

DEVELOPING ANDROID-BASED BILINGUAL E-GLOSSARY FOR BUSINESS ADMINISTRATION STUDENTS

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Abstract

This research is a Design and Development Research. The aim of this research was creating a bilingual e-glossary application for Business Administration students. The motives of the research are (1) to develop an Android-based bilingual glossary application in the field of Business Administration; (2) to give preferable solutions to the problems which students of Business Administration Department often face. During the process of this research, there were five phases to develop the product; analysis, design, development, implementation, and evaluation. The outcome of this research was a bilingual e-glossary for Business Administration which utilized a mobile device as the platform. The product of this research is advantageous for Business Administration students, learners who study in the field of Business Administration, and for D3 Program in Applied English at State Polytechnic of Malang.

Keywords: android-based glossary, application, e-glossary

INTRODUCTION

Students or learners, who are continuing their study in a university or polytechnic, tend to be more accustomed to utilizing technological devices during their learning sessions, especially when it comes to English-language courses as students are required to look through their dictionaries to aid them. In fact, most departments at State Polytechnic of Malang require students to be prepared to gain knowledge related to vocabularies focusing on different majors and one of the departments is Business Administration. It is a must for the students of the department to learn and understand English. Moreover, there are many vocabularies which students need to understand in order to avoid misinterpretation. In Business Administration, there are many difficult terms as other departments require students to study other different terms due to the fact that

students or learners are more accustomed to learning general English rather than learning English which is focused on academic purposes.

One of the ways to find out the meaning of terms is to check the glossary. According to oxfordlearnerdictionaries.com, glossary is a list of terms in a particular domain of knowledge with their definitions. Usually, glossary can be found on the last page of any academic book. However, it is feared that students have less chances to even attend any library due to the pandemic. Therefore, in order to help Business Administration students in finding definitions related to specific business terms, this final project is aimed to develop an Android-based bilingual e-glossary application as an innovation of a supporting study material for Business Administration students.

Based on the background, this research project has its purpose to develop an Android-

based bilingual e-glossary application as a supporting system for Business Administration students.

REVIEW OF RELATED LITERATURE

Glossary

According to Nordquist (2019), a glossary is a list of specialized terms complete with their definitions. He also mentioned that a glossary is known as a “*clavis*” which means a key or an aid to avoid misinterpretation as it can define specific terms.

Furthermore, John (2006, as cited in Nordquist, 2019) stated that English learners are required to use a glossary if their reports contain five or more technical terms which may not be understood by all audiences.

As it was mentioned on an online dictionary, oxfordlearnerdictionaries.com, what differentiates glossary with dictionary is that dictionary itself does list words from one or more languages and display each word’s meaning, and also show information based on its etymology, pronunciation, usage, translations and other data. However, dictionary only displays common terms even though there are also some specialized terms in particular domains of knowledge. Moreover, dictionary cannot be fully utilized if English learners fail to interpret common terms in a distinctive domain of knowledge just to use a dictionary.

Also, Sharon and Steven (2006, as cited in Nordquist, 2019) mentioned that whenever English learners (ELs) try defining terms, be sure to be considerate of those who read and try to understand your text as two problems will occur: you will delay your audience as they read your text, and you will insult high-tech. Thus, use a glossary.

Review of Previous Research

Nikolarea (2003), from University of the Aegean conducted research entitled “Creating a Bilingual Glossary for Translators” and it was aimed to set for a methodology of a personal

bilingual Terminological Data Bank (TDB) whose final product can be a dynamic useful tool for its end-users in that it can be retained, retrieved, improved and enriched according to their needs. Also, the researcher stated that her paper was the fruit of four-year teaching experience as she was the lecturer of English for Specific Purposes (ESP) at a Greek State University. The correlation between her and this research is that the concept of the research is to create a bilingual glossary (English-Greek and Greek-English) as it focuses on ESP. However, the only difference is that her research utilizes TDB as a tool to store the glossaries instead of taking advantage of an Android-based application.

Wohl (2018) also conducted a research entitled “English for History: Designing a Bilingual Glossary of Specific Terms”. His research was conducted at Babes-Bolyai University (BBU) of Cluj-Napoca in Romania and aimed to design a bilingual (Romanian-English) glossary of historical terms. Furthermore, Wohl’s final product of the research was a book which could be an essential tool for researchers or learners in the field of History, as well as for linguists, translators and ESP instructors, when facing the terminological particularities of “English for History”. The relation between Wohl’s research and this research is the research’s aim is to design a list of terms in a particular domain of knowledge with their definitions as this research’s final product is an application which can be utilized as a tool for both learners and lecturers in the field of Business Administration. However, as it was mentioned that this research’s final product is a bilingual glossary e-glossary application, it indicates that both researches only have a slight difference as Wohl’s research final product was to publish a book of bilingual glossary. Personalized learning environments.

RESEARCH METHOD

Research Design

The product used Research and Development (R&D) method as it was suitable due to the fact

that Sugiyono (2014, as cited in Anggraini, 2015) stated that this method is used to produce a particular product, and test the effectiveness of the product itself. Therefore, this research used Research and Development method because the product was to develop an Android-based bilingual e-glossary application as a supporting study material for Business Administration students.

As for the method, it has its steps. According to Wahyudi (2013, as cited in Rohmah, 2014), developing a product using Addie's model is good enough due to the fact it has 5 steps researchers are required to do. The model consists of Analysis, Design, Development, Implementation and Evaluation. The explanation of each stage is as follows.

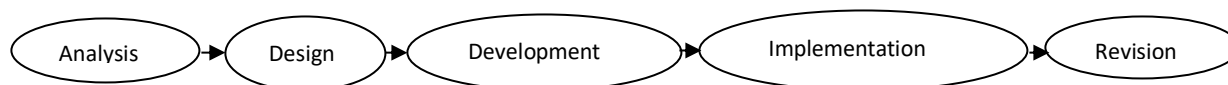


Figure 3.1 Addie's model (Steps of the method)

Research Setting

The research setting was conducted in regular classes of Business Administration Department of State Polytechnic of Malang (Polinema). Polinema is a vocational higher education which is located at Jl. Soekarno Hatta No. 9, Malang.

Data Collection Method

According to Jovancic (2019), data collection is the process of collecting and determining information on variable of interest, in an esteemed systematic fashion which allows researchers to state research questions, assert hypotheses, and evaluate results. There are 2 main types of data which were collected in this research, and they are quantitative and qualitative data. Jovancic (2019) continuously mentioned the definition of each data. Quantitative data deals with things which are measurable and can be displayed in numbers, figures, or using other values which show quantity and the data is acquired through closed-ended surveys and online questionnaires, while qualitative data is gained through observation, open-ended survey or interview questions.

The data source for the research product was collected from students and lecturers of Business Administration as well as the available

documents. The qualitative data was provided with information obtained from conducting an interview with the lecturers and the quantitative data is a statistic data which was gained from the Business Administration students. However, this research focused more on gaining quantitative data as the researcher utilized questionnaires to gain ideas or prediction, find out what the students and lecturers need and learn how the glossary was supposed to be developed.

DEVELOPMENT PROCESS AND DISCUSSION

Product Development Process

As it was mentioned in Chapter 3, part 3.1, the research, which aimed at developing an Android-based bilingual e-glossary application for Business Administration was conducted through six phases. The phases covered analysis, design, development, implementation, evaluation, and revision, and are explained in order.

Analysis

The researcher did a pre-survey or preliminary research in analysis phase using a questionnaire. The pre-survey aimed at finding out the requirements on how the bilingual e-glossary application was supposed to be developed. The students and lecturers'

responses to the questionnaire were considered as the data. The questionnaire was distributed within two months, from May 17th to June 11th, 2020. There were twelve questions displayed in the questionnaire. The questions were mostly about how much students understand a glossary, the requirements of the glossary, and how the format of the glossary should be displayed. *(The full questionnaire can be seen at Appendix 1)*

There were thirty-six respondents who made responses to the questionnaire; they were thirty-three students and three lecturers of Business Administration Department of Polinema.

According to the responses, 83% (30 people) were female, while the rest, who were 17% (6 people) of them, were male of all the thirty-six respondents. Most respondents were from students of the department (33 people or 85%), while the rest, who were three people (15%) of them, were the lecturers of the department. All of the lecturers who responded to the questionnaire, teach regular classes and two of them teach international classes as well.

The questionnaire was presented in a six-point Likert rating scale. Kho (2017) stated that Likert scale is a research scale which is utilized to measure respondents' opinions. With this scale, respondents were asked to fill the questionnaire form to indicate their degree of agreement or disagreement towards various questions provided. Moreover, these questions were used as research variables by the researcher. According to Thompson (2018), despite the fact that Most Likert scales have five possible options: two positive, two negative, and a neutral or undecided option, this presents problems as a five-point Likert scale gives respondents a rather easy way not to put thought into the questions. Therefore, a six-point Likert scale allowed the researcher to force choices in order to gain elaborate data. If, a neutral option was added, the "slightly agree"

and "slightly disagree" options could be averaged together.

However, the percentage of how many respondents responded was not enough to present the quantitative data analysis. According to Kho (2017), in order to disclose the outcome of the Likert scale and use it as quantitative data, a researcher must use interval analysis or interval formula

Despite the fact that the researcher used the six-point Likert scale, the researcher still followed the law of the five-point Likert scale Interval Assessment as it was stated in proportion to the formula itself. Kho continuously stated that the disclosure of the outcome can be indicated from the collected Index Scores.

As a result, the researcher concluded that most of the respondents, who often read English texts, books, and articles, occasionally find obstacles in understanding English texts. However, they often find obstacles in understanding English texts in terms of specialized vocabularies and grammar. Also, most of them often consider glossary of any English texts, books, and articles as a supporting tool in searching for meaning of specific terms. Furthermore, they very agreed with the use of Android-based applications supporting access of the glossary as well as the creation of a bilingual e-glossary application (English – Indonesia) for Business Administration Department. Thus, it was eventually decided that an Android-based bilingual e-glossary application for Business Administration Department was developed.

Design

In this phase, a decision was made that the application was only set to be available for Android because of the limited time and budget. The researcher collected 500 Business Administration terms in English as well as the definition of each specialized term. Also, the researcher made 500 example sentences both in English and Indonesian. The terms were

taken manually from modules and an e-book related to Business Administration terms.

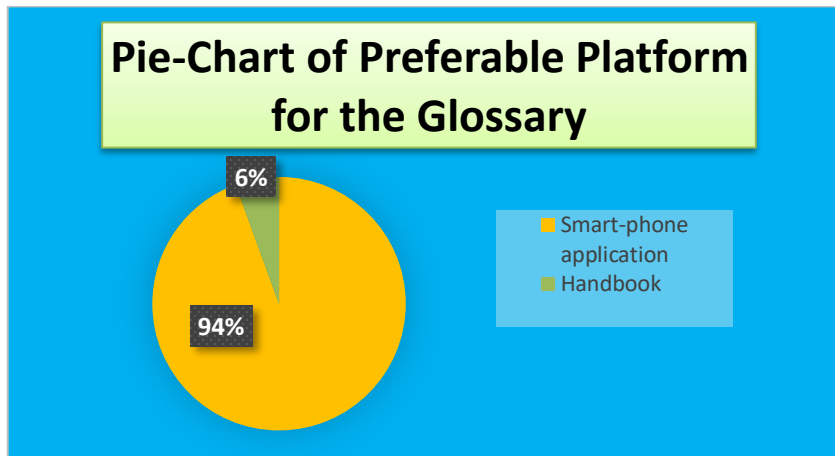


Figure Figure 1. Pie-Chart of Preferable Platform for the Glossary

As displayed in Figure 4.1, out of thirty six respondents, the researcher found that thirty four (94%) of them chose smart-phone application to be the preferable platform for the glossary and two (6%) of the respondents preferred a utilization of a handbook. However, the researcher did not find any of the respondents who chose computer application as the preferable platform (0%). It can be concluded that most of the respondents chose smart-phone application as a preferable platform for running the glossary application.

Therefore, it was decided that Android-based smart-phone applications were used.

Development

In this phase, it began with finding specialized terms related to the field of Business Administration in modules and e-books. After 500 terms from both modules and e-books were manually collected along with the definition of each term, the researcher compiled them into an Excel formatted file.

154	Wage	Bussiness	Upah / gaji
155	Wage adjustment	Bussiness	Penyesuaian upah
156	Wage claim	Bussiness	Klaim / hak upah
157	Wage differential	Bussiness	Perbedaan upah
158	Wages policy	Bussiness	Kebijakan upah
159	WAP (Wireless Application Protocol)	Bussiness	sebuah protokol atau sebuah teknik layanan pesan yang memungkinkan untuk sebuah telepon genggam digital yang m
160	Warehouse	Bussiness	Gudang
161	Wastage	Bussiness	Kerugian karena penyusutan
162	Waybill	Bussiness	Daftar penumpang / barang
163	Weak market	Bussiness	Pasar lemah (terdapat banyak penjual, tapi sedikit pembeli)
164	Weakness	Bussiness	Kelemahan
165	Wealth tax	Bussiness	Pajak kekayaan
166	WFM (Workflow management)	Bussiness	Proses pengelolaan alur kerja
167	White-collar	Bussiness	Pekerja kantor
168	Wholesale	Bussiness	Borongan
169	Will	Bussiness	Surat wasiat
170	Window display	Bussiness	Pemajangan barang dagangan
171	Withdraw	Bussiness	Menarik (uang)
172	Withdrawal	Bussiness	Penarikan
173	Withholding tax	Bussiness	Sistem pemotongan pajak pihak ketiga (dipotong)
174	Witness	Bussiness	Saksi
175	Worker control	Bussiness	Kontrol / kendali pekerja
176	Worker director	Bussiness	Direktur pekerja
177	Worker participation	Bussiness	Partisipasi pekerja
178	Work experience	Bussiness	Pengalaman kerja

Figure 2 Glossary's Excel-formatted File (Terms in English – Indonesian)

Then, the researcher also collected the example sentences of each term.

the amount of an employee's pay withheld by the employer and sent directly to the government as partial payment of income tax.
There must be two witnesses present when she signs the document
The company shows how, even without knowledge of previous worker control initiatives or an explicit socialist consciousness, the collective administration of work
The latter has since made a commitment to putting a worker director on its board but that has not yet taken place.
The hoped-for destination is an interlocking system of institutions that cover vocational training, finance to small businesses and worker participation .
He did some work experience in radio, writing travelogs.
Use this screen to specify aliases or users to assign to the workflow step.
We have a workforce of 2,400 people.
Loan eligibility is often tied to a business' credit score and is supposed to provide six months of working capital .
The miners demonstrated for better working conditions .
Our proposal is that we do business together as working partners with a common interest.
In identifying areas for review, the working party had two guiding principles.
It is easy for a qualified doctor or nurse to acquire a work permit .
There was prejudice in the workplace culminating in her resignation a year ago.
a place where a number of people are employed is called works .
According to the Industrial Disputes Act of India, every employer should form a works committee if they have more than 100 employees in the organization.
The Great Western railway has workshops at Lostwithiel.
A works manager , who is usually the head of the production departments, is needed in a manufacturing company.
The World Bank was founded in 1944 and is owned by more than 184 member countries that are represented by a Board of Governors and a Washington-based Bo
The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.
In 2008, approximately 50 U.S. companies reported financial data in XBRL to the Securities and Exchange Commission (SEC).
The company carries ink for most printer manufacturers, including: Apple, Brother, Canon, Compaq, Dell, Epson, HP, Ithaca, Kodak, and Xerox.
While yellow goods are sold in low volumes, they have high profit margins.
Commercial pest controllers can be found in the Yellow Pages under Pest Control.
ZDPs (Zero Dividend Preference Shares) are issued by split capital investment trusts, which are similar to other investment companies in that they own and manage
Achieving zero inflation may require lower economic growth and cause problems associated with deflation (falling prices).
Zero-rating products or services means that the goods or services are still VAT-taxable but the rate of VAT you must charge your customers is 0%.
Land-zoned for light industrial use land where planning permission has been given to build small factories for light industry.
One of the tools which are utilized in regional spatial planning, where regional spatial plans have a macro to micro level plan, is zoning regulation .

Figure 3. Glossary's Excel-formatted File (Example sentences)

After compiling terms and example sentences, the Excel-formatted file was to be input to a website which was developed

by IT experts and lecturers of D3 English study program.

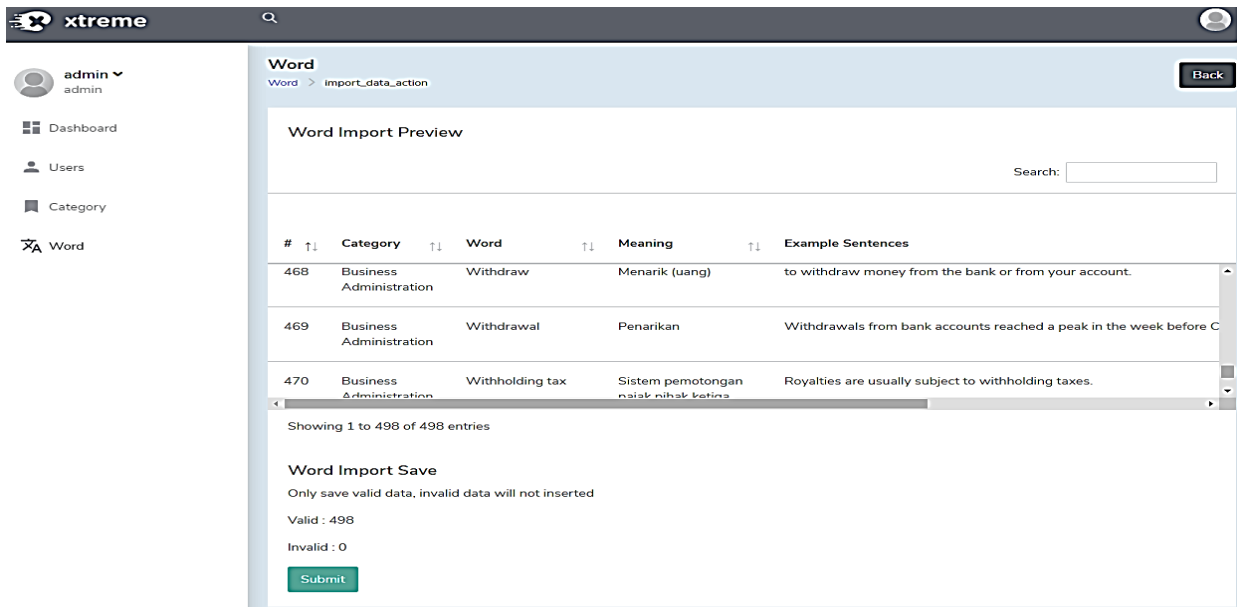


Figure 4. Glossary's Website (The process of inputting compiled terms and example sentences)

Implementation

In the implementation phase, the contents of the Business Administration bilingual e-glossary application was validated by the experts in order to find out whether or not the product had met the required criteria.

The expert, who was involved in the process of product validation, was one of the lecturers of Business Administration Department of Polinema. The expert focused on reviewing the terms collected, the meaning of each term, and the example sentences in the glossary. The reviews were gained from the interview which was done online. *(The full interview can be seen at Appendix 2)*

After the interview with the expert, the researcher received a correction from which the

researcher should consider, and that was the example sentences which were supposed to be displayed into two languages (English – Indonesian).

Evaluation

In evaluation phase, the e-glossary application was user-tested by the students of Business Administration Department. Also, the correction of the content of the bilingual e-glossary application for Business Administration was conducted in this phase. In order to find out whether or not the application had met the required criteria, a link to the downloadable application and a questionnaire were distributed. *(The full questionnaire can be seen at Appendix 3)*

Table 2. User's Responses on Bilingual e-glossary application

No	Criteria	Responses					Index
		1	2	3	4	5	
1.	The content / words are in accordance with the Business Administration field.	0 (0%)	0 (0%)	0 (0%)	7 (24.1%)	22 (75.9%)	
2.	The meaning / definition is easy to understand.	0 (0%)	0 (0%)	0 (0%)	6 (20.7%)	23 (79.3%)	
3.	The translation of example sentences in Indonesian is easy to understand.	0 (0%)	0 (0%)	1 (3.4%)	5 (17.2%)	23 (79.3%)	
4.	The application is easy to use.	0 (0%)	0 (0%)	1 (3.4%)	9 (31%)	19 (65.5%)	
5.	The application's design is interesting.	0 (0%)	0 (0%)	2 (6.9%)	10 (34.5%)	17 (58.6%)	
6.	The font and size of the contents are easy to read.	0 (0%)	0 (0%)	1 (3.4%)	6 (20.7%)	22 (75.9%)	

Note(s):

(Option 1) Never, extremely disagree

(Option 5) Always, extremely agree.

From the outcome above, the researcher concluded that the choice of terms collected for the glossary was extremely appropriate to the context of Business Administration. Also, the meaning of each term in the application was extremely easy to understand as well as the translations. Furthermore, the respondents agreed that the bilingual e-glossary application was extremely easy to use and it was able to aid them in understanding English texts, books, and articles related to the field of Business Administration.

Discussion

This research is related to a research which was conducted by Wohl (2018) entitled “English for History: Designing a Bilingual Glossary of Specific Terms” as both of the researches’ findings emphasized the use of glossary as a tool to aid those who study English for Specific Purposes (ESP). Wohl stated that the motivation behind the research project was because of the lack of specialized resources in the “English for History” branch of study. Thus, Wohl continuously mentioned that a glossary providing ideas and terms from the field of History, displayed in field-specific contexts through bilingual selections of specialized texts languages, is able to emphasize how a specific term is used in two languages and aid users in their production process. As for this research, the researcher cited a statement from Nordquist (2019) that a glossary is a list of specialized terms complete with their definitions, and also acts as a key to avoid misinterpretation as it can define specific terms. This is relevant to the benefits of utilizing glossary in language learning as it becomes the strength of both researches’ final product. However, both researches are different concerning the platform utilized. The related research aimed at designing a book of a glossary for researchers in the field of History (and all conjoining subfields), well as for

linguists, ESP instructors and translators. This can be an indication of the weakness of the related research’s final product due to the fact it utilized a rather conventional platform for the glossary. As for this research, its purpose was to use a mobile or smart-phone application for the glossary. The limited time and budget only allowed the researcher to create an Android-based bilingual e-glossary application which is still under-developed which indicates the final product’s own weakness.

Another research, which was conducted by Agustina and Murtopo (2017), with the title of “The Development of Android Based Dictionary for Graphic Technique”, is also related to this research as both researches emphasized the utilization of mobile devices as a platform. Their research focused on developing a Android-based Dictionary for Graphic Technique Study Program as the researchers believed that the use of mobile devices for their dictionary is more practical than using conventional platform. As for this research, it aimed at designing a bilingual glossary utilizing smart-phone application. Concerning the similarity, this is correlated with the advantage of using such a platform.

CONCLUSION AND SUGGESTION

This research aims at developing a bilingual e-glossary application for Business Administration Department which utilized a smart-phone as the preferable platform. The final product of this research is an Android-based application with the name of “POLINEMA Bilingual E-Glossary”. The bilingual e-glossary application itself consists of specialized terms, meaning of each term, and example sentences in the field of Business Administration. The purpose of creating this final product is to aid the users in understanding specific English texts, books, and articles.

From the conducted phases in the product development process, the researcher

concluded that students of Business Administration Department have difficulties in understanding English texts as they are required to study ESP materials. From the distributed questionnaire, the researcher found that the respondents, who were the students of Business Administration Department, agreed that the creation of the bilingual e-glossary application should be developed as it can be an essential tool for them in understanding English texts, books, and articles in Business Administration field.

Based on the conclusions, the researcher found some weaknesses. Firstly, due to the fact that the researcher lacked of background knowledge in the field of Business Administration, the contents of the e-glossary were not perfectly developed as users might find misinterpretation on some terms. Secondly, the product is only available for Android operating system at this moment due to the limited budget and time. Finally, the application still needs some improvement as the researcher found that some users could not open the application during the process of field-testing. The researcher suggests that further researchers improve this product as it will be fully utilized by Business Administration Department.

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