TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 9, 2020

# A new decade for social changes

www.techniumscience.com

ISSN 2668-7798

Technium Social Sciences Journal
Vol. 9, 119-132, July 2020
ISSN: 2668-7798
www.techniumscience.com

# Focus Group Discussions E-Learning based on Prior Knowledge and Problems in the Covid-19 Pandemic Period

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**Abstract**. The Covid-19 pandemic forced many campuses around the world to close. In Indonesia, the closure of the campus began in mid-March 2020. The closure of the campus for a long time will harm students. To prevent this, the Indonesian government encourages campuses to hold online lectures or E-Learning. One of the campuses implementing E-Learning is STIE Ekuitas Bandung. The change from traditional lectures to E-Learning is not as easy as the theory. There are technological limitations, especially connections that cause students to have problems when forced to attend college in the form of video streaming. Besides, the economic recession caused by the pandemic is also another obstacle. On the other hand, most lecturers do not know how to give lectures effectively via the web, because they cannot get feedback from students. One solution we propose in this paper is to revive group discussions on school E-Learning sites. Using the student's Prior knowledge about E-Learning as a parameter, we conclude that the learning design provided in e-learning has to be slower compared to face-to-face learning with the aim that respondents have time to read, understand and finally understand with their efforts.

**Keywords**. Covid-19, Group Discussion, E-Learning, Prior Knowledge

## 1. Introduction

In response to the COVID-19 pandemic, most universities around the world have temporarily closed their physical campuses to curb the spread of the virus. A campus is considered a high-risk place for virus transmission because of its diversity, activity, and population density, making social distance measures difficult to enforce. In Indonesia, the closure of the campus began in mid-March 2020 in several affected areas (Jakarta, West Java, and Central Java) and was expanded to the national level a week after [1]. Consequently, UNESCO found that more than 8 (eight) million registered tertiary students in Indonesia are affected [2]. If there are no effective strategies to protect learning opportunities amid this period, this disorder will cause serious harm to students [3]. Therefore, to mitigate the negative impact and to ensure continuity of curriculum-based studies, the government encourages universities to provide remote learning processes.

STIE Ekuitas, a business school in Bandung, is among the universities that forcibly switches face-to-face learning to an online learning system. This school has initiated the utilization of blended learning by disseminating the school's e-learning sites for the past six months. Nonetheless, the implementation is still inefficient because the site is still under development, and many trained instructors are still a novice to technology hence have not used the site consistently. To complement this shortcoming, Ekuitas collaborates with a virtual meeting service provider, Telkomsel CloudX. This tool allows instructors and students to carry

Technium Social Sciences Journal
Vol. 9, 119-132, July 2020
ISSN: 2668-7798
www.techniumscience.com

out direct learning in the distance from where they are isolated. Such a blessing in disguise, the e-learning systems are beneficial in some ways. Students can learn more flexibly, not having to go back and forth to school thereby reducing transportation and/or accommodation costs [4][5] and having more quality time with their families in hometown.

However, e-learning is not as simple as it sounds: moving the traditional learning to the web. E-learning is such a complex endeavor because it comes up with many challenges to overcome. First, the sudden transition to fully online learning in Ekuitas hampered due to technological barriers. Many students complained about poor connectivity in their respective areas, making it difficult for them to attend live-streaming lectures. This situation in line with the data published by OECD in 2019 showing that only 34% of Indonesian pupils have computer and reliable internet access to participate in digital learning [3]. Moreover, due to the economic recession caused by the pandemic [6][7][8], many parents are not able to support their children's digital costs. On the other side, the less tech-savvy instructors are feeling burdened and adapt to the change at a slow pace. Most of them have no idea about how to deliver the lectures over the web effectively. They just simply upload the material and assignment, tick the presence, and some of them undertake video conferences despite many technical issues. This method makes it hard for the instructor to know the students' situation, attitudes, and feedback of students whether they understand the lesson learned or not. It becomes more complicated for some quantitative subjects such as accounting and statistics that require direct demonstrations.

The second challenge is about student engagement and satisfaction. According to our observation through a sequence of tests before the pandemic, the students' competence and participation were quite low, and it became worse in the wake of the pandemic. This is indicated by the reduced number of attendees in each meeting, passive discussion, and lower quiz and mid-semester test scores. Simply put, the e-learning method currently used is not perceived useful by the students and they may feel anxious about their study success [9]. If this continues, the learning process can be completely disrupted, and dissatisfied students may take action against the school. Many students already ask the school to reduce the tuition fees, not only because of their economic problems but also overpriced service quality. To anticipate more serious threats, the needs of students must be in front-of-mind by all instructors. Thus, we need to formulate the best method for triggering student involvement in this distance learning. One solution we propose in this paper is to revive group discussions on school e-learning sites. We believe that this method is compatible with Ekuitas students who have a variety of internet accessibility.

## 2. Literature Review

### *2.1. E-Learning Concept and Classification*

E-learning or Technology Enhanced Learning (TEL) can be defined as education delivery through a mix of technology devices, software, and networks [10][11]**.** Higher education has been experiencing e-learning in a long milestone in the form of online forums, social networking, online game, and a quiz to improve students' experiences pedagogically and otherwise [11]. Many prior researchers identified two basic types of applicable e-learning: synchronous and asynchronous [4].

a. Synchronous E-learning

Synchronous learning refers to direct lectures via video conference platforms at a scheduled time [4]. This type of e-learning is powerful in certain conditions: each student has access to good quality internet connections and digital devices availability [3]. Whereas, for students who do not have sufficient technology and digital literacy, watching lectures in the

form of live streaming or video recording will be frustrating [12]. Also, if instructors choose this type of learning, instructors should present the lesson in a way convenient to all students. For example, because many students use smartphones, instructors need to understand that there are significant differences between slide shows on laptop screens and small-sized smartphone screens [13]. The ratio of font size to slide pages needs to be adjusted to improve readability. Thus, teacher preparedness is important to give students a positive experience. Synchronous learning also beneficial to mitigate the sense of disconnection among students through direct interactions and teamwork [14][12][15].

b. Asynchronous learning

In contrast with the synchronous counterpart, in asynchronous sessions, the students are not required to access the course at the same time. They can do discussion through the school discussion forum or email group in a more flexible, independent, and active manner [16]. It is claimed that in a certain condition, asynchronous learning is more efficient in encouraging students to participate in a discussion, for example by asking or answering questions, sharing materials, and solving problems [17]. On the other hand, this type of learning is also good for introvert students because it involves less amount of collaborative work [18]. However, Kim and Ketenci [19] found two main challenges of collaborative learning in asynchronous type, (1) how to differentiate students' level of participation and (2) to suggest appropriate classification methods. Considering the situation of Ekuitas students who face problems of internet connectivity, it seems that asynchronous learning with discussion groups facilitated by instructors is the best choice. In an instructor-facilitated discussion, students will be more active than in peer-reviewed discussions because they feel connected by the instructor's feedback [20].

*2.2. Adoption of E-Learning*

E-learning is still new to some learners, its effectiveness and efficacy depend on the user's acceptance. Prior researchers have been working hard to formulate a model that best describes the factors influencing user's acceptance towards the e-learning system. In this paper, we analyze two notable models as follows.

a. Technology Acceptance Model (TAM)

This model has been widely used and studied in previous relevant studies related to e-learning adoption. People might think that age determines an individual's response to technology, that older people feel anxious about technology adoption because learning digital skills are more difficult for them than for youngsters [11]. This thought is not entirely true, because what influences the acceptance of technology is the user's attitude. According to TAM, user involvement in a system or technology is determined by perceived utility and perceived ease of use [11]. Utility perception refers to how useful technology is to meet students' needs. While the perception of ease of use means how user-friendly the technology is. Broady et al., highlighted that users' attitudes may change over time triggered by their experience utilizing the system. This statement implies that if students experiencing negativity with the technology, they likely to avoid using it.

b. E-learner Success Assessment Model (e-LSAM)

This is a contemporary model proposed by [15] to predict the determinant factors of student engagement and e-learner success by assessing their satisfaction upon five dimensions namely learner, instructor, system, course, and social. The assessment is relevant to be carried out before, during, and after the e-learning implementation. To sum up, this model assumes that perceived ease of use will affect students' perception of usefulness. When students acknowledge the use of e-learning, they will feel satisfied and intended to continue to engage in LMS. That attitude ultimately galvanizes the success of e-learners. On the other hand, perceived usefulness

is a result of good quality e-learning which accommodates some features namely intangibility, heterogeneity, inseparability, and perishability [10]. If e-learning delivers stable, user-friendly, sufficient material, and convenience to do discussion with the instructors, then it is a good quality one.

c. Self-Regulated Learning Theory (SRL)

SRL theory is the basic concept of e-learning success. According to this theory, learning is the process by which a student independently sets goals, manages resources, implements strategies, and evaluates learning to pursue planned goals [15]. Students also urged to improve their digital literacy through a set of self-regulation skills, such as the ability to overwhelming information over the internet. The skills comprise of four regulation domains: 1) cognitive, 2) Regulation of motivation and emotions, 3) Regulation of behavior, and Contextual regulation.

*2.3. Advantages and Disadvantages of E-Learning*

Some studies found that e-learning is more effective than traditional learning in some ways [4][5]. It is claimed that students can retain 25-60% more material from the online course than the classroom due to its flexibility, self-paced system, and lowered-cost [21]. This can make higher education more open, reasonable, intelligent, and student-centered. The other evidence suggests that online learning can upend higher analytical skills [22]. It is also assumed that in a self-directed environment, students will gain more beneficial experience from online materials that contribute to their outcome in subsequent courses, but this prevails in certain group conditions [23].

However, in some conditions, e-learning bringing up many challenges or disadvantages. Since students' social activity is limited, they may feel isolated, demotivated, and anxious about delayed feedback [4]. For some students, this negativity is worsened by low-quality internet access and unconducive study space. Ideally, students study in a quiet and hassle-free like at school. Unfortunately, many students in Indonesia (> 30%) do not have access to the conditions required, not better than the average percentage in OECD countries [3]. Another obstacle in e-learning is that because online learning is mostly based on written language, it is difficult to give cues or non-verbal demonstrations. This shows that in the context of communication efficiency, face-to-face learning is irreplaceable [12].

*2.4. Student Engagement and Forum Group Discussion*

a. Student Engagement

Student engagement is the essential determinant for e-learning success [24][14][25]. It is defined as a student's total involvement (behaviorally, orally, and emotionally) in a learning process [26]. A study suggests that e-learning associated with high-rate of students drop-out [27], therefore formulating a way to enhance this factor always becomes the main concern in many e-learning studies. As previously stated, student engagement is a result of students' satisfaction with the system [25][28][29][10][20] and the presence of self-regulatory skills [15]. When students strongly engaged in the learning system, they will likely enjoy the learning process until the end [14]. On the contrary, when students disengaged, they hardly finish their course and fail their targets.

b. Focus Group Discussion to Foster Student Engagement

Many prior studies examined the association of group discussion and student engagement in e-learning of higher education [26][30][31] which results in different conclusions between Pros and Cons. Some that support, assume that group discussion will make

students proactive in knowledge acquisition [32]. They also argue that online discussion provides some benefits that offline discussion cannot give, such as flexibility to join the discussion in terms of time, space, and appearance that suits the students. They are also able to follow a certain theme in the conversation, read, and communicate their ideas and/or others [32]. Whereas the counterpart group argues that online discussions sometimes limited to personal information exchange and tend to discuss more informally. Based on this situation, they disagree to conduct discussion online-only, it must be followed by a face-to-face discussion to contain the quality [32].

Nevertheless, group discussion is an integral part of e-learning both synchronously and asynchronously. In synchronous, students have discussions in a pre-determined live streaming session, whilst in asynchronous, the discussion runs indirectly and time-flexible, mostly text-message based. As one of many learning methods, both in synchronous and asynchronous learning, group discussion always faces the same issue: students' participation and difficulties to assess students' attitudes towards the discussion.

In asynchronous learning, another challenge emerges regarding the method to classify the level of students' participation in the discussion. However, compared to the synchronous system, the asynchronous discussion is better in terms of student engagement rate because the students have more time and opportunity to read, comprehend and contemplate the topic discussed thus producing better ideas [3]. To overcome that challenge, some studies [19] tried to develop a set of classification of student participation in a discussion as follow:

Student participation hierarchy (most to least) :

a. Full participants: a group of students who actively contribute to the topic development. They have control over group communication and act as mediators.
b. Inbound participants: participants who are active in asking questions and meaningful feedback hence trigger other participants to act too.
c. Peripheral participants: participants who are a novice to online discussion and prefer to observe others' conversation, more selective, and some of them stay passive in the forum.

The variety of participation among students is influenced by group awareness. It encompasses two main factors, motivational and feedback factors. Students are stimulated to contribute more to the forum because of social evaluation and comparison factors [26]. While another study identifies four factors that determine the rate of student participation especially in the synchronous learning system, medium naturalness, teaching-learning style, personality traits, and the emotional closeness among group members [33].

## 3. Methodology

### *3.1. Design of e-learning*

Two learning theories are known so far, namely behavioral and constructivism, where both theories have different views about learning. The behavioral view that learning will be obtained from the stimulus of someone (lecturer) to the learner (student), this theory assumes the learner is in a passive position but can respond to the stimulus provided. This theory considers learning success will be achieved if the learner succeeds in achieving the predetermined targets. While constructivism is more view that learning will succeed if there is an increase in the development of logic and conceptual in learners. This theory considers learning success will be achieved if there is an active information process from the learner, so this theory requires learners to create their learning styles by linking to prior knowledge (Prior knowledge). Some researchers including [34][35] included E-learning in the category of constructivism.

Technium Social Sciences Journal
Vol. 9, 119-132, July 2020
ISSN: 2668-7798
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This study has 3 (three) objectives, namely (1) knowing perceptions based on students' Prior knowledge about e-learning learning, (2) knowing e-learning learning experiences based on student's Prior knowledge, and (3) designing e-learning learning based on ability beginning, perceptions, and learning experiences of learners.

Good e-learning must be designed through regular online contact with tutors (through discussion forums, chat forums, email, and portfolios as a method of assessment [36], based on this the e-system learning which is used as a research facility also presents these things (figure 1) There are several components available in the "Activities" facility, including teacher absence, grades, learner absences, and e-mail. This facility is made with the aim that every activity undertaken by the instructor and learner can be well recorded, as well as the value of assignments and examinations can all be seen transparently. Email is needed as an additional means if the learner has difficulty when uploading his assignments.

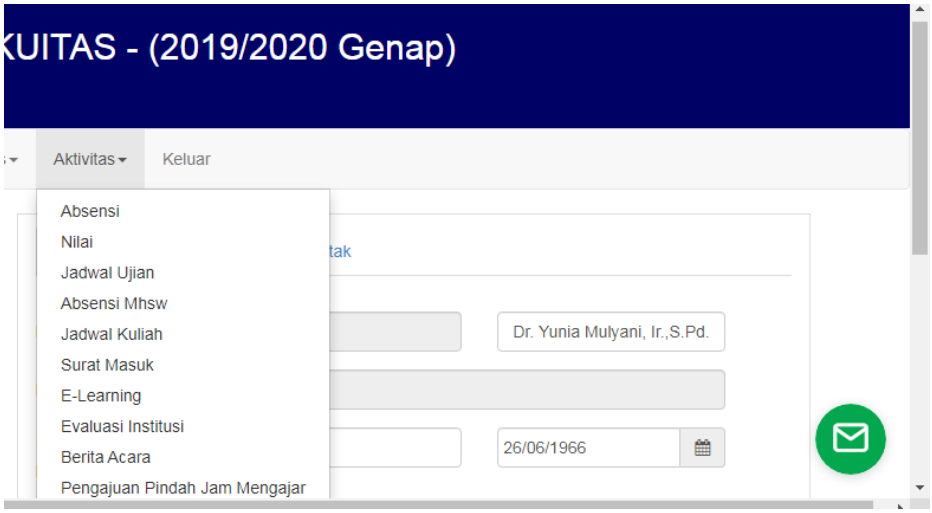


**Figure 1** Main Facilities e-learning

Other supporting facilities available in this system are e-learning activities, in which there are several facilities needed in e-learning teaching and learning activities (figure 2), namely:

a. "See Material", this facility can be used by teachers to enter the material to be submitted, where the material can be delivered in three ways, namely material links, video links, and material uploads. Learners can use this facility to see, study, and understanding the material delivered by the teacher.
b. "View Assignments", similar to "View Assignments" this facility has a function to upload assignments that will be given by the instructor along with the deadline for completion, also includes information on the name of the learner who has done the assignment. For learners, the "View Assignment" facility functions to download and upload assignments. Through this facility the benefits can be obtained by teachers and learners, namely (a) to consolidate the threshold of understanding the basic concepts possessed by learners, (b) increase the discipline of learners, and (c) increase the critical thinking skills of learners.
c. "Discussion Forum Time Set" is an important part of this research, because through the allocation of limited discussion time the instructor can find out the level of activeness of learners in participating in e-learning learning.
d. "See Discussion Forum", the main facilities for this research are in this forum. In the discussion forum of each meeting can (a) be seen the activeness of the learner in asking and answering each problem, (b) broadening the learner's insight in understanding the

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ISSN: 2668-7798
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material, (c) developing critical thinking skills, (d) increasing the learner's self-confidence to dare to talk and exchange minds. This forum is the most important part of concluding the main objectives of the study.

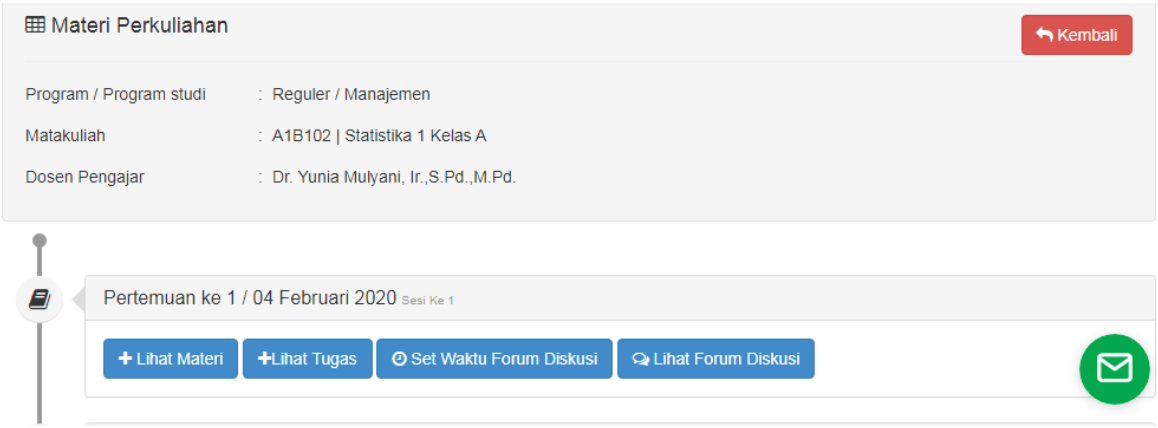


**Figure 2** Additional Facilities e-learning

*3.2. Participant*

65 (sixty-five) participants were involved in Statistics lectures through e-learning, participants were divided into 2 (two) categories, namely participants who were studying at the bachelor level of Management study program and diploma level in Banking Finance study program. Although participants have different programs, all participants have the same general subject, Statistics. Also, an important requirement that needs to be applied in e-learning research is that all participants involved in this activity are certain to have passed the Computer Introduction course [37]

*3.3. Research Time*

All activities are carried out in the "work from home" and "study from home" periods of the Covid-19 pandemic in Indonesia, from February to May 2020.

*3.4. Data Collection*

In collecting data, each participant is divided into two categories, namely low participant (LP) participants and high participant (HP). The separation is done by providing a simple test related to Statistics material, namely Simple Linear Regression. Learners who get a test score $\geq 70$ are categorized as having high Prior knowledge.

Data collection was carried out by mixing two methods, namely by using discussion group forums (FGD) and by giving questionnaires to participants. Data collection was carried out in 5 activities with specific objectives as follows (table 1)

**Table 1** Activities Observed from Participants

| No | Activity type | Objective |
|---|---|---|
| 1 | Participants have been notified of the e-learning time that will be carried out, as well as the tasks that must be carried out by the participants during the activity. | Remind participants to follow all e-learning without having to wait for further instructions from the instructor. |
| 2 | Teachers provide some rules that must be obeyed by learners. | Increasing awareness for learners to achieve success in e-learning requires learning independence. |

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ISSN: 2668-7798
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| | | |
|---|---|---|
| 3 | The rules of the instructor are implemented and must be obeyed. | Discipline learners and train learners to be able to think critically. |
| 4 | The rules of the teacher are removed by prior notice to the learner. | Seeing the activeness of learners in independent learning. |
| 5 | Giving questionnaires to students. | Knowing learners' perceptions of e-learning learning. |

The rules applied in this activity are (1) the task can be downloaded starting at 7 in the morning and the answer to the task must be uploaded no later than noon on the same day, and (2) each active participant in the discussion is given a point reward. Questionnaires are given after all activities have been completed, where the questionnaire has closed and open answers. The contents of the questionnaire included perceptions, levels of satisfaction, difficulties felt by participants, suggestions, opinions of participants regarding the assessment methods, delivery, and their views on e-learning.

*3.5 Data Analysis*

Each activity in this study contains a theme patterned in the phenomenon of e-learning learning, where data is obtained by the survey. Based on this, the data obtained in the field are analyzed using thematic analysis [38]. Identification of the theme is done by analyzing each answer given by participants when answering questions in the questionnaire.

## 4. Results

Determination of participants into two groups based on preliminary knowledge is done by giving a pretest in the form of questions about simple linear regression, where participants are required to (1) determine the independent variable (X) and the variable (Y) of a given case, (2) make a simple linear equation (Y = a + bX), (3) determine the value of X if Y is known, (4) calculate the correlation value, and (5) calculate the coefficient of determination of the equation obtained. Participants are given time to download assignments at 7 am and must finish uploading answers no later than noon on the same day. Of the 65 participants who were sampled as a research sample, 52 participants successfully uploaded answers ≤ noon, the remaining 13 participants uploaded more than 12 hours for various reasons. Following the agreement, the sample taken was 52 participants. From 52 participants, it was found that 31 participants scored <70, so the participants were included in the low Prior knowledge group. The remaining 21 participants entered the high Prior knowledge group.

*4.1. Perception of E-learning*

Before the first discussion activity was carried out, each participant was given a questionnaire about their perception of e-learning. The questionnaire has closed answers "agree" and "disagree" (table 2) of 15 statements with results (figure 3)

**Table 2** Respondents' Perception Questionnaire and Learning Experience with E-learning

| No | Statement |
|---|---|
| 1 | E-Learning makes you able to learn independently. |
| 2 | E-Learning allows you to do your work. |
| 3 | E-Learning makes confidence increase. |
| 4 | E-Learning makes you interact less. |
| 5 | E-Learning makes you stressed when studying. |
| 6 | E-Learning allows you to learn flexibly. |

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Vol. 9, 119-132, July 2020
ISSN: 2668-7798
www.techniumscience.com

| No | Statement |
|---|---|
| 7 | E-Learning makes it difficult for you to communicate. |
| 8 | E-Learning increases your learning motivation. |
| 9 | E-Learning makes you diligent in digging for information. |
| 10 | E-Learning makes you have to try hard yourself when studying. |
| 11 | E-Learning trains to think critically. |
| 12 | E-Learning trains you to be active in learning. |
| 13 | E-Learning frustrates me with learning. |
| 14 | Internet signals affect the learning process. |

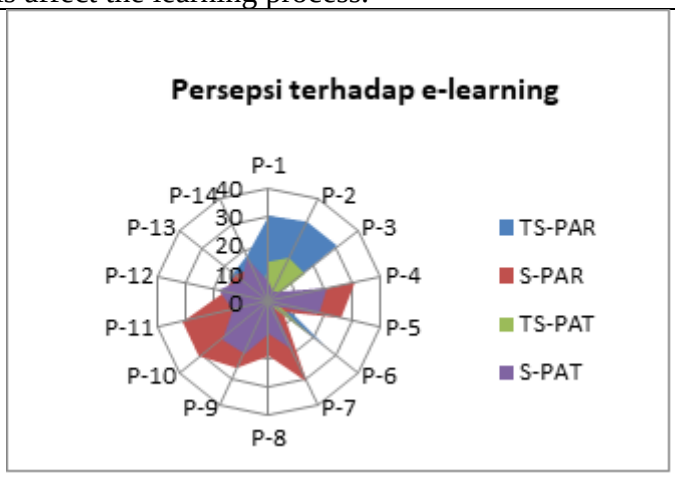


**Figure 3** Perception of Respondents

Description:
TS-PAR = Disagree - Prior Knowledge is Low
S-PAR = Agree - Prior Knowledge is Low
TS-PAT = Disagree - High Prior Knowledge
S-PAT = Agree - High Prior Knowledge

Participants with low Prior knowledge answered the statement that the majority of e-learning learning can make learning independent, do their tasks, increase self-confidence, and learning more flexible with the statement "disagree". Short interviews conducted by researchers through WhatsApp groups illustrate that participants felt that they preferred to learn by face to face method, but the corona-19 pandemic virus that struck forced them to adjust to the new learning patterns they felt overwhelming. Their graduation from the Computer Application course was not enough to make participants confident in learning e-learning.

Not only participants with low Prior knowledge answered "disagree" to the statement, but participants with high Prior knowledge groups also answered the same. The disagreement of the participants was also supported by evidence of participant passivity in the group discussion forums. In the first and second lectures, all participants were not active in the discussion forum even though it had been maximally sought by the instructor. The obstacles when starting e-learning are indeed caused by many factors apart from the factors identified above, many other obstacles are faced and must be overcome including not yet accustomed to learning to use technology, concerns about insufficient learning time, and more. [39] [40] [41].

Perception of participants before learning e-learning from both low and high Prior knowledge groups seems almost the same, the majority of participants said "agree" with the statement that e-learning makes participants (1) less interacting, (2) stress, (3) difficulty communicating, (4) increase motivation, (5) practice exploring information on their own, (6)

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work hard in learning, (7) practice critical thinking, (8) be active when learning, and (9) be frustrated. Although almost all participants answered that they did not agree that e-learning trains them to learn independently and increase their self-confidence, the statement "agree" from participants about e-learning can increase motivation, explore their information, get used to critical thinking, and make them active when learning is an indirect statement from the participant that e-learning actually can be accepted by the participant. However, due to government regulations for learning held online during the pandemic, participants felt too sudden that participants were not ready to change their learning patterns. These barriers can be overcome by teachers by changing teaching methods, developing learning innovations, and increasing infrastructure [41] [42].

*4.2. The E-Learning Learning Experience Based on Preliminary Knowledge*

The first and second lectures of e-learning that did not get a positive response, finally made researchers make rules open to participants, the researchers will give reward points to students who are active in discussion forums where these points will be considered an added value for participant graduation. This method has a very effective impact because from the discussion frequency data the following results are obtained (table 3)

**Table 3** Frequency of Discussion

| Lecture | Frequency of Discussion | Prior Knowledge | |
|---|---|---|---|
| | | Low | High |
| 1 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |
| 3 | 21 | 7 | 14 |
| 4 | 32 | 17 | 15 |
| 5 | 45 | 32 | 13 |
| 6 | 37 | 15 | 22 |
| 7 | 15 | 8 | 7 |

The activeness of participants asking and answering in discussion forums is not only dominated by participants who have high Prior knowledge, but participants who have low Prior knowledge also become active in the forum. The level of quality of questions at the third meeting is still standard, but at the 4,5,6th meeting, the quality of questions is increasing, especially in the low knowledge group. Short question asked by researchers to low knowledge groups about "what activities do they do before they are active in discussion forums?" and "why the activity is carried out?", the majority of participants answered that they did the reading activity and tried to understand the material first, the activity was carried out because they did not want other participants to underestimate their ability when they were in the discussion forum. The last meeting could not be said to describe the research data due to poor internet signals in several places of participants and researchers.

The same questionnaire with perceptions about e-learning was given back to participants after the completion of the experiment, and the results obtained that there was a change in participants' perceptions about e-learning due to their learning experiences through e-learning. In addition to statement number 7 (due to negative statements), all statements were answered "in agreement" by the majority of participants (Figure 4). The activeness of participants looking for their information before being active in the forum shows that (1) motivation and innovation are needed from the instructor to increase the learning independence of the learner, (2) the e-learning discussion forum can enhance the learning experience so that it is more enjoyable, (3) participants are accustomed to learning independent.

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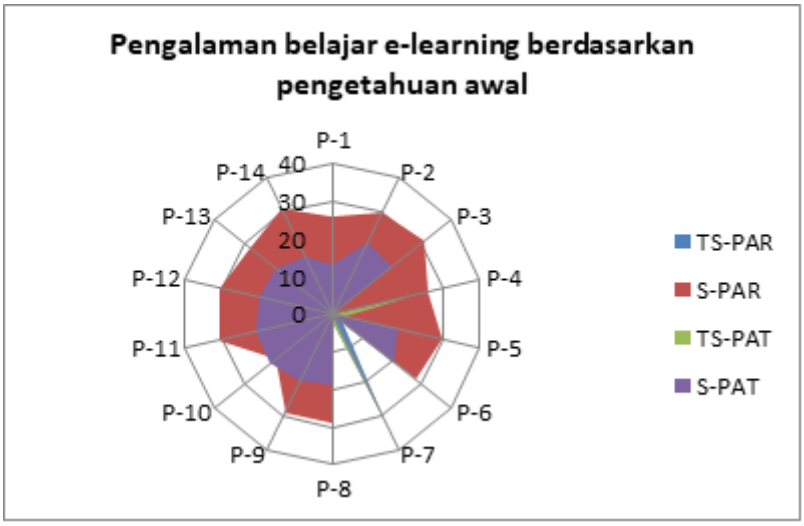


**Figure 4** Respondent Learning Experiences

*4.3. The Design of E-Learning Learning Based on Prior Abilities*

[43] explained that learning design to improve quality can be done by way of learners offered to learn through online according to their abilities (Prior knowledge) and all students are given short training to access information through the world wide web (www) for example access to questions, discussion forums, group news, online libraries, catalogs, and other information. Careful planning and goals are needed to support the success of e-learning learning, so in the first stage of designing conditions must be analyzed, analysis of participant characteristics, material analysis, resource analysis [44]. Because the conditions of the place and the ability of learners are different, in learning e-learning the provision of material cannot be given as much as face-to-face learning. Provision of material in stages gradually will be better done, so that students have time to digest the material independently.[45] [36]

## Conclusion

Many things were obtained during this research activity, so that in the end produced several conclusions, namely (a) learning experiences change the negative perceptions of almost all respondents about e-learning learning, (b) giving stimulus in the form of reward points can increase the interest of active respondents in discussion forums , (c) respondents with low Prior ability are more active asking and answering compared to respondents with high Prior ability, (d) because they do not want to be seen to have low knowledge, the majority of respondents in the Prior knowledge group are low before asking questions, they try to learn first, activities like this is clearly very positive effect on improving learning outcomes, and (e) the role of instructors to deliver material face to face cannot be done in e-learning learning, that's why the learning design provided in e-learning learning is given slower than and face-to-face learning with the aim that respondents have time to read, understand and finally understand with their own efforts.

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