

Dikte Test Applications (IMLA) Using Computer Assisted Instruction (CAI) Model

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Abstract - Imla 'means talqin that conveys or dictates others aloud so that it moves well and correctly in terms of language and learns it. Imla method 'is also called dictation method, or method of writing. Where teachers read lessons, by telling students to dictate / write in a notebook. With this research aims to design an application to replace the execution of dictation test manually by using a computer. To complete this research based on the development begins with the analysis phase that is looking at the needs of teachers, materials and test questions and also test participants, then the design and design stage that is by using computer programming language software and stage Implementation and testing system equipped with CAI (Computer Assisted Instruction) is computer-based learning with type: exercises and exercises, tutorial, simulation, problem solving, inturructional. CAI is very effective and efficient when compared with traditional teaching approaches. To achieve high effectiveness, CAI development requires good planning and maturity.

Keywords: *Imla, Dictation, Testing, Application, CAI*

I. INTRODUCTION

The test is a systematic and objective tool or procedure for obtaining desirable data or descriptions of a person, in a manner that is arguably correct and prompt. Furthermore, according to Nurkancana, the test is a way to make an assessment in the form of a task or series of tasks that must be done by a child or group of children so as to produce a value about the child's behavior or achievement, which is compared with the value achieved by other children or With the default value set.

The implementation of special teaching and learning process of language subjects should be measured, then the test is a tool used by teachers to obtain information about the success of learners in understanding a material that has been given by the teacher. According Djwawandono (2008: 12), language test is a tool or procedure used in conducting assessment and evaluation in general to the ability of the language by measuring the ability of the language, namely listening, speaking, reading and writing.

Language tests in its position have a very close relationship with other components in the implementation of language learning, especially the underlying learning component of

learning activities. The same thing applies to the learning objectives for teaching learning with the whole set of learning activities to know the level of success and to evaluate or test the language by looking at the four language skills. The three components are related to each other [4].

In general, the approach to language that will determine and underlie in conducting language learning approach. The language learning approach determines the approach in conducting language tests based on the four language abilities. Implementation of language tests depends on the point of view and elements that are considered important by experts. Different views are grouped into (1) Traditional Approaches, (2) Discrete Approach, (3) Integrative Approach, (4) Pragmatic Approach, (5) Communicative Approach (Djwawandono, 2008: 17-30). Academic cultures within HE embody staff perceptions of HE and of learning, teaching, and assessment that, in turn, influence the expectations that teachers and lecturers have towards their students and the work their students produce [2].

Theoretically, students in one class are a heterogeneous population or group. Thus, a test will reflect the result in a normal curve. Most of the students are in the medium area, a small percentage of students are on the left tail and the other part is on the right tail. If the situation after the test results are analyzed is not as expected in the normal curve, then there is "nothing" with the test question.

Intelligent self-regulation requires that the student has in mind some goals to be achieved against which performance can be compared and assessed. [. . .] Feedback information about how the student's present state (of learning and performance) relates to these goals and standards (Nicol & Macfarlane-Dick, 2007, p. 200).[7]

If almost all students get a bad score, it means that the test may be too difficult. Conversely, if all students get a good score, it can be interpreted that the test is too easy. Thus, we can objectively assess the tests we compile (Daryanto, 2008: 176-179).

To measure the ability of students to understand a language, it is very measurable if the test used is the Dictation Test (IMLA), where if a student is able to write well and correctly what is heard from the dictator, the student is

categorized already understand and understand. So for that it's time to build an application in the form of a computer to be an electronic media for media and dictation test facilities, especially for language subjects, by applying methods Computer Assisted Instruction (CAI).

II. BASIC THEORY

A. Understanding Imla Method

Imla 'means talqin that conveys or dictates to others aloud so that he moves well and correctly in terms of language and learns it. Imla method' is also called dictation method, or method of writing. Where teachers read the lesson, by telling students to dictate / write in the notebook. And imla 'can also apply, where the teacher writes the imata lesson material' on the board, and after it is shown to the students. So the material is then removed, and asks the student to write it back in his notebook.

B. Purpose of Imla Method

The purpose of teaching this 'imla' is as follows:

- So that students can write words and sentences in Arabic with advanced and correct
- Children are not only skilled in reading the letters and sentences in Arabic, but also skillfully write them down. Thus the child's knowledge becomes integral. (Integrated)
- Train all the five senses into active students. Whether it is attention, hearing, vision or trained pronunciation in Arabic.
- Growing to write Arabic with beautiful and neat writing
- Test the students' knowledge of writing the words they have learned
- Make it easy for students to write in Arabic using their own language style.

C. Language Test Types

Type of language test is divided into 2 (two) parts, namely:

- Type of Language Test Based on Language Approach
Based on the criteria of how the language is studied and examined, the test is developed based on different views in understanding the nature of the language. From the background of the language approach, the type of language test can be grouped into (1) discrete language test, (2) integrative language test, (3) pragmatic language test and (4) communicative language test (Djiwandono, 2008: 101-155).
- Type of Language Test Based on Target Test Language
According Djiwandono (2008: 114-134), a test based on the target language, ie the ability or component of which materials are the focus of measurement of his mastery level. Language tests can be categorized as tests that target language skills, namely (1) listening ability test, (2) speaking ability test, (3) reading comprehension test and (4) writing skill test. The test target language components such as (5) the test of the ability to pronounce, (6) the vocabulary test and (7) the grammatical test, because the main objective is the level of language proficiency, and the level of mastery of pronunciation or mastery of grammar and so on.

D. Type of Language Test Based on the Special Language Test

According to Djiwandono (2008: 135-157), in addition to the specially described language test, there is also a special language test that is not easy and consistently classified into one of the language tests that have been peeled. Both types of language tests are dictation and cloze tests [12]. It is worth noting that Paul and Rosenkoetter (1980) found no significant relationship between the order in which students completed a test and the scores the students received. Tests were divided into quartiles based on the order in which they were completed. These quartiles were then compared in terms of mean scores and variability among the scores. The quartile variances were not significantly different [9]

• Dictation Test

Dictation tests involve more than one type of language component skills and assign test takers to write a discourse read by a test organizer. In conducting a dictation test, a test taker can only write what is heard from the giver of dictation correctly if he is able to hear and understand well the dictated discourse (listening ability). If the participants are not listening intact, there are times when test takers use other language skills in the form of grammar and vocabulary skills.

• Test Cloze

The cloze test aims to measure the degree of mastery of pragmatic ability, ie the ability to understand discourse on the basis of the use of linguistic and extralinguistic skills. The measurement of the mastery of pragmatic ability is done by assigning test participants to recognize, and to restore, as originally, the parts of a discourse that has been omitted.

E. Application

Application (software) is a collection of some commands executed by a computer machine in carrying out its work. Application (software) is electronic data stored in such a way by the computer itself, this stored data can be a program or instruction to be executed by the command, as well as records required by the computer to execute the commands it runs (Jogiyanto, 2005). Furthermore, as written by Tonni Limbong. (2016) application is a computer program that serves as a means of interaction between users and hardware and can also be referred to as a translator commands run by computer users to be forwarded or processed by hardware [1].

F. Computer Assisted Intruction.

At this time the educators have begun to gain access to use various technologies to improve the effectiveness of the learning and teaching process. Computers as one of the technologically valued products appropriately used as teaching aids. A variety of instructional approaches are packaged in the form of computer-aided instruction programs or CAI (Computer Assisted Intruction) such as Drill and practice, simulations and game bias tutorials obtained by computer. In the last twenty-five years the development of CAI especially in developed countries is very rapid. Many experimental studies on CAI have been conducted to evaluate the effectiveness of various CAI programs.

According to Bright, when compared with traditional teaching approaches, CAI is very effective and efficient. The students will learn faster, master the subject matter more and remember more of what has been learned. However, Richard Clark criticizes that teaching programs such as CAI can be effective but by simply putting the subject matter into the computer originally, will not improve the effectiveness of teaching. Therefore Simonson and Thompson suggested that CAI-making should be well incorporated and current efforts should focus on the use of CAI for specific situations and for special subjects as well.

Simonson and Thompson stated computer-based learning (CAI) has aspects that can improve the effectiveness of learning. These aspects include: Feedback, branching, assessment, progress monitoring, hints, and appearance. Computers can quickly interact with individuals, store and process various information. In supporting the achievement of computer learning objectives compiled with programs that various types of terminals can control the interaction of independent learning to study the information presented. Computers can be directly used to convey student learning materials, provide practice and provide test of student learning progress. Using the computer, the first student work can be entered into the appropriate computer language technical system so that students can call the data anytime

G. Principles of Computer Assisted Instruction Program Development

In principle the first step in developing the CAI program is to determine what method to use. Determination of this method depends on the type of the subject itself, the level of konitif that will be achieved, and the kinds of learning activities. Computer Assisted Instruction (CAI) method is divided into four types of presentation method (Rusma, 2012), namely:

- Tutorial

Tutorial aims to convey or explain certain materials where the computer conveys material to learners. In presenting the material, the tutorial can be divided into linear tutorials and branched tutorials. The linear tutorial presents a topic into the next topic in the order set by the programming, so learners can not select the learning materials as they wish and the ability. Thus, each learner must learn the same material, the linear tutorial ignores the differences in individual abilities. In this case the branching tutorial has advantages over linear tutorials because:

- a. Learners can determine the material to be studied
- b. Learning is more interesting, creative, and flexible
- c. Learning is more effective

- Drill and Practice

Drill model is a model in learning by way of training students to the lesson material that has been given (Rusman, 2012). With continuous practice, it will be embedded and then it will become a habit. In addition to instilling the habit of this model can also increase the speed, accuracy, perfection in doing something and can also be used as a way to repeat the material that has been presented. Computer Based Teaching is basically one of the learning models that aims to provide a more concrete learning experience through the provision of exercise questions that aims to test the ability of

learners through the speed of completion of training questions provided by programmers. In general the stages of presentation material drill model is as follows:

- a. Presentation of problems in the form of exercise questions
 - b. Learners do the exercises
 - c. If the student's answer is correct the program displays the value and if the student's answer is wrong the program provides the facility to repeat the exercise and can see the discussion or the key answer material matter.
- Simulation

The simulation model is basically one of the learning strategies that aims to provide a more concrete learning experience through the creation of imitations of near-risk experiences. In this model displays the subject matter is packaged in the form of animations, images, and harmonious blend of colors.

H. Instructional Games

Model Instructional Games is one form of model in computer-based learning, designed to generate motivation in learners. The purpose of Instructional games is to provide an atmosphere (environment) that provides learning facilities that enhance the ability of learners. Type Instructional Games or Educational Games is a program that creates the ability on the game. Games are given as a means to motivate and get learners through rigorous game procedures to develop their skills [4].

After determining the method, the next step is to consider some important aspects in the design of the CAI program. These aspects according to Simonson and Thompson are:

- Feedback

After responding, students should be given feedback. Feedback can be a comment, a compliment, a warning or a specific command that the student's response is right or wrong. Feedback will be more interesting and increase the motivation to learn when accompanied by illustrations of sound, figures and video clips.

- Branching

Branching is some alternative path that needs to be taken by students in their learning activities through CAI program, the program provides branching based on student response. For example, students who are always wrong in answering certain material questions, must programmatically recommend to review the section again. Or when students achieve a certain score, students can directly go to the top or vice versa.

- Assessment

A good CAI program should be supplemented by an assessment aspect. To find out how far the students understand the material being studied, on each sub topic students need to be given a test or a matter of practice.

- Views

Because the CAI program is done through the monitor screen, it is necessary to note the type of information, components of the display, and legibility types of information displayed can be text, images, sound, animation or video clips. Color illustrations can attract students' attention, but exaggeration will keep students

from focusing on the program. One screen when possible contains ideas or subject matter only.

III. DISCUSSION

Research method according to Research and Development according to Borg and Gall (2003) hence step for research is generally divided in 2 (two) big step, that is first stage about data collecting / analyzing until designing and second phase of trial problem and socialization of application, Arranged gradually [7], in the form of a diagram like figure 1 below:

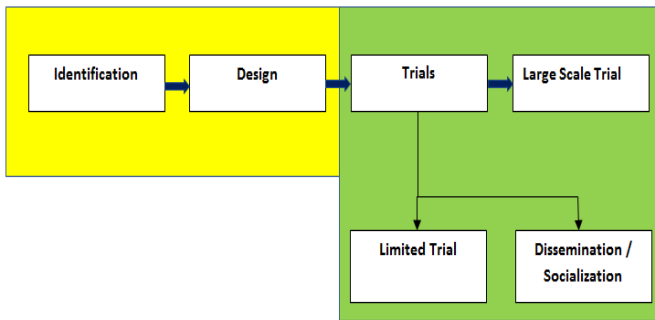


Figure1. Research and Development Diagram
 Sumber : Borg and Gall (2003)

A. Needs Analysis

In conducting the dictation exam it is necessary: teachers (dictators), materials / test materials, students (participants) and media and stationery (used by participants in the exam). In this dictation process the teacher (the dictator) will read the questions then the participants listen carefully, afterwards the participants write what they listen to the answer sheet, for more details can be seen in the figure 2 below:

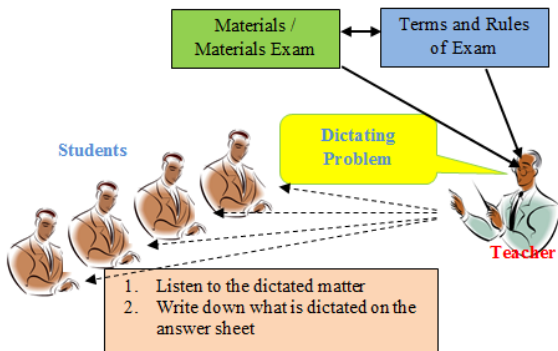


Figure 2. Dictation Execution Flow Chart

Materials used in this application is multimedia-based data with data type: avi, mpeg, midi, amr for the application can perform its function optimally [5]. Setting the exam material is the composition and step of material use to be more structured in the learning process, as for the composition of material that the author made as follows:

1. Number or length of sentence by the dictator
2. Time used to read the question by the dictator
3. How many times the repetition of the question by the dictator

Learning materials should be constantly updated for that matter and learning materials that there should also be developed, for the matter of the user's own practice that answers the questions there should be seen whether they are

able to answer the existing problems correctly and correctly or still wrong and for that need to evaluate Return [6].

B. Design of Dictation Exam Application

Before creating this computer-based Dictation Exam Application, the earliest step is to create the interface design and materials that will be loaded into the application. The following describes the use case using Unified Modeling Language (UML), Application of Dictation Test With Computer Assisted Instruction Method, can be seen in Figure 3 below:



Figure 3. Use-Case diagram of Dictation Exam app (Imla)

The result of input form about this application is as in figure 4 below:

Figure 4. Form Input Soal

The design of the form design for setting the level of questions is as in the picture 5 below:

Figure 5. Form Setting Level

The design of the form design for the dictation test for examinees is as in the following 5 pictures:

Figure 4. Dictation Test Form For Participants

If clicked Play Button, it will display a message telling time limit repeat stay how many more times. Any questions that have been answered in the answer box, typing in the answers as they listen to the questions, then the examinees will type the answer in the space provided

IV. CONCLUSIONS AND RESULTS

Dictation test is a most appropriate test method for language learning, because this method already includes listening material, writing and also understand and remember Dictation test using Computer Assisted Instruction (CAI) applications and methods is very appropriate for language learning, as this application provides audio-based exam questions, exercise questions, and also exam registration and assessment process depending on the number of errors written by the participants. In addition, computer-based exams can be used anywhere, and anytime is not limited to time and place.

REFERENCES

- [1] Frank Hammonds and Gina Mariano, Student Test Grades in College: A Study of Possible Predictors, in Press International Journal of Teaching and Learning in Higher Education 2015, Volume 27, Number 1, ISSN 1812-9129, pp. 114-118
- [2] Michael P. McEwan, The Essay as a Lens on Transition to the University: Student and Staff Perceptions of Essay Writing, University of Glasgow, in Press International Journal of Teaching and Learning in Higher Education 2017, Volume 29, Number 3, pp.511-523
- [3] Rusman, "Learning Models", Rajawali Press, Jakarta, 2012
- [4] Rusman, "Computer-Based Learning and Learning", Alfabeta, Bandung, 2012
- [5] Cecep Kustandi and Bambang Sutjipto, Media Learning, (Bogor: Ghalia Indonesia, 2011), p. 145
- [6] Rogers, Everett, M., "Diffusion of Innovation", (Canada: The Free Press of Macmillan Publishing Co., 1983)
- [7] Simone van Koll and Christian Rietz , Effects of Web-Based Feedback on Students' Learning, in Press International Journal of Teaching and Learning in Higher Education 2016, Volume 28, Number 3, ISSN 1812-9129, pp. 385-394
- [8] Sri Meiweni Basra , Luthfiyatun Thoyyibah, A Speech Act Analysis Of Teacher Talk In An Efl Classroom, in press International Journal of Teaching and Learning in Higher Education 2017, Volume 29, Number 3, ISSN 1812-9129, pp. 511-523
- [9] Tabarani, Suryanto, "Interactive Multimedia Computer Graphics With Flash Mx", Bintang Indonesia, Jakarta, 2009
- [10] T, Limbong, Parasian, S, Proceedings of the 1st Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL), e-ISSN: 2648-4613, 201, pp. 544-551.
- [11] <https://arerariena.wordpress.com/2011/02/02/tes-bahasa/>, accessed on August 15, 2017
- [12] <http://digitalreferensi.blogspot.co.id/2015/03/metode-pembelajaran-dikte-atau-impla.html>