagement was a significant predictor of academic achievement amongsecondary school students. Learning engagement always becomes an important point in researchers' suggestion to find ways to improve learners' engagement in learning processes.

Many attempts and ideas have been proposed to increase learners' engagement in online learning environments. Theories on engagement has widely established as behavioural engagement, cognitive engagement, and emotional engagement (Harper, S. R., & Quaye, S. J., 2008; Blumenfeld, P. C., Kempler, T. M., & Krajcik, J. S., 2006; O'Donnell, A. Reeve, J. M. & Smith, J., 2011). Therefore, many kinds of strategies can be implemented to increase learners' engagement. The basic nature of increasing learners' engagement includes thinking, sharing, talking, and interacting with the content of a course, the other students in the course, and the instructor so that the activity will maintain students' interaction with the course and, thus, with their learning (Dennen, Darabi, & Smith, 2007; Kehrwald, 2008; Robinson & Hullinger, 2008; Shea, Li, & Pickett, 2006; Swan, Shea, Fredericksen, Pickett, Pelz, & Maher, 2000). The implementation of these methods is not only applicable in an online learning environment but also manageable in conventional learning situations. More specific efforts to increase learners' engagement in online learning contexts include clear assignment, scheduled activities, participants' interaction (including instructor), and collaboration. Dixon (2010) suggests that instructors need to create meaningful and multiple ways of interacting with students and encouraging/requiring students to interact with each other.

There might be some natural factors like age, gender, and place of origin in the engagement on online learning activities. Some other such as experiences and education degree also may influence the participant engagement in the online learning activities. A study by Garlan and Martin (2005) indicates that gender was a factor in the relationship between learning style and student engagement in the learning style of the online course. Furthermore, Rogers (2008) mentions that female students benefited less from e-leaning material than their male counterparts. However, the development of era might change the gender differences in the engagement in online learning activities. The different attitudes between male and female change because the use of technology has become more and more popular both for males and females. Participants' age has also been suspected to be the crucial factor that might influence the effectiveness of online learning courses. A study by Thill, Rosenzweig, and Wallis (2016) indicates that

observable trends tied age and higher grade point average to higher levels of engagement with online instruction.

The issues of gender, however, are always controversial since gender is one of social and cultural constructs that may change overtime. Technology is inherently patriarchal in nature in which technology has become male domain (Young, 2000; Clewell, 2002; Eastman & Krendl, 1987; Pinkard, 2005). However, the use of technology by women for the purposes of learning, communication, and economy has increased significantly. Economides and Grousopoulou (2008) report that women use of technology increases significantly. Although the evidence may be different in one country to other countries, the use of cell phones by women becomes more and more popular (North, Johnston, & Ophoff, 2014). In addition, the evidence is very limited to claim that women are more intensive in using digital technology than men. However, the increase of social media technology makes women more confident in the use of technology intheir daily activities. Mobile technology becomes more popular for women sinceit facilitate them to chat, to communicate with their families, and to learn independently online (North, Johnston, & Ophoff, 2014). The expansion of online shopping has attracted the basic nature of women to fulfill their needs. It will be much easier for women to browse new fashion, make-up utensils, house care utilities, etc. Finally, digital technology becomes closer and closer to women that may narrow the gaps between males and females on their use of technology.

Maintaining learners' engagement in online learning activities should also consider the challenges and barriers. The characteristics of online learning activities include the distance between learners and learners, learners and instruction. Therefore, physical presence of all participants will always become the challenges of the teaching and learning activities. Many discussions have beenpresented to address the issue that the lack of direct interaction between learners and instructors becomes an important factor of students' dissatisfaction with online learning programs. Kehrwald (2008) argues that learners need to be able to share more than "just the facts" and they need to feel they are not communicating with machines in cyberspace, but real people. In addition, Dixson (2015) elaborates the importance of social presence, teaching presence, and cognitive presence in online learning environment in which social presence becomes a key factor in student engagement. Another challenge relates with real learning assurance. Effective learning will happen when learners actively construct their own knowledge through independent study and participating in collaboration and interaction in meaningful discussion. To assure that the learners experience those learning efforts requires more challenging method in online learning compared with conventional learning programs. Posting to forums, writing e-mails, taking quizzes are some example to monitor learners' participation in online learning environment.

The most obvious barrier that is also important relates with the Internet connection. People who concern about the high expectation of online learning to increase academic outreach have addressed the importance of the virtual signal and bandwidth. In modern countries, this issue might not be so popular since the Internet connection has already been popular throughout the area including

villages in remote places. On the other hand, in developing countries like Indonesia, there are still many areas in which people have difficulties to access the Internet. People in remote areas must go to bigger cities to have good access to the Internet. In addition, although some e-learning portals or social media may only limited on textual communication, the Internet connection becomes the most crucial requirement for participation in online learning environment. For example, the best Internet speed for Facebook chat is the fastest that users can manage under the limited budget — aim for at least 3 Mpbs download and 1 Mpbs upload. However, this low need of bandwidth will never be attained without the presence of internet connection.

Based on the literature, the factor of age and gender of English teachers might influence the level of engagement in the online learning program in preparation of in-service teachers certification program conducted in Sanata Dharma University. In addition, studies have indicated the favorable connection between the learning activities and academic achievement. The engagement in the online learning program in preparation of in-service teacher certification program is also expected to have positive correlation on the learning achievement of the participants.

Method

To analyse the participants' engagement in the online learning preparation program as part of the in-service teachers' certification training and education, basically the researcher used descriptive statistics. Using this method, the researcher was able to get the complete description about the participants, the frequency of access, and the frequency of participation in the discussion forum. Furthermore, the researcher was also able to measure the correlation between the frequency of access and participation in discussion forum with the learning assessment conducted at the end of the program.

The data source

The data was taken from the database containing the record of the English teachers who were enrolled in the online learning preparation program as part of the in-service teachers' certification training and education in Sanata Dharma University. The database contains information about sufficient demographic data which includes names of instructors, participant gender, length of teaching, age, and final assessment scores.

Procedure

After the researcher obtained the data from the administrator of the online learning preparation program as part of the in-service teachers' certification training and education in Sanata Dharma University, the researcher organized the numerical data into a more manageable database. The researcher analysed the demography, initial test score, frequency of access, numbers of messages, and the final test score of the students. From this data, the researcher generated data tables and visuals to get detailed description of the data.

The researcher conducted a one-group sample T-test to get the significance of the comparison between the frequency of access and a hypothetical mean score. The researcher generated the hypothetical mean score from the expected frequency of access based on the available time for the online learning process,

namely 24. The researcher used the similar approach for comparing the frequency of messages and a hypothetical mean score of 72. Those hypothetical mean score were generated from the assumption that in three months the participants had the opportunities to access the learning portal twice a week. It was assumed that every time the accessed the portal they at least sent messages three times: greetings or asking questions, presenting ideas, and responding to friends' posted issues. Furthermore, the researcher conducted the comparative analysis using independent sample T-test to explore the different engagement between male and female participants. Afterwards, the researcher conducted correlational analysis toexamine the association between the participants' engagement and the result of the final examination. To get more detailed result of analysis, the researcher analysed the correlation between the frequency of access and the result of final examination; and the number of messages and the result of the final examination separately.

Findings and Discussion

Data Presentation

No	Sex	Number of Participants	Percentage
1	Male	30	42.86%
2	Female	40	57.14%
TOTAL		70	100%

Table 1. Number of Participants

The table above indicates the general description of the online learning activities that have been investigated. There were 30 male and 40 female English teachers who participated in the online learning session prior to the workshop session as part of the in-service teachers' certification training and education in Sanata Dharma University. The mean score of the frequency of access in the table of the Frequency of access is 43. The frequency of access constitutes the least frequent of access of 2 times and the most frequent of access of 223 times. The mean score of access (43) is higher than the expected frequency of access (24). There were at least 24 (34%) participants whose frequency of access the online learning portals is below the expected number of access. Meanwhile, 46 participants accessed the learning portal above the expected frequency of access. This constitutes 66 percent of the total number of the participants.

The data reveals that when the participants accessed the learning portal did not mean that they participated in the discussion forum by posting messages, asking questions, or responding to other participants' message. It was suspected that many participants just logged in and browsed information in the discussion forum without interacting neither with other participants nor with the instructors. The data summary in the number of messages indicates that the total frequency of messages was 565. All participants have the frequency of messages that is below the expected number of 72. Therefore, the mean score of the frequency of message is very low ($\bar{x}$ =9.39). This score constitutes the least frequent message of 0 (zero) and the most frequent message of 37. In brief, the data indicates the

participants' engagement in the online learning session prior to the workshop session as part of the in-service teachers' certification training and education in Sanata Dharma University is far below the expectation.

The frequency of access

No	Access	Frequency	Percentage	Cumulative	Tot_access
1	1 - 10	12	17%	17%	68
2	11 - 20	12	17%	34%	175
3	21 - 30	8	11%	46%	206
4	31 - 40	10	14%	60%	335
5	41 - 50	7	10%	70%	322
6	51 - 60	3	4%	74%	158
7	61 - 70	4	6%	80%	258
8	70 - 80	3	4%	84%	224
9	81 - 100	5	7%	91%	444
10	101 - 250	6	9%	100%	820
		70	100%		3010
Total of access = 3010		$\bar{x}$ = 43	$n = 70$	$SD = 39.94$	

Table 2. Frequency of Access

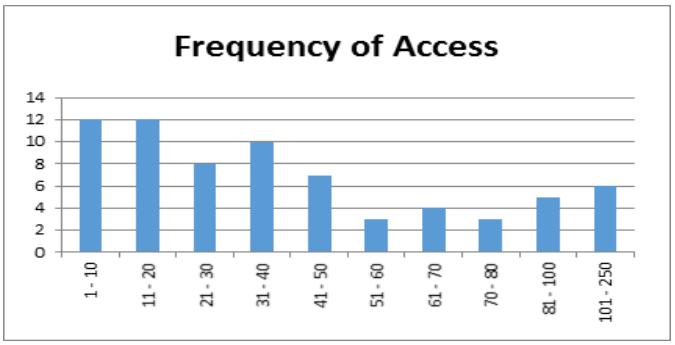

Table 3. Frequency of Access

The comparison below was intended to test whether the difference between the frequency of access and the expected frequency of access is significant. One sample T-test was used to analyze the difference using the hypothetical score of 24 as the expected frequency of access.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Access	70	43.00	39.944	4.774

One-Sample Test

	Test Value = 24 (access)			
	t	df	Sig. (2-tailed)	Mean Difference
Access	3.980	69	.000	19.000

The result of one sample T-test indicated that the real frequency of access is significantly higher than the expected frequency of access (x =43, df=69, t=3.980, p<.05). Therefore, it is evident that the participants' activities in logging in and browsing the chat forum was above the expected frequency of access.

The frequency of messages

No	Messages	Frequency	Percentage	Cumulative	Tot_mess
1	1 - 5	29	41%	41%	92
2	6 - 10	19	27%	69%	152
3	11 - 15	9	13%	81%	112
4	16 - 20	5	7%	89%	84
5	21 - 40	8	11%	100%	217
		70	100%		565
Total of messages = 565			$\bar{x} = 9.39$	$n = 70$	$SD = 7.98$

Table 4. Number of Messages

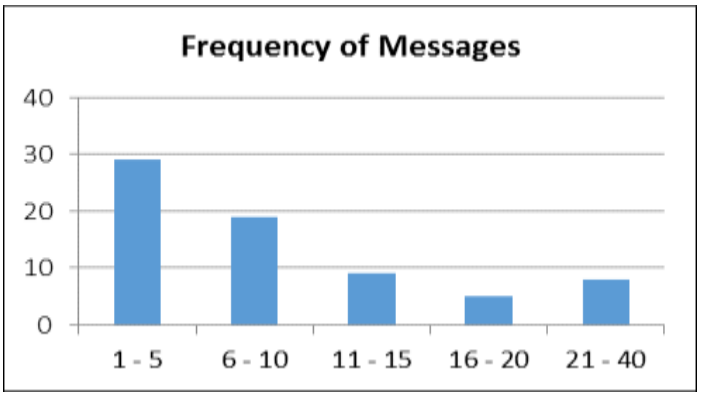

Table 5. Frequency of Messages

The comparison below was intended to test whether the difference between the frequency of messages and the expected frequency of messages is significant. The method used was similar to the previous method in which one sample T-test was utilized to analyze the difference using the hypothetical score of 72 as the expected frequency of messages.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Messages	70	9.39	7.977	.953

One-Sample Test

	Test Value = 72			
	t	df	Sig. (2-tailed)	Mean Difference
Messages	-65.673	69	.000	-62.614

In contrast with the previous analysis, the test result of one sample T-test indicated that the number of messages was significantly far below the expected number of messages (x =9.39, df=69, t=-65.673, $p<.05$). Thus, it is evident that the participants' activities in interacting with other participants and the instructor were far below the expectation. It is suspected that the active participation was limited on logging in, browsing, asking technical questions, or reporting to the

instructor that they have submitted the assignment. There were only small numbers of participants who actively present ideas or discuss the learning materials with other participants and the instructors.

The differences between male and female on access and messages

The analysis below is the comparison of engagement between male andfemale English teachers in the online learning activities that have been investigated. The frequency of access and the frequency of messages were analyzed using independent sample T-test.

Group Statistics

	FM	N	Mean	Std. Deviation	Std. Error Mean
Access	Male	30	52.67	49.399	9.019
	Female	40	35.75	29.706	4.697
Messages	Male	30	8.83	6.721	1.227
	Female	40	9.80	8.864	1.402

Independent Samples Test

		t-test for Equality of Means				
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Access	Equal variances assumed	1.781	68	.079	16.917	9.499
	Equal variances not assumed	1.664	44.433	.103	16.917	10.169
Messages	Equal variances assumed	-.499	68	.619	-.967	1.937
	Equal variances not assumed	-.519	67.984	.606	-.967	1.863

The result of independent sample T-test indicates that there was no significant difference between male participants and female participants in the frequency of access (x _m=52.67, x _f=35.75, df=68, t=1.781, p>.05). Similarly, there was no significant difference between male participants and female participants in the frequency of messages (x _m=8.83, x _f=9.80, df=68, t=-0.499, p>.05). The results of both T-test give sufficient evidence that male and female participantshad equal behaviors in participating in the online learning session prior to the workshop session as part of the in-service teachers' certification training and education in Sanata Dharma University.

Correlation between participation and final assessment scores

The correlational analysis was done using Pearson Correlation to get the correlation coefficient. The analysis was intended to identify whether there is a positive correlation between the participation and the post test scores.

Correlation between Access and Post Test Scores

		Access	PostTest
Access	Pearson Correlation	1	.214*
	Sig. (1-tailed)		.038
	N	70	70
PostTest	Pearson Correlation	.214*	1
	Sig. (1-tailed)	.038	
	N	70	70

Correlation between Messages and Post Test Scores

		Messages	PostTest
Messages	Pearson Correlation	1	.023
	Sig. (1-tailed)		.424
	N	70	70
PostTest	Pearson Correlation	.023	1
	Sig. (1-tailed)	.424	
	N	70	70

The result of correlational tests indicates that the correlation of the frequency of access and the post test result was very low($r=0.21$, $df=68$, $p<.05$). However, the correlation is positive and significant in the sense that there is a chance to expect that the frequency of access may contribute to the result of learning. Nonetheless, the frequency of access only shares about 4.58% of coefficient of determination so that other unidentified variables have bigger contribution to the learning result. On the other hand, the result of correlational test between the frequency of messages and the posttest result indicates a very low positive correlation or no correlation at all ($r=0.023$, $df=68$, $p>.05$). It doesn't provide enough evidence that the frequency of messages sent by the participants associates with the result of the final examination or result of learning.

Based on the findings in this study, there are three major issues that provide a gateway for discussion. First, there is an urgent need to overcome the low engagement of online learning participants. Second, male and female online learning participants begin to be equally engaged. Third, challenges on sustaining participants' motivation are still persistent and require certain strategies to sustain the high motivation of the participating learners.

It has been pointed out previously that engagement has been an important factor for academic achievement and success of learning. Therefore, it is important that the online learning participants to engage actively in learning process. Learners' engagement in intellectual activities in the form of exploration, discussion, collaboration will improve their knowledge and success of learning (Whannell and Allen, 2011; Gunuc, 2014; Kuh & Hu, 2001; Chen, Lambert, and Guidry, 2010). It will be very difficult to expect successful learning when the learning engagement of online learning participants is low. Consequently, the online learning environment should be designed so that the participants are encouraged to carry out the intellectual activities which include thinking, sharing, talking, and interacting with the content of a course, the other students in the course, and the instructor.

There may be many factors that impact the participants' low learning engagement in online learning environment. The data in this study shows an interesting truth in which the participants' access on the online portal is more favorable that participants' commitment to participate in discussion forum through

sending messages. The most reasonable interpretation of this fact relates with motivation and interest (Dewey, 1913; Pintrich & DeGroot, 1990). The facts that the frequency of access is higher than the expected and the frequency message is far below the expected indicate that the participants have low motivation and interest in the learning process. Their motivation and interest are most possibly limited on fulfilling the basic requirements of the program. In conclusion, there must be some effort to design online learning programs that consider the explicit, clear and high requirements which facilitate participants to be more motivated in the online learning processes.

The data in this study indicates that the engagement of male and female online learning participants is considerably equal. The previous theories suggest that gender becomes an important factor of engagement and female participants may benefit less in from e-learning materials (Garlan and Martin, 2005; Rogers, 2008). However, the recent improvement of technology has made men and women have equal access to and control over technology. Recently, men and women tend to have the same level of digital access, fluency, and affordability. In addition, in some contexts women are better at using those digital skills to gain more education and to find work. Female professionals have realized that they canembrace and use digital technologies to become more knowledgeable, connected, and effective.

The data in this study indicates that there is a very low positive correlation between participants' access to the learning portals. Meanwhile, there is no significant correlation between the frequency of messages and the result of the final examination. This phenomenon is consistent with the challenge of retaining learners' motivation in online learning contexts. The frequency of access reflects the external motivation of the participants. They accessed the online portal because it was a program requirement. Meanwhile, the absence of association between the frequency of message and the final test results indicates that the participants have low intrinsic motivation which refers to behavior that is driven by internal rewards that they want to master the learning materials provided in the learning modules. This kind of motivation becomes the barriers in retaining learners in an intensive, qualified, and meaningful intellectual interaction using online learning system.

Conclusion

From this study, there are three significant conclusions that can be generated. First, the data and analysis of this study provides evidence that the engagement of English teacher participants in online learning program in preparation of in- service teachers' certification program in Sanata Dharma is low. Although the frequency of access was above the expected rate, the frequency of messages is considerably low. This indicates that retaining learners' engagement in online learning environment still becomes a crucial challenge in designing and conducting online learning activities for professional development programs for English teachers in Indonesia. Second, the gap between male and female participants on online learning environment is very narrow. This finding may improve the expectation that female participants in online teachers' professional

development will have better engagement in the future. Third, many research studies claim that engagement in online learning activities has positive impacts on learning achievement. However, the truth is that online learning program is a system that consists of many factors. Factors outside participants' engagement might have more significant effects on the learning achievement. In addition, factors other than engagement in isolation may impact of the motivation on learners to participate more intensively so that learners' engagement in online learning environment can be improved.

The future possibility of using online learning platforms for professional development is widely open. The use of technology provides more choices for everyone to access knowledge, skills, and better career. Therefore, it is suggested that the online learning designers consider the importance of participants' learning engagement in designing the infrastructure of the online learning system. They need to design the online learning portal interfaces that are user friendly and easy to access. It is not only for the sake of the participants but also for the instructor. Itis also important for professional development program managers to carry out a particular monitoring system which help online learning instructors to facilitate the learners for making intensive communication. The interaction between the participants and the learners is so crucial that the participants feel that they are working together with human beings, not machines. In addition, gender identity will always become an important issue in developing and establishing online learning systems for adult learners. Without neglecting the change of the phenomena that women become more familiar with technology, the domination of men is still significant when digital technology is used. On the other hand, the contribution of women in politics, economy, culture, etc. becomes more obvious. Therefore, further research is still needed to provide more data and analysis of the use of technology especially by female users. Finally, the contributions of engagement in online learning achievement still need a further study. More analysis is still needed to find the kinds of engagement which best contribute tothe learning achievement.

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