Cognates Arabic-Indonesian Computer-Assisted Language Learning

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Abstract
This study aims to (1) determine the feasibility of cognates Arabic Indonesian Computer Assisted Learning Language (AICALL), (2) find out the response or response of Al-Islam teachers after using AICALL for elementary-level learning. The research method used in this study adopts the Research and Development model from Borg and Gall, namely: 1) research and information collection, 2) planning, 3) develop a preliminary form of product, 4) preliminary field testing, 5) main product revision, 6) main field testing, 7) operational product revision, 8) final product revision, 9) dissemination, and 10) implementation. Given that this research was designed for two years, the first year only reached the fifth stage, namely the revision of limited field test results (main product revision), and stages 8, 9, and 10 are planned in the next stage of research. The data collection technique is used by questionnaires, then the data is analyzed by qualitative and quantitative descriptive analysis. The results showed that expert assessment of the guide and AICALL could be used, the percentage of users responded that AICALL is very useful for elementary learners (65.2%) and is highly recommended for learners at that level (52.2%).

Keywords: Arabic-Indonesian Computer Assisted Language Learning (AICALL), Cognates, Language Learning

1. Introduction
In the last few decades, computers have been used for teaching and learning different languages. Unfortunately, little has been done in the field of computerized Arabic language teaching and learning. Furthermore, there is a lack of research into the impact of applying the knowledge of cognates (words similar in meaning and pronunciation) in an Arabic web-based learning system for Indonesian-speaking learners.

This study investigated the effects of word cognates (words that have the same pronunciation and meaning) used in Computer-Assisted Language Learning (CALL) systems. In addition, it studied the enhancement of language learning using Computer-Assisted Language Learning systems. The proposed system was able to identify cognates automatically in any of the two languages (in this research Arabic and Indonesian languages have been chosen) and present them in a list. For this purpose, the research developed a web-based system for use as an Arabic language learning tool for Indonesian-speaking learners. The system automatically identifies cognates in the two languages using similar text. The system displays the cognates in a list (table form) and highlights the cognates in the lessons. Using cognates will improve learners' capability to develop the target language (in this research Indonesian language).

Little has been done in the field of computerized Arabic language teaching and learning. Several researchers have studied the use of cognates by teachers as a tool for teaching the Arabic language. Some previous studies have focused on language learning assisted by the computer and others have focused on language learning strategies. Some have even created algorithms or improved old ones to automatically identify cognates. However, none of them have considered a combination of CALL, cognate transfer, and highlighting cognates. Despite the existence of these previous studies, no study has developed an e-learning system for language learning using the knowledge of cognates. There is a lack of research into the impact of applying the knowledge of cognates in an Arabicweb-based learning system for Indonesian speakers.

2. Related Work

Cognates are words that have a similar meaning, spelling, and pronunciation in two languages (Kondrak, 2009). However, similarities among languages are not necessary due to borrowing or the origin of one language. Campbell and Poser (2008) argue that some scholars identify the similarities among languages are only due to inheritance from a common ancestor. They mention other reasons for the existence of similarities among languages, suchas by accident (chance, coincidence), onomatopoeia, universals, and typologically commonplace traits. Hara (2011) stated that learning cognates can help facilitate the learning of a foreign or second language (L2) because cognates preserve the linguistic information of the first language (L1). There is widespread agreement thatusing cognates helps in facilitating the learning process, especially if the cognates in L1 are loan words from L2 or the target language (TL), and if these cognates are words of relatively high frequency (Ringbom, 2007).

Otwinowska and Kasztelanic (2012) conducted a study to examine how using Polishcognate vocabulary exercises can affect the learning of learners of Indonesian and what their attitudes were toward this strategy. A quasi-experimental design and qualitative methods were used to gather learners' opinions and attitudes. A total of14 students participated and they were randomly divided into two groups: an experimental group and a control group. The findings showed that raising awareness of cognates helped teenagers to recognize cognates more effectively while reading an Indonesian text. The majorityfound that the exercises helped them notice similarities between Polish and Indonesian. The study highlights how cognate vocabulary can be important for the speed of language acquisition. A study conducted by Ibrahim (2006) on Arabic speakers and Hebrew speakers to examine whether cognates in one's first language are an advantage to second language students' learning concluded that similarities between languages reflectedby cognates' relationships can influence linguistic bilingual performance. Again, Lapo claimed that knowledge of the similarities and differences between Spanish and English is crucial in regards to establishing connections between the two languages and in facilitating positive transfer from Spanish to English.

Similarly, in another study on the acquisition of English vocabulary by Chinese learners, it was found that foreign words are remembered by being linked to a keyword, a sound-alike native word (the acoustic link), or an interactive image thatinvolves both the foreign word and the native word (the imagery link) (Zhang, 2005). Specifically, lessons that incorporate cognates (e.g. individual (English) and individual (Spanish) have been found to be effective in expanding learners' English vocabulary development and aids in comprehension (Proctor, Dalton, & Grisham, 2007). The findings of yet another study suggest that while literacy in Spanish can providestudents with access both to orthographic as well as phonological sources of information about cognate relationships, it is possible for students to draw connections between cognate pairs on the basis of sound alone, so that students who are not literate but orally proficient in Spanish are likely to benefit from instruction in cognate awareness as well as those who are literate in Spanish (Dressler, 2000).

3.   Experiments

3.1. Initial Product Development Results

The product resulting from this research and development *(research & development)* is produced by AICALL which focuses on cognate words for basic language learning. The stages carried out include pre-development, development, and application. *First*, in the pre-development stage, interviews were conducted with religious education teachers in secondary schools in several districts in Central Java. This interview was conducted to obtain preliminary data on whether AICALL learning is required. The website link that contains the AICALL prototype is https://iacall.stufimedia.com, and figure 1 is the AICALL display for the word cognate.
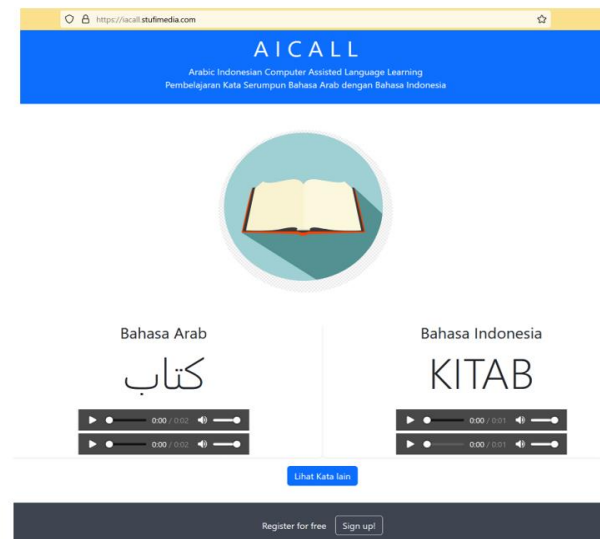

Figure 1. AICALL Prototype

Second, the development stage, at this stage is carried out the determination and manufacture of AICALL designs which are then validated by experts. Experts involved in this validation include the areas of language learning and programmers. They were asked for their opinions on AICALL Their opinions were given in the form of statements using the Likert scale, namely: very good, good, enough, less, and very lacking. Very good scoring = 5, good = 4, sufficient = 3, less = 2, and very less = 1. In addition, validators are also given space to provide opinions, proposals, and suggestions related to the model and its tools. The validation results show that the AICALL prototype category average is quite good, so improvements are needed, After getting assessment and input from experts, improvements are made so that AICALL is more complete, starting with the need for an AICALL guidebook, and evaluation at the end of each lesson. The results of these improvements are then realized in a more complete AICALL according to the input. *Third, in* the application stage, after AICALL and the guidelines are compiled, it is validated back to the user, namely Islamic education teachers. The following are the development results achieved concerning AICALL. After getting input from users and experts, the results of improvements to the AICALL prototype appear in figure 2 below, and can be accessed through the website as follows: https://aicall.web.id.
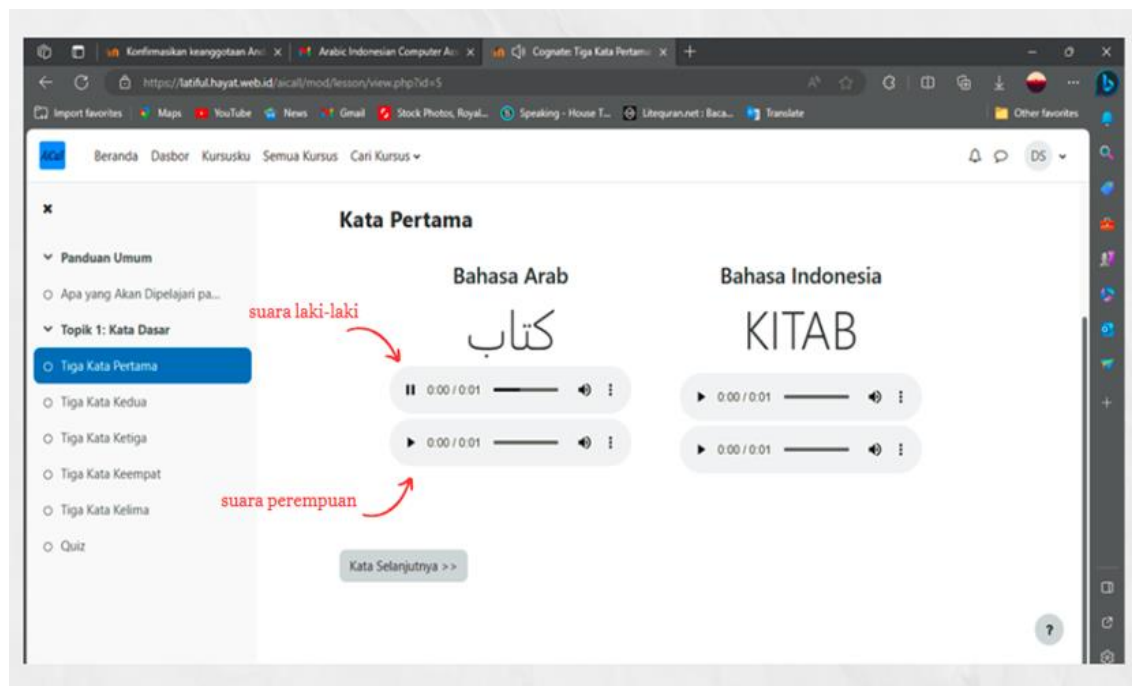
Figure 2. AICALL REPAIR RESULTS

3.2. Validation

There are six assessment items in the guidebook. The average total score of the assessment results by 23 people as detailed below is 3.7 The value if converted with quantitative data assessment criteria to qualitative data with a scale of 5 is included in the good category. Furthermore, the average breakdown of each aspect of the assessment of the evaluation model guide can be seen in the following table.

Table 1. Results of *User* Assessment of the Guidebook

No	Aspects	Average Score
1	Clarity of steps	3,8
2	Use of standard Indonesian	3,6
3	Statements are easy for respondents to understand	3,7
4	The use of words/sentences is easy to understand	3,8
5	Font shape and size	4
6	Writing and use of punctuation	3,8
	Average	3,7

User ratings of AICALL received a good rating, namely 65% answered AICALL is very useful to use in basic Arabic language learning, 30% gave useful assessments. More complete results can be seen in the Figure 3.
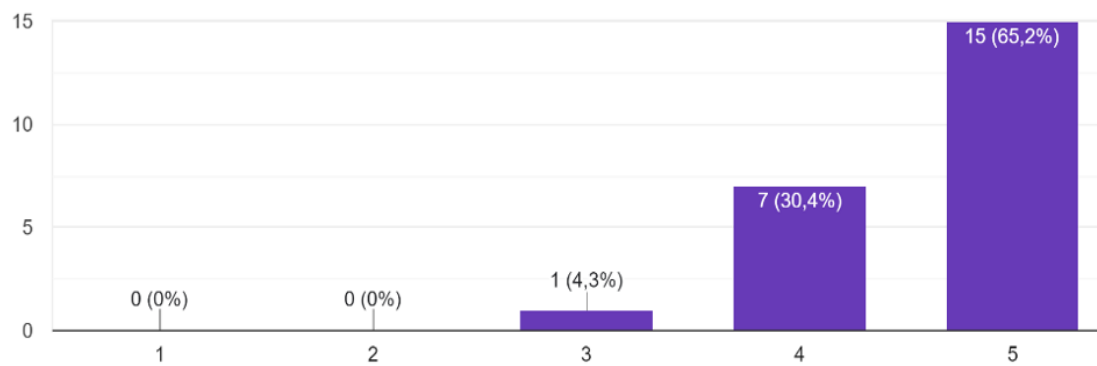
Figure 3. User Response to the Expediency of AICALL

The user who became respondents also assessed that AICALL can be recommended for elementary language learners because the words in AICALL are words that have become everyday language used by learners (cognate). The results of the next assessment can be observed in Figure 4.
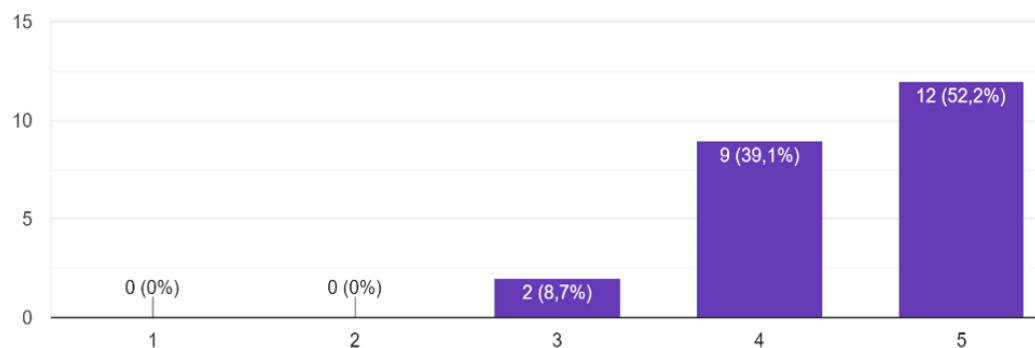

Figure 4. AICALL Recommended use

4. Discussion

This research resulted in a product called AICALL which is devoted to cognate words (words that have the same pronunciation and meaning) used in the computer-assisted Indonesian Arabic learning system (AICALL). The application of cognate between Arabic and Indonesian, in a web-based learning system provides positive benefits for Indonesian/Malaysian language learners because it can provide a useful reference when reading and writing texts in Arabic. For this reason, the teachers provide recommendations for this AICALL product that can be used for Arabic language learners at a basic level.

The data collection technique used by questionnaires, then the data is analyzed by qualitative and quantitative descriptive analysis. The results showed that expert assessment of the guide and AICALL could be used with, while the effectiveness test with n-gain value showed an effective category of 0.5502 > 0.07. Thus AICALL is worth using.

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