Digitizing English Learning for Business Communication in Printing Industry with Android-Based Application

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Abstract. Educational applications need to be equipped in a simple, effective, and efficient and able to answer the users' needs. From the perspective of higher education in Politeknik Negeri Media Kreatif, learning applications are needed to support the digitization of learning English communication. The research aims to design an application "e-BisComPrint" to digitize the process of learning English courses in printing indsutry. The method applied in this study is R & D. The data collection technique is documentation. This aplication is validated by 9 experts and to find out the fulfillment of users' satifaction and application feasibility, the questionnaire is administered to students of Politeknik Negeri Media Kreatif in Graphics Engineering study program with 20 respondents. The application of English for Business communication in printing achieves validation score of 4.28 or in the good category from the experts of English, learning media, and programming. The positive response from students is also in the good category with a questionnaire score of 4.42 as they replied to the application in a positive perspective.

Keywords: digitize, Business communication, printing, application.

1 Introduction

The development of communication and the technology of informatics in the form of application innovations or practical devices is increasingly pampering and reaching all levels. Nowadays, patrons of education have grown by positioning information and communication technology as a source and medium for the growth of science, through experiential procedures, learning and in terms of practice. Learning can be said to be effective if the implementation of the learning design meets three prerequisites, namely interest, effectiveness, and efficiency [1], [2]; [3]. If these three prerequisites are not met, then learning is considered not good.

Competitive competition in the business and industrial world requires students to upgrade their competencies, not only competencies in their field of specialization but also English language skills as a prerequisite to be able to compete globally in the international arena [4], [5]. Therefore, the need for English learning media will be increasingly sought after,

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especially easy and efficient learning media in the digital era[6]. One of the learning media that is much loved at this time is android-based applications [7].

Graphics Engineering Study Program in Politeknik Negeri Media Kreatif aims to produce students who are not only proficient in their fields but also have the ability to communicate to the audience of users of services and products[8]. Support for infrastructure related to internet connections and computer network devices at Politeknik Negeri Media Kreatif is very contributive to being empowered as an Android-based learning resource or media. Comprehending the need of English as business language for researches have been implemented by some researchers[9], [10], [11], [12], [13], [14], [15]. This is in order to realize Politeknik Negeri Media Kreatif into a Smart Digital Campus, which is a modern, skilled, superior and creative university. Therefore, with an application innovation called English for Business Communication in Printing, it is hoped that the digitization of learning technology can be realized and can improve English language competence so that it can produce skilled and reliable student outputs [16], [17].

The need for a learning platform, especially in the field of English for printing, is urgently needed and the English for Business Communication in Printing Application is one of the solutions to accelerate the fulfillment of reliable and competent graduates. The development research on English application is not a new research issue [18],[19] . However, the focus of research on developing English learning applications for business communication in printing has never been studied. This is the basis for why researchers are interested in making English for Business Communication in Printing applications.

2 Research Methods

This study applies the Research & Development method through the development of an application of English for Business Communication in Printing which has practical and interesting properties [20], [18]. This research will be applied to Graphics Engineering Study Program, Politeknik Negeri Media Kreatif Medan, Indonesia. The data is collected by applying documentation technique, the reasearchers organize English for Business Communication in Printing materials based on relevant references and implement needs analysis by distributing questionnaires [21]. Furthermore, to ensure that the app of Business Communication in Printing is feasible, the reasearchers validate and test it by conducting observation, questionnaire and interview to research subjects.

These research steps are implemented through 6 stages with the procedure that can be seen in Figure 1:

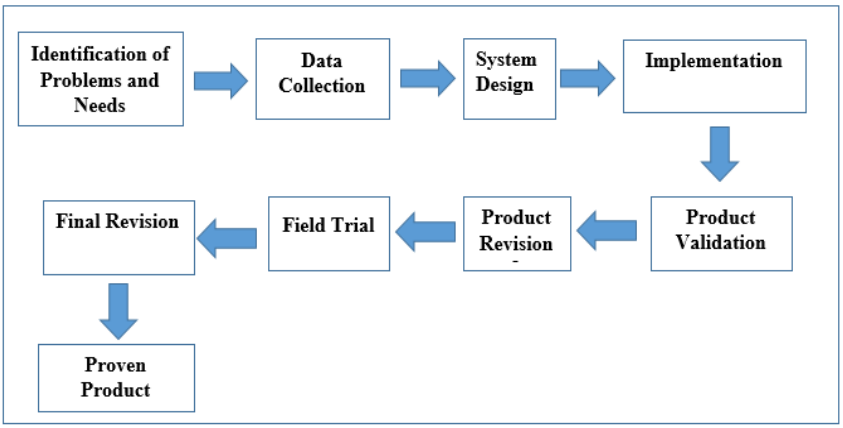

Fig. 1. Research Procedure

The process of developing the application are:

a. Preparation

The author analyzes what needs will be needed to develop this application such as the information displayed, the media used, the programming language used and others.

b. Data collection

The data are provided to manage the contents of the application. Various materials related to each learning unit are collected and arranged. whether it's explanatory material, examples of conversations, listening, animated video conversations and exercises.

c. System analysis

The media used is Android at least version 8.0 Oreo. Then, the programming languages used are HTML, CSS, JavaScript and PHP (Framework Codeigniter). So this application is an Android application that is Hybrid or an Andriod application built using HTML, CSS and Javascript.

d. System Design

At the design stage, the reasearchers design the display, process and data. To design the display, the author uses Photoshop to create an initial illustration of the application display, both menus, content and others. To design the process, the author uses UML which is a model that can describe any process that can be done on applications such as listening, watching video, and others. As for Data Design, the author uses Mysql to store any data that is worth saving

e. Implementation and Program Code Generation

At the coding stage, It is implemented the Design and Needs Analysis Stages into a line of code called coding. As explained, the application is designed by impelementing JavaScript, HTML, PHP and CSS (Framework Codeigniter). The author implements the results of the display design, process and data using a programming language in order to produce an application that is in accordance with the desired design

f. Testing and evaluation

After developing the application which is carried out at the coding stage, the testing is carried out to ensure whether the Coding stage is in accordance with the Design stage. If not, then the coding stage is restarted.

At the validation stage, the researcher asked 9 validators from 3 disciplines of expertise, namely the expert of English language, learning media, and computer science to test validity of the app and the reliability to make the app run properly. Furthermore, the researchers conduct application testing on students‘ perspective and evaluate the shorcomings based on their responses by administering questionnaires.

3. Result and Discussion

3.1 Application Need Analysis

The Application of English for business communication in Printing is prominent for these reasons:

1. It is beneficial to gain learning goal because the subject has only two credits which is considered measly to acquire creative and competitive university graduate in printing discipline.
2. To facilitate the students' need of easy access learning platform that help them to learn and review English for Business Communication in Printing.
3. Learning activities can not only occur by bringing together lectures and students conventionally, but can also be carried out from various learning sources. The application facilitates the acceleration of learning digitalization because students can take advantage of easy internet access to access knowledge, science and even entertainment content.

3.2 Application Design

At the design phase, the compendium of the English for Business Communication application is constructed. Some typical application points in the application are:

1. Start Menu Page.
   The page exposed the main menu to access Start,
2. Unit Menu Page.
3. The Units consists of Unit 1: Welcoming Visitor, Unit 2: Offers, Unit 3: Orders, Unit 4: Telephoning, Unit 5: Presentation, Unit 6: Meeting, Unit 7: Negotiation, and Unit 8: Customer Care.
4. Help Menu Page
   The page is designed to help users operate the application properly and also to prevent troubleshooting.
5. About Menu Page
   The page is made to introduce the authors of the application and some points of the importance of English for Business and Communication application.
6. Exit page.
   The page provides a shortcut way to exit from the application.

3.3 The Implementation of English for Business Communication in Printing

The procedure to use the application of English for Business Cumminication in Printing Industry is:

1) Open Menu on your Android.
2) Click the icon of English for Business Cumminication in Printing application

Fig. 2. The application icon

3) After that, the users will see the menu display in the application

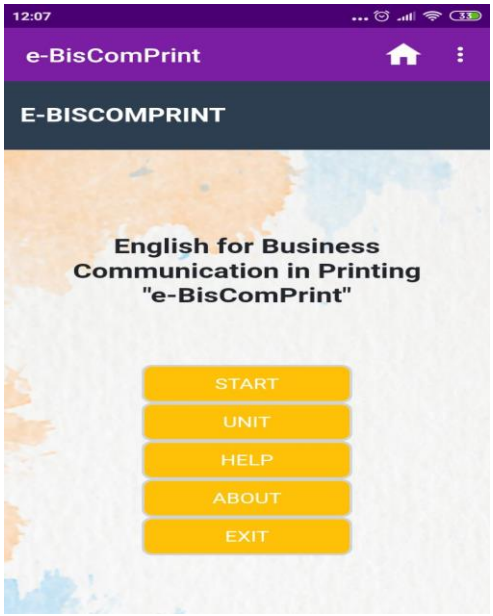

Fig. 3. The application menus

4) Click Start to start using the Application. Clicking on the Start Menu means that the user creates a Unit 1 Welcoming Visitor.

Fig. 4. The units

5) Click the Unit Menu to view available learning topics. On this App, there are 8 units consisting of:
    a. Unit 1 Welcoming Visitor
    b. Unit 2. Offers
    c. Unit 3. Orders
    d. Unit 4. Telephoning
    e. Unit 5. Presentation
    f. Unit 6. Meeting
    g. Unit 7. Negotiation
    h. Unit 8. Customer Care

    Each unit contains learning materials, video conversations and also listening. Users can access it by clicking on the provided Video or audio. In addition, an exercise form is provided to answer the questions provided. Here's what unit 1 looks like:
        a. Learning materials

Fig. 5. The learning materials

b. Conversation Videos

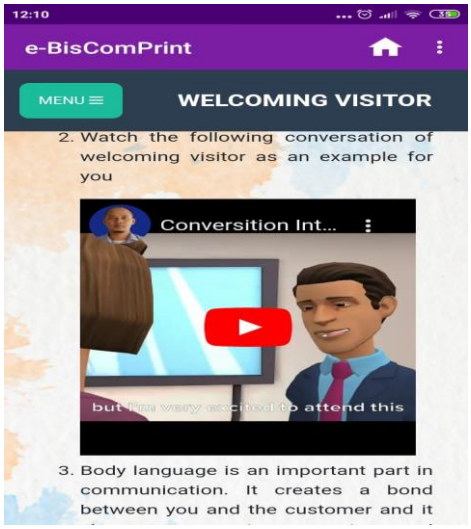

Fig. 6. The conversation videos

c. Listening

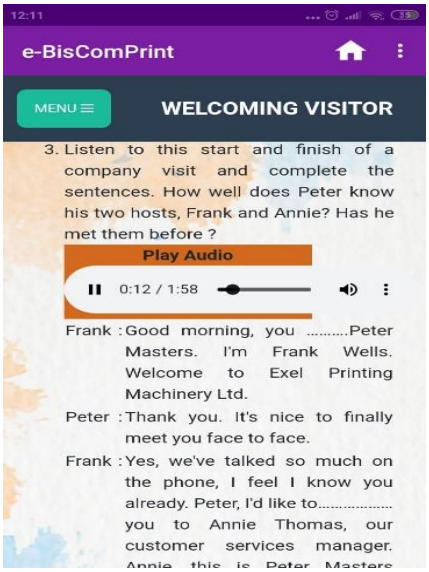

Fig. 7. The audio for listening

6) Click the HELP menu to find out how to use the English for Business Cumminication in Printing Industry application.

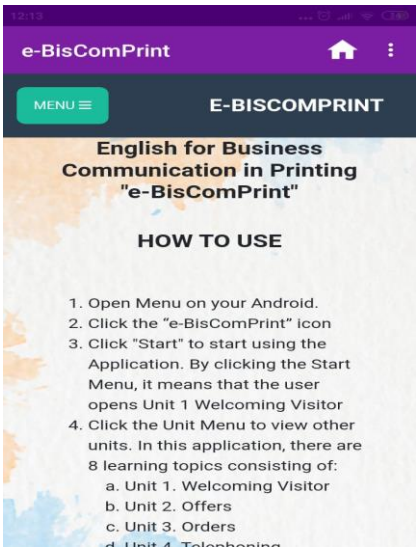

Fig. 8. The help menu

7) Click the ABOUT menu to view information related to this application and its author

Fig. 9. The about author's menu

3.4 Validation

To confirm the application of English for Business Cumminication in Printing Industry is feasible, the first action is to validate the feasibility of the application by confirming input or opinions from experts in the fields of English teaching, technology and educational learning media and programming. The quality testing output of English for Business Cumminication in Printing Industry are manifestated on a scale of 1-5, with the following range:

X > 4.2 = Excellent
3.4 < X 4.2 = Favorable
2.6 < X 3.4 = Enough
1.8 < X 2.6 = Low
X 1.8 = Very low

Table 1. Application Validation Assessment Results

No	Aspects	Score Validation		
		1	2	3
1	App Designs	4.4	4.3	4.3
2	Content Eligibility	4.2	4.3	4.1
3	The Reliability of Application	4.2	4.3	4.4
The total		**4.27**	**4.30**	**4.27**
The Average		**4.28**		

Referring to the score of validation (4.28), it imply that English for Business Comminication in Printing Industry application has had good assessment result. However, there are some shortcomings that still need to be improved. The qualitative data of the expert validation questionnaire shows on Table 2

Table 2. Validators' Inputs and suggestions on application of English for Business Comminication in Printing Industry

Validator	Inputs & suggestions	Revision
1	The conversation in the Listening section is too fast	Reduce conversation speed
2	The dubbing sound on some animated videos still has noise (less clear)	Eliminate noise in dubbing sound
3	Font size for titles and subtitles is still not big enough	Adjusting the font size for better readability

3.5 Test Result

After developing the apps, manufacture and validation phase, the app needs to be tested to the user to discover the application's benefit, effectiveness, reliability, appropriateness, and practicality. The application's questionnaire is administered to students of Politeknik Negeri Media Kreatif in Graphics Engineering study program with 20 respondents and 20 items spread over first, second and third level. The students make a positive to the application with a very good response as proven by the questionnaire result of 4.42 as indicated in the table 3. Thus, from the results of this study it is known that the use of this android application is in great demand by students, and has a positive impact on the learning process they carry out and it provides support for previous research [22], [23]

Table 3. Students' Response on Application of English for Business Communication in Printing Industry

No	Aspects	Average score
1	This application helps me to be more effective in business communication English, especially in the world of printing	4.9
2	This application helps me to be more productive in learning business communication English, especially in the world of printing	4.4
3	This application is very useful to increase my knowledge in business communication English, especially in the world of printing	5
4	This application makes it easier for me to learn business communication English, especially in the world of printing.	4.1
5	This app saves my time when I use it.	4.1
6	This application suits my needs in learning business communication English, especially in the world of printing.	4.5
7	This application is easy and practical to use.	4
8	This application requires a few steps to achieve what I want to do	4.6

	in this application.	
9	This application can be used anywhere and anytime.	5
10	I can use this app without using written instructions.	4
11	I don't see any inconsistent parts when I use this app.	5
12	Both infrequent users and inexperienced users will love this app.	3.9
13	I can handle the error easily by using this app.	4
14	This application is easy to learn how to use.	4
15	I became skilled in using this app quickly.	4.1
16	I am satisfied with this application.	4.9
17	I will recommend this app to friends.	5
18	This app is fun to use.	4.6
19	This app works the way I want	4
20	This app has a nice look	4.4
The Average		**4.42**

4. Conclusion

The digitization of English learning at the Creative Media State Polytechnic is carried out by developing an android application called "e-BisComPrint" (English for Business Communication in the printing industry). Based on this study, "e-BisComPrint" is proper to support the English communication skills of graphics engineering students. The research adds to the findings about the positive role of androids in learning which were previously also raised by previous researchers. The validation score for the feasibility of the application is 4.28. The qualifications for the application are quite good. The students make positive response to the learning application with questionnaire score of 4.42. Therefore, it meets the effort to digitize English Learning of Bussiness Communication in printing industry.

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