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Article

Pocket Book of English for Graphic Technique As Learning Resource and Medium of English for Graphic Technique Course

Ika Agustina[1], ReniwatiLubis[2], Syahripal Putra[3]

[1,2] Teknik Grafika, Politeknik Negeri Media Kreatif, Sumatera Utara, Indonesia
[3] English teacher, SMA Negeri 19 Medan, Sumatera Utara, Indonesia

SUBMISSION TRACK

Received: September 23, 2019
Final Revision: October 11, 2019
Available Online: October 23, 2019

KEYWORD

Pocketbook, Android, Learning, Graphic Technique

CORRESPONDENCE

E-mail: agustina.ika87@gmail.com

A B S T R A C T

This research aims to develop learning resources and learning media in the sort of a decent and useful Android-based pocketbook application as an effort to increase student interest and learning achievement. The research method used is R & D with research subjects, namely students of the Department of Graphic Technique in semester 2. The data collection technique in this research was in the kind of documentation by organizing learning materials based on the syllabus through relevant book references and conducting FGD with graphic and ESP experts. Furthermore, to ensure that the pocketbook application is feasible, validation was carried out by 6 validators with a value of 4.61 with an excellent category then tested with students' response of 4.57 with a very positive category. Therefore, this application is proven to be able to accommodate the needs of resources and media for learning English for students because it can be a substitute for books that are easy to carry and can be used practically without limitation of time and place.

I. INTRODUCTION

Technology and language are complementary and symbiotic entities. In the discipline of education, language functions as a medium of interaction in conveying substance, concepts, messages, and information that must be acquired by students (Zygmunt, 2016). In the context of lectures in the graphic technique department, language courses, especially English, are still taught until semester 4, even though they are not the main subjects. The existence of English courses is expected to play a major role in accelerating the fulfillment of competent graphic technique human resources who can compete in global market competition. However, so far, there have not been many learning resources for English graphic techniques. The development of massive and rapid information technology should encourage lecturers to be more creative, innovative, and productive in solving problems of lack of learning resources and other problems such as limited face-to-face hours. Therefore, this research designs and makes an android-based pocketbook application for English Graphic Technique

DOI: https://doi.org/10.25077/ar.6.2.122-129.2019

both as a learning resource and learning media.

Learning resources are all material, audiovisuall, and non-audio-visual materials, human, school environments available in the academic environment to facilitate and simplify the teaching-learning process (Dangara, 2016). Learning resources are very important because they have a role in assisting students in learning (Prastowo, 2018). Learning resources are functioned to help students achieve their learning goals. Learning resources can include people, tools and materials, activities, and the environment.

Learning media is everything that can convey or channel messages from a planned source so that a contributive learning environment occurs where the recipient can carry out the learning process efficiently and effectively (Arsyad, 2016). As technology advances, teachers inevitably should be able to develop learning media by utilizing new technologies. The use of technology as learning media can encourage students' motivation (Nasrudin, Agustina, Akrim, Ahmar, & Rahim, 2018). However, the biggest obstacle to the development of technology-based learning media is the low technological knowledge of the lecturer (Chigona, 2017). Therefore, the campus must provide training to lecturers intensively related to the use of technology.

The use of android in learning has begun to be widely developed in Indonesia (Astra, Nasbey, & Nugraha, 2015); (Arista & Kuswanto, 2018). Several studies have shown that Android-based learning media has a constructive influence on students' learning motivation (Cahyono, Tsani, & Rahma, 2018); (Muhdiyanto, 2018). it increases students' productivity and creativity, including characteristic mental attitude, the systematic arrangement of the model, and the social system (Putra, Irdianto, Mukhadis, & Suhartadi, 2016). Moreover, it is assumed innovative because it simplifies the students' acquisition of information significantly (Abildinovaa et al., 2016). It is also more efficient than traditional learning using books or student worksheets (Zatulifa, Riswandi, Fitriawan, & Akla, 2018). Other previous studies also showed positive results from the use of Android-based learning media on students' understanding of Grammar and Vocabulary development (Fodor & Covaci, 2016).

An android operating system is an operating system for Linux-based devices that is open source, including operating systems, middleware, and applications (Safaat, 2015). This openness allows programmers to design applications and modify the system. Some of the programs needed are IDE (Integrated Development Environment) which is a program having the tools needed in the software Technique (Nurhidayat, 2018). By using a particular Java IDE, all programming requirements will be simplified into one container. Starting from text editing, compiler or translator, system assistance, and can also be found other features that are useful in coding while Eclipse is open-source software that consists of a modifiable framework (can be developed further).

Thus, the Pocket Book of English for Graphics Technique can be categorized as a learning resource because, with this application, information can be recorded, disseminate, and can also be integrated with others. It can also be categorized as a learning medium because it is the result of a combination of computer technology that used as a learning medium for students in learning English.

English for Graphic Technique is an English Specific Purposes course with 2 credits delivered to students of the Graphic Technique Study Program in the second semester. In this course, students are expected to have English communication competencies, know the terms of graphic

technique, and can describe activities related to graphic technique ranging from pre-print, print, to post-print. The lack of learning resources is the main challenge for lecturers in teaching ESP (Nguyen & Ngo, 2017). Therefore, many lecturers make their textbooks. English lecturers also face this in the graphic technique study program (Agustina & Murtopo, 2017). The lack of resources for learning English for graphic technique and the unavailability of android-based - learning media for graphic technique students. The research focuses on developing an Android-based pocketbook for android techniques, which can help students to learn English wherever they are.

The study of English for the graphic Technique consists of Reading Time with themes related to graphic technique and supported by several enrichments such as Vocabulary, Reading and Listening Comprehension, Speaking, and Grammar focus on each unit.

II. METHODS

The research uses Research and Development methods by developing educational products in the sort of Android-based pocketbook applications that can be opened via smartphones and having practical and interesting features. The study was conducted in the Politeknik Negeri Media Kreatif, and the research subjects are 13 students of graphic technique in the second semester of 2018/2019 Academic Year. The object of research is a set of knowledge and skills competencies gathered in the syllabus and Semester Learning Plan for graphic Technique courses.

The procedures taken in this study are:

1. Identify problems and needs
   This stage includes conducting studies and analyzing the needs of the syllabus and Learning Outline in English Technique Graphic courses. It aligns the results of studies and needs analysis properly on students and lecturers of core courses in the Graphic Technique Department through discussion forums.
2. Data Collection
   In collecting data, researchers used documentation techniques by organizing learning materials based on the syllabus through relevant book references
3. System Analysis
   It analyzes existing cases of how the Pocket Book of English for Graphics Technique application can run well and can be accessed by users on devices with the Android 3.0 Honeycomb operating system. As a programming language applied in this research, development is Java 2 M. E. and for the SQLite database used.
4. System Design
   The system design will explain the general description of the database system that will be implemented with the UML (Unified Modeling Language) design model.
5. Implementation
   This stage involves the construction of an application program that runs on a device based on the design and applies a string-matching algorithm. The resulting pocketbook display and application installation process are adjusted to the analysis and design. The work step in this application is, when input is entered in the sort of a search with keywords, it will be processed with a mechanism that has been defined and will generate links to databases related to the material that has these keywords. Another way is to click on the digital pocketbook content hierarchy either by pulling up or down the home interface.
6. Validation, Testing, and Evaluation
   The validation and testing are carried out by conducting observations, giving questionnaires and interviews. The pocketbook was validated by 2 ESP experts, 2 instructional media experts, and 2 computer science experts. This application was revised based on the

suggestions of the experts. After being revised, it was tested on 13 Graphic Technique students to know their responses. Finally, This application was revised for the second time according to students' inputs.

III. RESULT

3.1 Need Analysis of Application

Here are some analyzes of why this pocketbook is important in learning English for Graphic Technique:

1. The number of subject credit that is only two credits can be categorized as very minimal to pursue and achieve the goal of creating a reliable workforce in the discipline of graphic arts.
2. Lack of learning resources of English for Graphic Technique.
3. Conventional books make students get bored quickly on exercises and routine tasks so that learning motivation becomes less to review it further.

3.2 Design of PocketBook Application

At the system design stage, an outline of the android-based Pocket Book of English Graphic Technique application program was developed. The following are some typical pocketbook points in the application.

1. Home Page
   The home page is served by displaying the Sign-Up menu function to register themselves. Next, the Sign-in menu functions for the entrance to access the application by inputting the username and password.
2. Main Menu Page
   This page displays the main menu to access Contents, Book maps, Acknowledgment, How to use this book, Units 1-10, (consisting of Unit 1: The History of Printing, Unit 2: Career in printing, Unit 3: Process of Printing, Unit 4: Introduction to Printing Machinery, Unit 5: Ink& Paper, Unit 6: Screen Printing, Unit 7: Digital Printing, Unit 8: Color in Marketing, Unit 9: Advertising printing, Unit 10: E-commerce), About Book & Authors, References.
3. Search and Close Menu
   This menu simplifies application members to close the application if they do not want to access the application. A close menu will appear on each home page.

3.3 Implementation of Pocketbook Application

The process that occurs in the use of the English Digital Graphic Book pocketbook application is as follows:

a. Installation Process

The installation process of the pocketbook application requires a memory space of a minimum of 40 MB with compatibility that can be used for any version of Android. It is just a recommended specification, the Android 4.3 Jelly Bean Operating System, or above. Then the phone must possess minimun1 GB of RAM and 500MB ROM.
After the minimum specification requirements are met, then the user simply clicks on the icon and confirms, just wait for about 1 minute, then the application is installed completely.

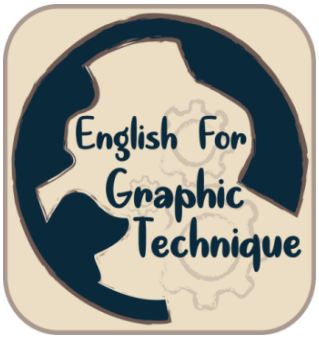

Fig. 1. Icon of Pocket Book

b. The process at Running Time

When the program runs, the user will see the initial interface as shown in figure 2. Then the option to sign up will appear if the user has never enrolled or signed in if the user has

registered before. After inputting the data username and password is correct, then the user will be directed to the next page, namely the menu selection page. In the select menu page, there are menu options, namely Contents, Book maps, Acknowledgment, How to use this book, Units 1-10, About Book & Authors, and References in part displayed in figure 3.

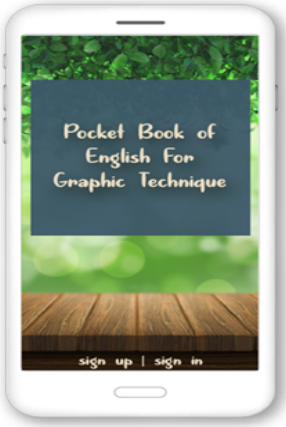

Fig. 2. initial interface

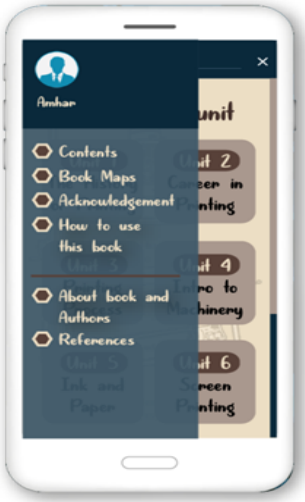

Fig. 4. Main Menu Display

Some display materials such as Reading, Listening, Speaking, Writing and Grammar can be accessed by the user, as shown below.

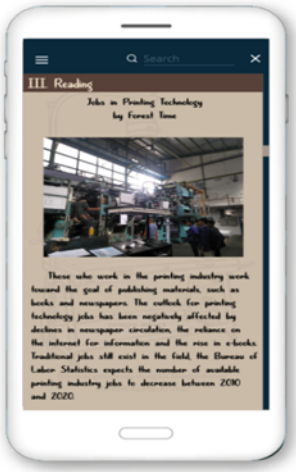

Fig. 5. Lesson Page Display

c. The process at *Search* and *Close*

In this application, there is a typical menu different from other Pocket Book Applications. This apps has a Search menu that can search for material with key terms related to graphics, making it easier to access the desired graphic technique material.

The close menu can be found on any page of the application. When the user clicks on the close menu the application asks for confirmation; whether the user is sure they want to close the application

3.4 Validation and Testing Result of Pocket *Book of English for Graphic Technique*

a. Validation

To verify whether the Pocketbook that has been designed by the research team is feasible or not to be used, the first step is to validate the feasibility of the application by asking for opinions of some experts in the discipline of ESP, instructional media, and computer science experts. The results of the assessment of the quality of the application dictionary are calculated on a scale of 1-5, with criteria:

$X > 4{,}2$ = Very good
$3{,}4 < X \leq 4{,}2$ = Good
$2{,}6 < X \leq 3{,}4$ = Fair
$1{,}8 < X \leq 2{,}6$ = Bad
$X \leq 1{,}8$ = Very bad

Table 1.Validation Score of *Pocket Book*

No	Aspect	Validator	
		Validator 1	Validator 2
1	Application design	4.80	4.67
2	Material worthiness	4.40	4.53
3	Reliability of application	4.53	4.73
Average		**4.57**	**4.64**
Total average		**4.61**	

Table 1 shows that the total average of the validation score is 4.61. It proves that the pocketbook application is in a very good category (X > 4,2). In addition, the validation process also obtained suggestions qualitatively against deficiencies in the PocketBook Application. Some validators' suggestions are to add a help menu, add glossary menu, develop more varied grammar exercises, and make feedback.

b. Testing

After going through the design, manufacturing and validation stages, the application is required to be tested by users, namely Graphic Technique students of Politeknik Negeri Media Kreatif, to find out the usefulness, reliability, suitability, effectiveness, and practicality of dictionary applications. The trial questionnaire of the application is intended for students as the target subjects for using the Pocket Book of English for Graphic Technique application with 20 items of questions, and 13 respondents spread in the second semester as attached. Students responded to this Pocket Book application with an excellent response, as evidenced by the acquisition of a questionnaire result of 4.57. However, the students criticized that the reading material uses many complicated terms for the beginner. Moreover, they also suggested that this application should have initial exercises easier for warming up for students.

IV. DISCUSSION

To produce a qualified application, then this application has been revised 2 times, namely after the validation stage by experts and after the testing phase on students. The first improvement was done by following the suggestions from the validators by adding the help menu, adding glossaries, grammar exercises made more varied, and making feedback. Meanwhile, the second phase of the revision was done by considering the suggestions from students, namely by providing an easier initial exercise as warming up and simplifying the reading material. Based on the data, it can be deduced that the Pocket Book of English Graphic Technique applications that have been designed by the team is of good quality overall. The Android-based Pocket Book of English for Graphic Technique application can display material studies, competency tests, and user interactions in a consistent, standardized, relevant, coherent, and up-to-date manner under the study of Graphic Technique. This application also works smoothly on all device devices in a compatible, synchronous, and smooth manner.

The Pocket Book of English for Graphic Technique application has passed the validation test with a validation test value of 4.60 from 6 validators comprise of 2 ESP experts, 2 instructional media experts, and 2 computer science experts. Qualification of digital pocket book products is quite good. It has passed a series of revisions based on feedback and suggestions from validator and Graphic Technique students as the main users so that they can guarantee the quality of the application of the Pocket Book of English for Graphic Technique as a reference, media, and independent learning source. This is evidenced by the positive response of students to the presence of digital pocketbook products with a gain index of 4.57 or very well categorized.

IV. CONCLUSION

The Android-based Pocket Book of English for Graphic Technique application can run as a learning source and media for students of the Graphic Technique department. The Pocket Book is also validated with a validation test value of 4.61 from six validators, each two ESP experts, instructional media experts, and computer science experts. The students, as the main subject, verify the quality of the PocketBook application by supplying a positive response to the development of an android-based pocketbook application with a gain index of 4.57 or an excellent category.

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BIOGRAPHY

Ika Agustina was born on August 9, 1987 in Medan. She graduated from the postgraduate program on English applied linguistics UNIMED in 2012. She actively involves in journal association (RJI) and a frequent speaker at English teaching seminars at national and international level. She supervises students and teachers in Medan. She works in Politeknik Negeri Media Kreatif Medan and Universitas Muhammadiyah Sumatera Utara.

Reniwati Lubis was born on October 1974 in Medan. She graduated from the postgraduate program on Education Technology UNIMED in 2011. Her expertise in teaching Typography and work safety in Politeknik Negeri Media Kreatif Medan.

Syahripal Putra was born on May 10, 1985 in Batubara, North Sumatera. He graduated from the postgraduate program on English applied linguistics UNIMED in 2012. He is active in English teachers association and a frequent speaker for an English teaching in some seminars. He is a national instructor of PKB program from the Ministry of Education and Culture in 2016 - 2017. He actively supervised students in English club. He works in SMA Negeri 19 Medan, North Sumatera