Improving Student’s Motivation in Pandemic Covid-19 Era Using an Authentic English Learning App

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Abstract. A habit of the learning process in the classroom where students only receive lessons from the teacher makes students passive in the learning process. Therefore, students learning motivation decreases when it comes to distance learning. The development of Authentic English Learning App aims to motivate and facilitate students during the distance learning process. This system is designed for students to learn English in an authentic context in their surrounding at home. Moreover, students can collaborate with their peers and give feedback to their peers’ work. The App was tested using black box testing before it used by students. Black Box testing show a Very Good performance of the App. Furthermore, The result of this study shows that in the post-motivation, there is a significant difference of learning motivation between students who use Authentic English Learning App (EG) and students who only read a book (CG) (F= 4.664, p < 0.05). Therefore, Authentic English Learning App can motivate students to learn English effectively. Moreover, Technology Acceptance Model (TAM) questionnaire shows a high level of trust in each dimension (M > 4.5). It shows that Authentic English Learning App can facilitate students during Covid-19 in distance learning.

1. Introduction
Distance learning became a best choice during the Covid-19 pandemic. All face-to-face learning in the scope of primary schools to higher education is limited during the Covid-19 pandemic[1]. The Minister of Education in Indonesia has given direction to Education agencies to carry out distance learning to avoid the risk of being exposed to the Covid-19 virus. The ideal condition that is expected, by doing distance learning is that students can motivate themselves to be able to learn independently and improve their critical thinking skills by online discussions. However, in its implementation, distance learning has many obstacles that need to be resolved, such as students who do not understand the material, students cannot go to a laboratory to do some experiment, students just doing the simulation, etc. [2]. Based on a preliminary survey conducted by researchers to identify problems that occur during distance learning, we found that the majority of parents complained about issues related to students who are less enthusiastic about learning less motivated to learn independently.

Student learning motivation is an important thing that needs to be considered in the learning process [3]. Students will not be able to study well and complete their learning progress even though they can do it if they do not have strong learning motivation [4], [5]. However, each student has their factors that can increase or decrease their motivation to learn [6]. In class, teachers usually provide learning motivation to students, both in the form of sentences and actions.

Distance learning is the process to provide learning access for students who are geographically distant [7]. To achieve the effectiveness of distance learning, we need the right learning media, learning
concepts, and student motivation [8]. The media that is most likely to be used to participate in distance learning is online learning media. Learning process becomes flexible for students in the 21 century by the development of mobile technology [9]. In the current day, the development of technology is growth rapidly. The distance learning process can be held by using a smartphone, tablet, augmented reality, etc. [10]. By using a smartphone, students can learn anywhere and anytime in an authentic context as ubiquitous learning [11]. Huang et al. 2012 found that students who learn in an authentic context are more effective and playful because they can find new vocabulary in the context [12]. Moreover, Chen 2019 state that playfulness in the learning process using a system can increase student motivation [13].

According to the problems that we have described above, we developed an innovative learning media, namely Authentic English Learning App. This App focuses on learning English as a foreign language. In English learning, students just read and memorize vocabulary and they cannot apply it directly when studying at home. Authentic English Learning will facilitate students to be able to learn English authentically by exploring objects around them. Students can share and collaborate to provide feedback on the work of their peers so that they can understand the mistakes they have made. Hwang et al. found that students have a better motivation to learn and performance when they collaborate with other students during the learning process [14].

The development of the Authentic English Learning App aims to improve student learning motivation during distance learning and to know how student perceptions when using applications for distance learning using the technology acceptance model developed by Davis [15]. By carrying out authentic learning using the Authentic English Learning App, we expect that students can be motivated to study harder.

2. System Development and Implementation
In this section, we will explain the development of the system. There are three sub-section that will be presented, including system architecture, system implementation and feature.

2.1. System Architecture
We make system architecture before developing the system. We divided the system into three layers, including the user interface layer, data transfer layer, and database layer.

1. The user interface layer is developed by using Unity free license. In the user interface layer, students will be able to learn and do the tasks which are provided by the system. Moreover, students can review their work and other students work, which is saved in the database.

2. The data transfer layer is developed by using Web API to transfer data. Each data of students learning process will be recorded and sent to the database toward Web API. The system will be able to receive data from students learning activity and deliver the data to be consumed by students.

3. The database layer will save all recorded data from the user learning process. Based on our purpose that students can collaborate with other students, the system will collect the data in the online database so students can use the data even though they are not in the same place. Students work of authentic tasks can be seen and reviewed by another student. The system architecture is shown in Figure 1.
2.2. System Implementation
To implement the system architecture above, we used the concept of the ubiquitous learning to designed the integrated learning system, namely Authentic English Learning and AEL Teacher monitoring. Ubiquitous learning can facilitate students to learn English vocabulary by exploring the vocabulary in their surroundings. Figure 2 shows the implementation of Ubiquitous Learning. Using the implementation of ubiquitous learning, Authentic English Learning will be able to force students to stay active in the learning process. Student can find something that relates to the vocabulary they need using their smartphone and collaborate with another student using a wireless network [16], [17]. By getting feedback from their peers, students will get the motivation to be better in the next works. There are four main objects in the implementation of ubiquitous learning, such as students, mobile devices, real objects, and the server.

2.3. Features
Authentic English Learning App has several features to facilitate student while learning at home. The features will be explained as follows.
Figure 3 shows the splash screen of the system, which will be shown when students start to use the App. After the splash screen system will show the login interface. Students should register if they have not had a student account yet (Show Figure 4). In the registration system, students should input the teacher code that will be given by their teacher. If they do not input the teacher code correctly, their activity will not be recorded by their teacher from AEL Teacher Monitoring App. By using the teacher code, they can be connected and collaborate with another student who taught by the same teacher.

Figure 5 shows the main menu of Authentic English Learning. There are four topics which students can choose, consist of Verb, Noun, Adverb, and Adjective. On the other hand, we also put some banner for some information.

Figure 6 shows the display of learning features in the Authentic English Learning App. Picture number one is the menu of the learning process in each topic. There are four menus, including Learn, Quiz, Tasks, and My Activities. Learn menu is shown in picture number two. Students can learn about the vocabulary in English or Bahasa version. Quiz menu is displayed as picture three. After learning material, students can take a quiz to know their understanding of the vocabulary. Questions of the quiz are designed based on the authentic context with a picture. Tasks Menu is shown as picture four that will be explained in Figure 7 and the last is learning activity in each topic.
Figure 7. Tasks Activities

Figure 7 shows the activities of the task in an authentic context. The first step, students choose one of the contexts (Figure 6 Number 4) and it will show the camera. Next step, students take a picture and draw to highlight the object. After that, students make a text annotation and voice annotation using the record button. The last step, students should save their works to the database.

Figure 8. Slide Menu

Figure 8 shows some feature for students to collaborate with another student. The first feature is my portfolio menu. In my portfolio menu, students can review their authentic works in tasks activity. The other feature is the friend’s works menu. In the friend’s works menu, students can see their classmate works of tasks and give feedback, as shown in Figure 9. The last menu is a high score. There are two kinds of high score, including a score from tasks and score from the quiz. In high score menu, students only can see the score of students who have the same class or teacher.

3. Research Method
This research is included in development research (Research and Development). The development of the Authentic English Learning application uses the ADDIE development model, which stands for Analysis, Design, Development, Implementation, Evaluation.
The analysis stage is carried out by observing the situation and condition of the ongoing learning process to accommodate the problems that are being faced. At the design stage, careful planning is carried out on the learning objectives, learning methods, and the learning strategies that will be used. In addition, the design of the user interface and user experience and the visual design of the application is also carried out at the design stage. After all the data has been collected, the system development process is carried out at the development stage. Furthermore, in the implementation stage, the system is tested regularly using a black-box test before being used by students and ensures that there are no features that experience errors. At the evaluation stage, improvements were made to the system based on the results of the tests carried out.

The system that has been developed is used and tested for distance learning in a school in Lampung City to obtain quantitative data. The research subjects were junior high school students who took English extracurricular activities. The trial was conducted using an experimental design that compared the experimental group that learn using an Authentic English Learning App and the control group using a book. To collect the data, we used a motivation questionnaire and a TAM. After the data was collected, the data will be analyzed with statistical calculations, as in Table 1.

| No | Statistical Analysis | Function |
|----|----------------------|----------|
| 1  | Black-Box Test       | to test the features of the system is run well or not |
| 2  | ANOVA Analysis       | to compare between two groups, Experiment Group (EG) and Control group (CG) in pretest and posttest. |
| 3  | Descriptive statistics | to analyze the results of the TAM |

4. Result and Discussion

The result and discussion of students motivation and students perception when using Authentic English Learning App for distance learning will be explained in this section.

4.1. Analysis of Black Box Testing

Black box test was carried out before students use the system. Table 2 shows that overall features of Authentic English Learning App gain very good category. It shows that Authentic English Learning App can be used for english learning process.
4.2. Analysis of Students Motivation
The ANOVA analysis was conducted to get the result of students pre-motivation questionnaire between EG and CG, as shown in Table 3. It shows that there is no significant difference between EG and CG for in the pre-motivation ($p > 0.05$).

Table 3. Descriptive Statistic of Pre-Motivation Between Two Groups

| Group | N  | Mean  | SD     | F     | Sig  |
|-------|----|-------|--------|-------|------|
| CG    | 17 | 142.41| 13.134 | 1.995 | .167 |
| EG    | 17 | 147.71| 8.145  |       |      |
| Total | 34 | 145.06| 11.092 |       |      |

Table 4 shows the ANOVA Analysis of post-motivation between EG and CG. It shows that there is a significant difference in post-motivation between CG and EG ($F = 4.664$, $p < 0.05$). It indicates that EG is more motivated than CG. The possible reason for such findings is that students feel happy when they learn using Authentic English Learning App. As student 1 said during experiment “Learning using this app is very happy”.

Table 4. Descriptive Statistic of Post-Motivation Between Two Groups

| Group | N  | Mean  | SD     | F     | Sig |
|-------|----|-------|--------|-------|-----|
| CG    | 17 | 142.41| 13.134 | 4.664 | .038|
| EG    | 17 | 150.00| 6.114  |       |     |
| Total | 34 | 146.21| 10.798 |       |     |
4.3. Students Perception (TAM)

Table 5 shows the descriptive analysis of students perception using TAM. The mean scores and standard deviations show a positive attitude toward each dimension of TAM. The dimension of perceived ease of use get a high level of trust (M=4.59). It indicates that students feel that Authentic English Learning App is easy to use for distance learning. The dimension of perceived usefulness also has a higher level of trust (M=4.87). It indicates that Authentic English Learning is useful to improve students motivation during distance learning. Intention to use also get a high level of trust (M=4.48). It indicates that students motivation is enhanced. Students were excited when they learn at home using Authentic English Learning App, as student 2 said during experiment “can I continue to the next vocabulary?”. The dimension of attitude toward use (M=4.65) and perceived playfulness (M=4.54) also get a high level of trust. It indicates that students enjoy when they learn English vocabulary using Augmented English Learning App in an authentic context. Moreover, students feel happy when they explore their surroundings to find the object or activity to finish the tasks.

| No. | Questions                  | N  | Mean   | Std. Deviation |
|-----|----------------------------|----|--------|----------------|
| 1   | Perceived Ease of Use      | 17 | 4.5882 | .23287         |
| 2   | Perceived Usefulness       | 17 | 4.8676 | .21862         |
| 3   | Intention to Use           | 17 | 4.4853 | .35872         |
| 4   | Attitude Toward Use        | 17 | 4.6471 | .38587         |
| 5   | Perceived Playfulness      | 17 | 4.5441 | .42606         |

5. Conclusion

The aims of developing the Authentic English Learning App is to motivate and facilitate students to learn English easily, happily, and playful. The result shows that students who use Authentic English Learning App for learning English at home are motivated more than students who learn by reading a book. It can be concluded that Authentic English Learning App can increase students learning motivation in distance learning during Covid-19. Moreover, students perception also shows a good impact of Authentic English Learning App usability. It can be concluded that Authentic English Learning App is easy to use, usefulness, and playful. Based on our findings, students need better media for distance learning that allows them to explore their surrounding and collaborate with another student from different places. Students feel that Authentic English Learning App is playful while exploring the real object in their surroundings. Based on the conclusion, we have recommendation for the next study to add more learning material and more deeply analysis.

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