Need Assessment of Developing Android Application for English Learning in Digital Era

Rosalinda Ayu Purbasari,[1]✉ Nunuk Suryani,[1] Deni Tri Ardianto[1]

[1]Program Studi Teknologi Pendidikan, Program Pascasarjana, Universitas Sebelas Maret, Surakarta, Indonesia

Abstrak

Perubahan era menuntut adanya strategi yang inovatif di segala aspek kehidupan, terutama pendidikan. Penelitian ini merupakan penelitian pendahuluan yang bertujuan untuk menganalisa kebutuhan aplikasi Android untuk mendukung pembelajaran Bahasa Inggris di Sekolah Menengah Atas di Kabupaten Magelang, Jawa Tengah. Untuk mengumpulkan data, metode yang dilakukan adalah wawancara dengan guru Bahasa Inggris dan membagikan kuesioner kepada siswa. Dari hasil wawancara, disebutkan bahwa, sebagai fasilitator, guru membutuhkan asisten untuk memantau siswa dalam belajar secara mandiri. Oleh karena itu, peran teknologi dibutuhkan dalam hal ini. Data menunjukkan bahwa siswa yang memiliki smartphone berjumlah 82,5% dan 95% dari mereka setuju bahwa kegiatan belajar mandiri menggunakan aplikasi Android lebih menarik. Hal ini didukung dengan intensitas siswa dengan smartphone yaitu 63% dari mereka menghabiskan waktu lebih dari 6 jam sehari untuk berinteraksi menggunakan *smartphone*. Maka dari itu, di era digital seperti sekarang ini, aplikasi Android penting untuk dikembangkan guna mendukung pembelajaran Bahasa Inggris secara mandiri.

Abstract

This changing era demanded innovative strategy in all aspect, especially in education. This research was a need assessment which aimed to analyze the need of Android application for English learning in Senior High School in Magelang Regency, Central Java. To collect the data, interviewing English teachers and distributing the questionnaire to the students were conducted. Based on the result of the interview, as a facilitator, teachers needed assistants to assist the students in learning English. In this case, technology was needed. It was supported by the data that there were 82,5% students owned smartphone and 95% of them agreed that using Android application was more interesting. There was 63% of the students spent their time more than 6 hours per day with their smartphone. Thus , it could be concluded that nowadays, it is urgently needed to develop Android application to support English self assessed learning in this digital era.

✉ Corresponding author :
Address: Universitas Sebelas Maret, Jl. Dr. Sutami A,
Kentingan, Surakarta, Indonesia, 57126
E-mail: achmadfarchan10@gmail.com

INTRODUCTION

Revolution Industry 4.0 demanded the changing in all aspect of life. The situation forced the renewing innovative strategy. Almost in all aspect of life, human needs transform into digitalization (Hanafizadeh, Ghandchi, & Asgarimehr, 2017). Nowadays, anything is accomplished in just a single tap. The necessity of technology can not be neglected. This demand is not only in industrial aspect, but also in business, banking, transportation, society, and not to mention, in the aspect of education itself (Stošić, 2015).

From now and then, teaching and learning process can not get rid of traditionally talk and chalk in the classroom. The era has changed with rapid movement, but the education moved slowly. The technology has been discovered. Yet, the development of it is also a challenge to improve the educators' performance to keep up with it. The slow growth of the utilization of technology in classroom which is not equal with the rapid movement of the changing era can be measured with the question whether both the teachers and students are sufficiently equipped with the technology and have the ability to operate it.

The existence of technology itself does not always run properly as it is expected. There might come up little problems the use of it in teaching and learning process while operating it. However, the problems can be overcome with strategy and suggested framework (Embong, Noor, Ali, Bakar, & Amin, 2012). Although there might be found a little problems (Younes & Al-Zoubi, 2015) and some negative impacts on using the technology in the classroom (Gok, 2015), the positive impacts of the assistance of the technology cover several aspects. The use of technology can give a proper understanding on knowledge and skill achievement (Nazwad, Rahim, & Wakil, 2018).

Entering the disruptive era, technology can be functioned as a tool to assist the students to learn the subject of the study daily with or without the presence of the teachers. By the support of internet, smartphone, operating system, and application, teaching and learning process is able to be conducted not only in the classroom, but also anywhere and anytime.

Based on the established conformity of the described constructivist models, seven teacher's roles have been defined and uniformly formulated to provide guidance for instructor and ensure the optimal extend of mastering the educational material at each cognitive level and achieving learning objectives, teacher has a role as a motivator, authority, controller, trainer, moderator, facilitator, and leader (Kudryashova, Gorbatova, Rybushkina, & Ivanova, 2016). As motivator, teachers motivate students for learning. As authority, they provide students with ready-made concepts. As controller, they control that students make progress. As trainer, they train students to practically apply the previously acquired knowledge and skills. As moderator, they moderate students' learning. As facilitator, they facilitate the use of previously acquired knowledge and skills in new situations. As leader, they stimulate students to reflect on their progress.

To be a classroom teacher and play those seven roles is a challenge. Getting engage in the interaction with students in the classroom does not need a quite short time, remembering that every character of the students is unique (Terpollari, 2014). It needs more time to play those roles optimumly. Yet, teachers only have a limited time to present at the classroom and their time is also divided into their main duty to deliver the learning material of the subject matter.

In Senior High School in Indonesia, the students have to choose their specific major since they are in the 10th grade. They have to choose the social or sains. Although they already have their specific major, they still have a lot of subject to master, moreover which is related to their major. However, any languages subject has only a little portion to be taught in the classroom especially English, as a foreign language.

Language is a communication tool not only written nor spoken, but also in the form of a sign. Language is acquired naturally, built up from daily activity which is called by mother language or first language that is known as native language. Indonesia, as a nation which uses Bahasa Indonesia as formal language, English is not used in any formal nor non-formal occasion. That is why the ability in practicing English is not got from daily use.

Muriel Savile Trokie in his book entitled "Introduction to Second Language Acquisition" said that, "Language is not learned, it is acquired." Based on the theory, it is clear that the ability of English native speaker is different with non-native speaker. Because the ability in mastering language is not learned, time allotment in English subject in Senior High School in Indonesia is limited. Based on National Curriculum (Curriculum 2013), it is only four periods in a week.

Each period is equal with 45 minutes. It is not equal if it is compared with the competencies that students have to master.

Based on the regulation issued by National Education Department, since Competence Based Curriculum (Curriculum 2004) was applied, students had to master twelve genres of English text types. They are recount, narrative, procedure, descriptive, report, news item, analytical exposition, hortatory exposition, spoof, explanation, discussion, and review text (Depdiknas, 2005). With the limited time allotment for English subject at school, students must have an initiative to allocate their time for self-assessed learning at home. In 4 x 45 minutes every week, teacher also has limitation to deliver the material, moreover to have assessment and evaluation for each student.

One of major principle to develop students' mastery in English is to give them a chance to read, write, listen and practice English a lot. Second, teacher has to pay attention on students' pattern in learning English. Third, give the students chance to use English productively. Fourth, give the students opportunity to correct their mistake by themselves. Fifth, teacher arranges activities so that students can have their chance to interact with other students with English (Erben, 2009).

To unite those principles, students must be given a chance to explore their ability outside the schedule arranged at school. In this case, teacher still has control to monitor students' activity. Nevertheless, teacher has space and time limitation in monitoring the students physically. The teachers of course can not stand alone to assist the students intensively. As a knowledge facilitator, rather than a knowledge presenter, the job of the teacher is creating a support learning environment where learners are encouraged to think creatively and critically toconstruct their knowledge by the help of technology (Lai, 1993).

To equip the students with personal assistant to assist them in learning English as a second language, it needs to observe and evaluate the facilities that possible to afford and easy to access. The solution must be answer the question which technology that best used to solve this cas.

In 2013, there were 27,4 million smartphone users and incredibly increased in 2014 with 38,3 million users, in 2015 with 52,2 million users, and in 2016 with 69,4 million users. As smart phone becomes more common used in daily life, it corresponds to the need of learning activities based on Information and Communication Technology. Based on the data saved in the Ministry of Communication and Informatics, it informs that the total users of smartphone by the end of 2018, there were 103 millions user of smartphone in Indonesia with 32,3 millions of the smartphone run by Android as the operating system. It is assumed that smartphone is one of technology which is the most commonly owned by the people. The statistics stated that 32% of them are students under 24 years old. It is also stated that the users are connected to the internet (Bohang, 2018).

Smartphone itself is a device run which provides application as a tool to help and maintain human need in daily life. Its presence is like a personal assistant since it has multifunction feature. The feature on it can be used to support English learning activity and become a personal assistant for students to help them having self assessed learning at home. Using Android application as one of multimedia to facilitate students in English self assessed learning promotes students' motivation and learning interest because the can learn in a fun way, not traditionally with text book instead. It can be a practical way to get them involved in language learning which based on the openness and accessibility of the teaching materials. It promotes the students closer to the ultimate goals of multimedia (Shyamlee & Phil, 2012).

The use of Android application in English learning to facilitate the students in self assessed learning supports learning style in 21st century and it needs to be developed to adjust with the need of the students, teacher, and the subject of the study at school (Alqahtani & Mohammad, 2015). To deal with the need to master the 12 genres text of English, the application can be developed by the basic form of digital book which can be accessed through smartphone (Amstrong, Edwards, & Lonssdale, 2002). The digital device that supports self assessed learning at least has a function to record memory, map the concept and topic, solve the problem, and has a function as a communication tool (Sharples, 2000).

Self assessed learning which is supported by technology supports long life learning process and move into entertaining international education system (Pakprod & Wannapiroon, 2013). It can beeasily adopted and the existence will support the teaching and learning process at

school (Yusof, Daniel, Low, & Aziz, 2014). Further, the significant result of the achievement will be achieved through the learning assistant of mobile learning (Martono & Nurhayati, 2014). Besides, the learning process through mobile learning can improve students' focus because they will focus only their screen without any disturbance (Green & McNeese, 2007) and they are challenged to solve the problems they find by themselves (Leung & Chan, 2007).

According to the literature review, previous research, and the survey, Android application can be one of the alternative solution to facilitate students' self assessed learning. The development of Android application as a learning media to learn English text type and the feature to have sel assessed learning will help both students and teacher in conducting English learning process and assessment. The studentscan conduct the assessment by themselves and by the help of the application and it is of course will ease the teacher's task too.

METHOD

This research was a need assessment to assess the need of developing Android application for English learning in digital era. It was a preliminary research of research and development method to develop Android application as a media for English learning to assist students in self assessed learning.

This research was conducted in Magelang, Central Java, Indonesia. The subjects of this research were the teacers and students of 11th grade of Senior High School in Magelang Regency. The method of collecting data was conducted by interviewing the English teachers and distributing the questionnaire to the 11th grade students of Senior High School in Magelang.

To obtain the data, the interview guideline and the questionnaire were arranged. The questions of the interviews were about the needs of the teacher in English teaching and learning process and assessment. While the questionnaire distributed to the students were about their experience in English learning process, the facilities that students owned to get information what the proper technologies that will be developed, and obtaining information about their intensity with their gadget in their daily life.

RESULT AND DISCUSSION

After the interview sections with the Eng-

lish teachers of Senior High Schools in Magelang Regency, it was informed that as a teacher, it was a challenge to play the seven teachers' role according to Bloom Taxonomy. The time provided was limited to deliver the material, engaged to the students' interaction, and assessed the students' work. All of the interviewee said that a personal assistant was needed to help them. By the presence of the technology, smartphone might help them to provide the learning material, so the students could access it anytime and anywhere when the teachers were not around.

So far, the teaching and learning process were conducted traditionally in the classroom and sometimes in Multimedia Laboratory to display the material in the form of power point presentation or video, while the homework was taken from the students' exercise book. The lack of this was that the teacher almost had no time to assess and evaluate the students' task. So, the teacher hoped that the developed application would be able the students' task too.

The second data was obtained from the answer of the questions in the form of questionnaire distributed to the students. The first one was about the student's experience in English learning in the classroom. It was especially related to the materials that were used in English teaching and learning process. The aspect of the elements and the result of the students' answers would be presented and analyzed on the table 1 below.

Table 1 The Use of English Text Book

Aspect	Always	Often	Seldom	Never
The Use of Students' Book	2.5%	7.5%	62.5%	27.5%
The Use of Exercise Book	7.5%	25%	67.5%	0%
Task from Student's Book	5%	7.5%	42.5%	45%
Homework from Exercise Book	2.5%	35%	60%	2.5%
Evaluation to Student's Book	2.5%	5%	42.5%	50%
Evaluation to Exercise Book	5%	25%	55%	15%

The first one was the questionnaire about the process of teaching and learning on the 11th grade students of Senior High School. After distributing the questionnaire containing several questions related to the teaching and lear-

ning process in the classroom to gain the analysis of the needs of the students in digital era teaching and learning, the results are shown on the table 1. There were 92.5% students who have students' English book to support the teaching and learning activity and 67.5% have the exercise book. From the data, a half student seldom used both student's book and exercise book, and so did with the evaluation by the teacher.

It was contradictive when the teaching and learning process was still conducted traditionally and the traditional material was completely available, but the process of teaching and learning process was much far away from what it was expected, while the technology was available and ready to support. It was obtained by the result of the questionnaire that had been distributed to the students that there were 82.5% students who have smartphone. It indicated that most of them are already sufficiently equipped with the devices which would be targeted as a media to develop the application.

Based on the survey that was conducted to the 11th grade students of Senior High School in Magelang Regency, from 82.5% who has smartphone, 95% said that it was more interesting and attractive when they could utilize Android application and 87.5% of the students agreed that teaching and learning process would be more supported by using Android application. Moreover, self assessed learning process at home would be more controlled by using application.

As a supporting tool for assisting students having self assessed learning, the application should have a function to help the students to overcome the difficulties in the subject. Based on the survey, it was obtained 90% students of 11th grade Senior High School considered that English was one of the most difficult subject, and only 10% who considered it as an easy subject. From this condition, students needed help to support them in learning English.

The distribution of the obstacles they faced in English was obtained from the questionnaire distributed to the students. It showed that 55% students still found difficulties to recall vocabularies and the remaining students found difficulties to understand the reading text type. So, it was needed to improve the learning media which could help students to learn and find the meaning of new vocabularies to support them understanding the text type.

Although 92.5% of the students have the English book, their intensity of the interaction to the book was less than the interaction to their gadget. The frequency of students having interaction to their gadget is provided on the information below.

Table 2 The Students' Interaction with Smartphone Per Day

Intensity	Percentage
Less than 1 hour	3%
1 to 2 hours	9%
3 to 4 hours	5%
5 to 6 hours	20%
More than 6 hours	63%

It was clearly said on table 2 that more than a half student spent their time with their smartphone more than six hour per day. The distribution of the use of students' feature on their smartphone showed on the information below.
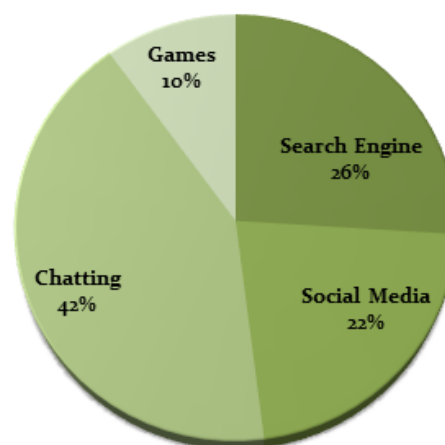
Figure 1 The Use of Feature on Students' Smartphone

The highest percentage of the use of the feature on the students' of 11th grade students of Senior High School in Magelang Regency is using their mobile phone for chatting. It was because of hteir need to socialize with their friends tha was united in a group of a community. They also used this feature to communicate to their family or fiends. Based on the chart on figure 1, only 26% of the students use the search engine for specific purpose. If it was assumed that they used the search engine for searching any references to help them in completing the task from the teacher, so it was only a quarter of the students who realized the used of the technology to help them accomplishing their tasks helped by techology. And one third of them used the smartpho-

ne for fun, whether for social media or game.

From the result of the gained data through the questionnaire, it could be concluded that the 11th grade students were sufficiently equipped with smartphone to develop the application to help them on self assessed learning for English subject. The students were familiar with the feature of their smartphone and it was expected by the existence of learning application, their interaction with their smartphone could be one of solution for both teachers and students as a media to help them facilitating self assessed learning.

CONCLUSION

From the obtained data, it can be concluded that nowadays, in digital era, the teaching and learning materials still uses traditional media although there are available some facilities which support the activity conducted by using multimedia. The result of this study showed that the 11th grade students of Senior High School in Magelang Regency are ready to use Android Application as a learning media on their smartphone to facilitate English self assessed learning. The application would help the teacher as a learning assistant while the teachers were not around. Besides, the application would help the teacher on conducting the assessment.

Based on the need assessment of this research, the analysis of the data could give the characteristics of the application that should be developed to support English self assessed learning. The characteristics of Android application that should be developed are: (1) the application can be run in Android smartphone; (2) it loads English material; (3) it is integrated with online dictionary to help the students find new vocabulary easily; (4) it contains the students' report for daily assessment; (5) there is an answer key available and also discussion for the answered questions.

From the characteristics of the Android application above, it is expected that the needs of technology in English teaching and learning in this digital era would be improved.

ACKNOWLEDGMENT

REFERENCES

Alqahtani, M. & Mohammad, H. (2015). Mobile Applications' Impact on Students Performance and Satisfaction. *TOJET (The Turkish Online Journal of Educational Technology, XIV*(4), 102-112.

Armstrong, C., Edwards, L., & Lonsdale, R. (2002). Virtually There? E-Books in UK Academic Libraries. P*rogram: Electronic Library and Information System, 36*(4), 216-227.

Bohang, F. K. (2018, Februari 22). *Tekno: Internet*. Retrieved Februari 28, 2018, from KOMPAS.com: https://tekno.kompas.com

Depdiknas. (2005). P*eraturan Pemerintah Republik Indonesia Nomor 19 tahun 2005 tentang Standar Nasional Pendidikan.* Jakarta: Depdiknas Republik Indonesia.

Embong, A. M., Noor, A. M., Ali, R. M., Bakar, Z. A., & Amin, A. R. M. (2012). Teacher's Perception on the Use of E-Books as Textbooks in the Classroom. *International Scholarly and Scientific Research & Innovation, 6*(10), 2638-2644.

Erben, T. (2009). *Teaching English Learners through Technology.* New York and London: Routledge.

Gok, T. (2015). The Positive and Negative Effects of Digital Technologies on Students' Learning. EPESS. *The Eurasia Proceedings of Educational & Social Sciences*, II, 173-177.

Green, M. & McNeese, M. N. (2007). Using Edutanment Software to Enhance Online Learning. *International Journal on E-Lerning, 6*(1), 5-16.

Hanafizadeh, P., Ghandchi, S., & Asgarimehr, M. (2017). Impact of information Technology on Lifestyle: A Literature Review and classification. *International Journal of Virtual Communication and Social Networking, 9*(2), 1-23.

Kudryashova, A., Gorbatova, T., Rybushkina, S., & Ivanova, E. (2016). Teacher's Role to Facilitate Active Learning. *Mediterranean Journal of Social Sciences, 7*(1), 460-466.

Lai, K. W. (1993). Teachers as Facilitators in a Computer-Supported Learning Environment. *Journal of Information Technology for Teacher Education, 2*(2), 127-137.

Leung, C. H., & Chan, Y. Y. (2007). Mobile Learning: A New Paradigm in Electronic Learning. *ICALT '03*, 9-11.

Martono, K. T., & Nurhayati, O. D. (2014). Implementation of Android Based Mobile Learning Application as a Flexible Learning. *International Journal of Computer Science Issues, 11*(3), 168-174.

Nazwad, L., Rahim, D., & Wakil, K. (2018). The Effectiveness of Technology for Improving the Teaching of Natural Science Subject. *Indonesian Journal of Curriculum and Educational Technology Studies, 6*(1), 15-21.

Pakprod, N., & Wannapiroon, P. (2013). Development of an Edutainment Instructional Model Using Learning Object for Electronic Book on Tablet Computer to Develop Emotional Quotion. *International Journal of e-Education, e-Business,*

e-Management, and e-Learning, 3(2), 131-134.

Sharples, M. (2000). The Design of Personal Mobile Technologies for Lifelong Learning. *Computer & Education, 34*(2000), 177-193.

Shyamlee, S. D. & Phil, M. (2012). Use of Technology in English Language Teaching and Learning: An Analysis. *International Conference on Language, Medias, and Culture, 33,* 150-156.

Stošić, L. (2015). The Importance of Educational Technology in Teaching. *International Journal of Cognitive Reasearch in Science, Engineering, and Education, 3*(1), 111-114.

Terpollari, M. (2014). Teacher's Role as a Mediator and Facilitator. *European Scientific Journal, XXIV,* 68-74.

Younes, M. B. & Al-Zoubi, S. (2015). The impact of Technologies on Society: A review. *IOSR Journal of Humanities and Social Science (IOSR-JHSS), 20*(2), 82-86.

Yusof, A. M., Daniel, E. G., Low, W. Y., & Aziz, K. A. (2014). Teacher's Perception of Mobile Edutainment for Special Needs Learners: the Malaysian Case. *International Journal of Inclusive Education, 18*(12), 1-10.