

Developing Interactive English Learning Media Based ICT for Islamic University Student

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Abstract:

ICT subject is a practical subject which requires a direct practice to make easier Islamic university students to understand the material. The implementation of information and communication technology (ICT) curriculum at Islamic university students is the educational sector of development. Founding many problems in understanding English material especially reading comprehension a lecture is demanded to make a learning media which helps the learners to understand the material easily. This research is aimed to describe the model of ICT in Islamic university students at STAI Miftahul 'Ula Kertosono Nganjuk and using for learning media. By giving media and designing material for Islamic university students learning can motivate them in teaching learning English better. Moreover, the description can be become one of the basic from the development of interactive model based on self learning. Concerning theses problems, a set of suitable instructional material and media learning for Islamic university students. Besides, the arranging of this study model is hoped to make habitual and self learning.

Keywords: *Learning, Learning Media, Interactive Media, Information and Communication Technology (ICT).*

A. Introduction

Education technology is the application of scientific knowledge about learning, the condition of learning, to improve the effectiveness and efficiency of teaching and learning. Education technology is the development, application and evaluation of system, techniques and aids to improve the process of human learning.

To develop information and communication technology (ICT), education technology is an important role. In which the computer is an integral part in it. Education technology and many other education alternatives to the present and the future encourage teachers making the most use of the computer in education².

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² Paul Saettler, *The Evolution of American Educational Technology* (IAP, 2004).

The implementation of information and communication technology curriculum at university students is one of the effort to improve the quality of education in Indonesia. Respondents attributed a wide range of desirable outcomes to life outside the class room for example, critical thinking, relational and organizational skill³. Basically, the curriculum of information and communication technology makes student in order to be involved in the rapid changes not only in the world work but also the another activities that have additional and changes in the variation of the using of technology⁴.

It is a big challenge for educational institutions in the country to improve itself. One of such effort is to adopt Information and Communication Technology (ICT) in learning and education. There have been many higher education institutions in Indonesia, which promotes itself as technology-based educational institutions. In fact, technology has become a keyword campaign to create credibility and quality of educational institutions. Referring to this phenomenon, so it appears that the public, including our academic community, believed on be positive benefits of ICT to the achievement of educational productivity. This belief is acceptable since in some developed countries ICT does provide positive benefits for improving the effectiveness and efficiency, digital content and pedagogies are needed to better prepare schools to use technology enhanced pedagogies to benefit student learning of the process of learning and education⁵.

Education technology is the development, application and evaluation of system, techniques and aids to improve the process of human learning. Education Technology is the application of scientific knowledge about learning, and the condition of learning, to improve the effectiveness and efficiency of teaching and learning. Technological Pedagogical Content Knowledge (TPCK) as a way of representing what teachers need to know about technology, and argue for the role of authentic design-based activities in the development of this knowledge⁶.

Technology is needed in the development of education in Indonesia. Moreover, the Indonesian government is responsive to the needs of ICT-based education. For example, in education, the increasingly widespread availability of the internet, video

³ George D Kuh, "The Other Curriculum: Out-of-Class Experiences Associated with Student Learning and Personal Development," *The Journal of Higher Education* 66, no. 2 (1995): 123–55.

⁴ Kuh.

⁵ Joke Voogt et al., "Under Which Conditions Does ICT Have a Positive Effect on Teaching and Learning? A Call to Action," *Journal of Computer Assisted Learning* 29, no. 1 (2013): 4–14.

⁶ Matthew J Koehler and Punya Mishra, "What Happens When Teachers Design Educational Technology? The Development of Technological Pedagogical Content Knowledge," *Journal of Educational Computing Research* 32, no. 2 (2005): 131–52.

technology became available, all of which provide reinforcement on teaching and learning process.

Marie C. Hoepfl said that a number of writers have commented on the dearth of substantive research within the field of technology education, and point to the expansion of its research agenda as a means of strengthening the discipline⁷. Technology education will support for learning and teaching. ICT provides capacity to ensure that all lectures and Islamic university students have immediate access to all software that is required to support the curriculum framework and adequate support in teaching, studying and learning in order to achieve specific, well-defined educational objectives and goals. In other words, ICT is used to support pedagogic practices that provide learning environments that are more Learner-centered, knowledge-centered, and Community-centered. It means that ICT is used to encourage student to be active as participants in their own learning, to provide more motivating and challenging learning experiences that encourage them to be more engaged with their individual learning, and provide various assessment instruments.

Technology is needed to develop education in Indonesia. Moreover, the Indonesian government is responsive to the needs of ICT based education. For example, in education, the increasingly widespread availability of the internet, video technology became available, all of which provide reinforcement on teaching and learning process. Today computers are both a focus of study in them (technology education) and a support for learning and teaching (educational technology)⁸. ICT provides to capacity ensure that all learners have to immediate access all software that is required to support the curriculum framework and adequate support in teaching, studying and learning in order to achieve specific, well-defined educational objectives and goals. In other words, ICT is used to support pedagogic practices that provide learning environments that are more Learner-centered, Knowledge-centered, Assessment-centered, and Community-centered. It means that ICT is used to encourage students to be active as participants in their own learning, to provide more motivating and challenging learning experiences that encourage them to be more engaged with their individual learning, and provide various assessment instruments.

Today computers in Islamic university are both a focus of study in them (technology education) and a support for learning and teaching (educational technology).

⁷ Marie C Hoepfl, "Choosing Qualitative Research: A Primer for Technology Education Researchers," *Volume 9 Issue 1 (Fall 1997)*, 1997.

⁸ T Newby et al., "Instructional Technology for Teaching and Learning: Designing Instruction, Integrating Computers, and Using Media," *Educational Technology & Society* 3, no. 2 (2000): 106–7.

Islamic university provide ICT capacity to ensure that all lectures and learners have immediate access to all software that is required to support the curriculum framework and adequate support in teaching, studying and learning in order to achieve specific, well-defined educational objectives and goals. In other words, ICT is used to support pedagogic practices that provide learning environments that are more Learner-centered, Knowledge-centered, Assessment-centered, and Community-centered. It means that ICT is used to encourage learners to be active as participants in their own learning, to provide more motivating and challenging learning experiences that encourage them to be more engaged with their individual learning, and provide various assessment instruments.

The goverment has established and e-learning site that is a real form of goverment step in building e-educational in the world of education in the country⁹. Technology is needed in the development of education in Indonesia. The goverment is responsive to the needs of ICT based education for example, in education, the increasingly widespread availability of the internet, video technology became available, all of which provide reinforcement on teaching and learning process.

Teaching method is an important thing to conduct a classroom activities and learning styles also contributes to get a successful classroom in achieving the students' creativity through teaching language. Teaching must be learned in such a way that learning becomes interesting¹⁰. Making the best way to use of technology (ICT) becomes a challenge for language teachers In learning English, learners should master four main language skills which are writing, speaking, reading and listening. These four skills are very important to support the students' abilities in mastering English. These four Language Skills builds connections from theory in the four language skills to instructional practices¹¹.

B. Discussion

1. Learning Process

One of the main components of education is the learning context. Context of learning includes various physical and social environment factors which are arranged base on necessity of the educational activity. The learning context is designed for the educational purpose. Context of learning related to teaching and learning strategies. Teaching and

⁹ Koehler and Mishra, "What Happens When Teachers Design Educational Technology? The Development of Technological Pedagogical Content Knowledge."

¹⁰ Barbara A Doty, "Teaching Method Effectiveness in Relation to Certain Student Characteristics," *The Journal of Educational Research* 60, no. 8 (1967): 363–65.

¹¹ Esther Usó Juan and Alicia Martínez Flor, *Current Trends in the Development and Teaching of the Four Language Skills*, vol. 29 (Walter de Gruyter, 2006).

learning strategies is the way how to organize potency (the learner, educator) and resources (facilities, costs, and infrastructure) so that a program can be used optimally, or any subject can achieve its goal¹².

2. Learning Media

Learning media is an instrument in the learning process both inside and outside class. The word “media” comes from the Latin *medius* meaning 'middle', 'intermediate' or 'introduction'. The media is human, material, or events that make conditions in creating student enables to acquire knowledge, skills or attitudes. If the media carries messages or information which has instructional aimed or teaching objective so the media is called a media of learning¹³.

There are some benefits of learning media in the learning process, namely: (1) teaching methods will be more varieties through verbal communication from the teacher explanation. (2) Learning process will be more interesting and material learning will be easily to understand. (3) Allowing to the students to control and achieve the learning goals.

Learner activities in learning not only listening to description but also doing other activities such as observing, performing, demonstrating, acting, and others. Proposed The Use Of Effective Planning Model Which Is Known As Assure (Analyze Learner Characteristics, State Objectives, Select Or Modify Media, Utilize, Require Learner Response, And Evaluate), Namely: (a) analyzing the general characteristics of the target group or subject that follows learning. (s) Formulating learning objectives that is behavior and abilities expected by the subject after attending lessons. Capabilities include knowledge, skills and attitudes. (s) Selecting, modifying, or designing and developing appropriate material and media. In the selection of media, it should be able to raise student interest and to provide opportunities for students in participating. (u) Preparing all the things that support the implementation of media in teaching so it becomes effectively because of the enough preparation. (r) Asking student responses regarding the effectiveness of the teaching process after using learning media. (e) Evaluating the learning process to determine the level of student achievement on the learning objectives, the effectiveness of media, approaches, and teachers. Arsyad divides types of media based on technological developments into 2 forms:

a. Traditional media

- 1) operated visual quietly, eg slides, filmstrips.

¹² Doty, “Teaching Method Effectiveness in Relation to Certain Student Characteristics.”

¹³ Doty.

- 2) unprojected visual eg, image, posters, photo, charts, graphs, etc.
 - 3) Audio, eg tape, disk recording, etc.
 - 4) Print, eg textbooks, modules, handouts, etc.
 - 5) Games, eg, puzzles, simulation, board games.
 - 6) Realia, for example maps, dolls, and the specimen
- b. Modern Media Technology
- 1) Media based telecommunications, including teleconferencing and distance learning.
 - 2) Media based Microprocessor, example computer-assisted instruction, computer games, intelligent tutoring systems, hypermedia, interactive and video compact disc.

3. Interactive Media

Interactive media is a method of communication in which the output from the media comes from the input of the users. Interactive media works with the user's participation. The media still has the same purpose but the user's input adds interaction and brings interesting features to the system for better enjoyment¹⁴.

Interactive media will help four development dimensions in which learner: social and emotional, language development, cognitive and general knowledge, and approaches toward learning. Using computers and educational computer software in a learning environment helps children increase communication skills and their attitudes about learning. Learners who use educational computer software are often found using more complex speech patterns and higher levels of verbal communication. A study found that basic interactive books that simply read a story aloud and highlighted words and phrases as they were spoken were beneficial for learners with lower reading abilities. Learners have different styles of learning and interactive media will help them with visual, verbal, auditory, and tactile learning styles.

Schweir and Misanchuk said that there are three levels of interaction based on the quality of learning interactions, as shown in Table 1.

¹⁴ Doty.

Table 1. Interaction Taksonomy

Level	Function	Transaction
Reaktif	confirmation	<i>Space Bar / Return Key</i>
Proaktif	<i>Pacing</i>	<i>Touch Screen Target</i>
Mutual	Navigation	<i>Touch Screen Ray Trace</i>
	Inquire	<i>Mouse Click</i>
	Elaboration	<i>Mouse Drag</i>
		<i>Barcode</i>
		<i>Keyboard-Key Response</i>
		<i>Keyboard_Construction</i>
		<i>Voice Input</i>
		<i>Virtual Reality Interface</i>

source : adapted from Schmeir and Misanchuk (Sunaryo Soenarto in Nugroho 2008)

The use of computers as a learning media has several advantages, there are: (1) provide a more affective condition so it can accommodate students who are slow in accepting the lesson, (2) stimulate students in doing exercises, (3) the absolute student control of learning so that the level of learning speed of the student can be matched to the level of control, and (4) development of students can be monitored by looking at the records of student activity through exercise files which is stored in the computer¹⁵.

The effectiveness of the use of computers as a learning media and state that computer media can make learners become "active" play with information. The software can also be made interactive too. Besides, computer media allows learners to develop base on their condition background capabilities. Learners who are capable in learning at high speed do not need to his/her colleagues who need more time to understand the subject matter.

Interactive learning media has a stimulus that is conducive to the development of the child independence, especially in terms of the development of competence, creativity, self-control, consistency, and commitment both to themselves and to others. The use of computer as learning media has a significant influence on the attractiveness of students to learn the teaching of competencies¹⁶

4. Method Research Design

The research was conducted using Research and Development principles as stated in Borg and Gall (1989, p.789) According to them, R&D is a model of research and development. The process used to develop and validate educational product in this study Research and Development was used to develop material product using material for Islamic university student. Research and development provides an overview activities in

¹⁵ Doty.

¹⁶ Doty.

the field of autonomous agents and multi-agent systems, it aims to identify key concepts and applications, and to indicate how they relate to one-another¹⁷.

The observations stage was done by direct observation aimed in collecting data as early information that will be used as input in the development stage. In this stage, the data collection included students basic skills of reading and writing processes and the introduction of computer, competence and educational qualifications of teacher who teach ICT subjects, and also the presence of ICT infrastructure to support the implementation of ICT lessons¹⁸.

Some steps were followed of Research and Development as 1) Gathering set of information relevant, 2) Needs assessment, 3) selecting and sequencing the material 4) Expert validation, 5) Revising, 6) the main-field testing or try out, 7) Evaluating and revising, 8) Finishing Subjects of the Study.

The involved for the subject of this research is 25 Islamic university students or the first semester of STAI Miftahul 'Ula Kertosono. Researcher chosen involve the process of obtaining information, needs assessment and try out. Beside that an English lecture in this involved in the needs assessment conducted in the interview stage and questionnaire.

The purpose of need assessment in the study is follow: 1) identify the student's English Background, 2) identify student's achievement, 3) identify the students interest when they studied English in the class room, 4) identify their motivation to learn English material, 5) identify what topic of learning can motivate the students to learn English.

While, the stages of design and development of media used a model of software development through the stages shown in Figure 1. Evaluation stage aimed to evaluate the features and display from the interactive media. The results of this evaluation became the basis for redesign of the learning model. This stage involved several university students, and lecturers¹⁹.

In this study, the researcher did adaptation and adjustment from the R&D cycles design by Borg and Gall to meet the reality in the field and the sake of practicality. It is because of under consideration in adopting the steps and also the estimation of money, workers, and time to develop the product.

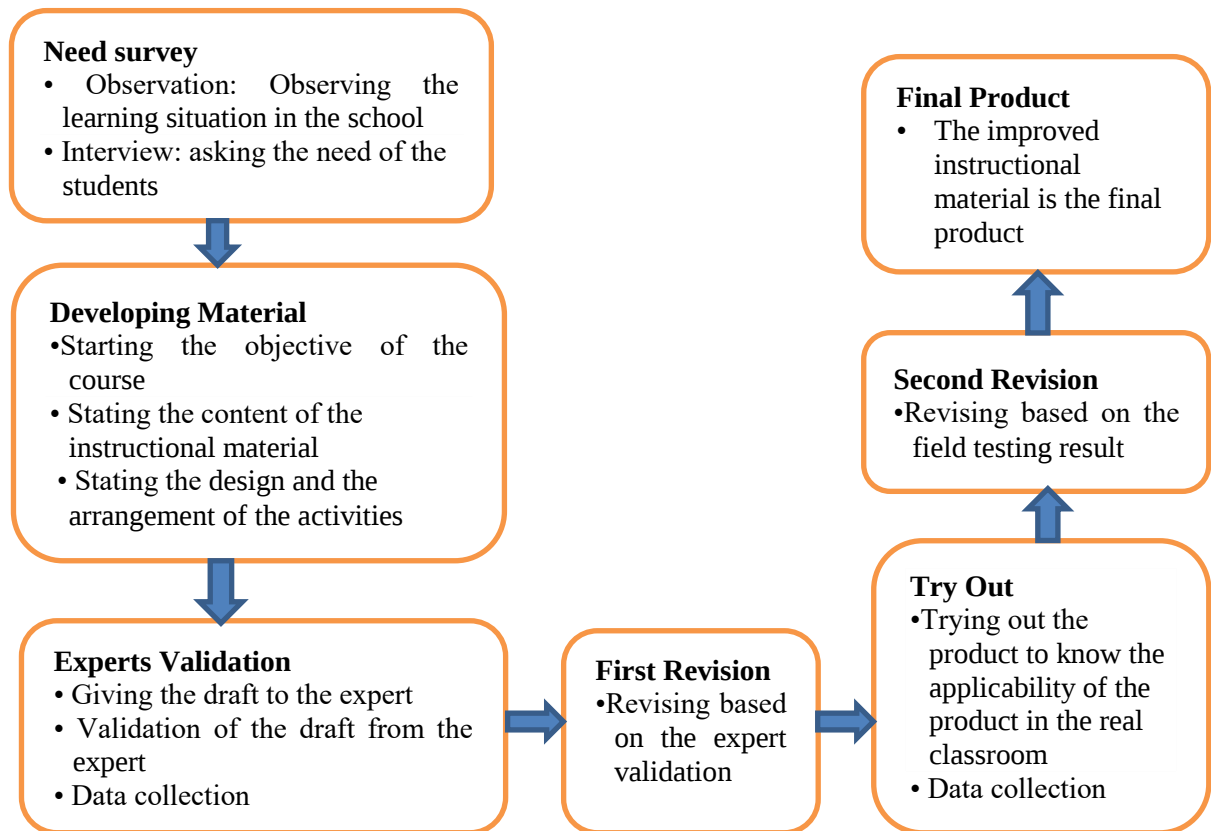
The following steps are the model taken after being adopted and adjusted. The first step for this research is called need survey. It is like in Borg and Gall's model of research and information collection. In this step, the researcher did observation, gave

¹⁷ Nicholas R Jennings, Katia Sycara, and Michael Wooldridge, "A Roadmap of Agent Research and Development," *Autonomous Agents and Multi-Agent Systems* 1, no. 1 (1998): 7–38.

¹⁸ Doty, "Teaching Method Effectiveness in Relation to Certain Student Characteristics."

¹⁹ Jennings, Sycara, and Wooldridge, "A Roadmap of Agent Research and Development."

questionnaire to the learners, interviewed the English lecture and interviewed the curriculum. These are done to know the real condition learners and to get some important information as the basic line to develop the materials²⁰.



The second step is material development. In this step, the researcher did some steps such as planning including making and modifying a standard competence and basic competence and developing the material²¹. The third step is giving into the experts validations. The validations are aimed to see whether the product has already met the criteria or not. The fourth step is main product revision. The revision is based on the result of the expert's validation. The fifth step is main field try-out. After revising the product based on the result of the experts' validation, the product is then tried out to the students. The sixth step is the second revision. This revision is based on the result of the try out. The last step is the production of new materials. The new material is called final product.

5. Result of Observation

The research used twenty five islamic university students in STAI Miftahul 'ula Kertosono as the object of study. The observations result shows that only 40% from

²⁰ Sidney J Drumheller, *Handbook of Curriculum Design for Individualized Instruction: A Systems Approach; How to Develop Curriculum Materials from Rigorously Defined Behavioral Objectives* (Educational Technology, 1971).

²¹ Drumheller.

islamic university students has introduced ICT subjects even it is in form. The limitation of infrastructure and the lack of teachers who have computer competence become the reason why the implementation ICT subject has not been implemented.

Practicality media learning can stimulate learners interest and motivation, in ways that allow learners to focus on materials that support their particular style of learning²². The media is also packaged in a form that is easy to learn anywhere and anytime without internet access. Media and their attributes have important influences on the cost or speed of learning but only the use of adequate instructional methods will influence learning²³. I define methods as the provision of cognitive processes or strategies that are necessary for learning will get the best opportunity to improve their skill easily. This media is very attractive and effective to improve the student achievement. *Autoplay* media learning is potential as an alternative medium for the students to learn as the researcher as independent groups. With the tasks and exercises that include the answered key and feedback help students their own learning outcomes²⁴.

Autoplay media learning is wonderful media learning. This media is very suitable to motivate the learners in teaching learning process. Using this media learning the learners can learn the material more often less understood in the classroom. There are a lot of materials, resources and links to enhance understanding of the material by using this media. *Autoplay* media learning is easy to learn where there is computer without internet connection, and the learners can learn as they want. The learners can learn used a lot of media interest that has been provided in the media²⁵.

Autoplay media learning is very helpful to equip the students in mastering English such as listening, speaking, reading and writing. After students gain adequate language models in listening and reading, students are then trained to speaking and writing. Giving example of this would be enough to help the process of language acquisition to produce language that is being studied. This product is easy to use without internet access. To operate *Autoplay* media is very easy. There are some steps must be done the first copy file *Autoplay* media learning to computer and save the data then double click the data *Autoplay* media learning after double click the researcher can see the display and you click the button of menu from competence, Material, Video, Quiz, Motivation, and Reference.

²² Drumheller.

²³ Jennings, Sycara, and Wooldridge, "A Roadmap of Agent Research and Development."

²⁴ Jennings, Sycara, and Wooldridge.

²⁵ Jennings, Sycara, and Wooldridge.

The researcher uses Contextual Teaching and Learning (CTL) to develop her instructional material with Communicative Language Teaching (CLT) as the approach. CTL is a form of evolution of behaviorism and constructivism. Contextual Teaching and Learning is an examination of a holistic approach to education. The book provides its readers with a comprehensive definition of Contextual Teaching and Learning (CTL), discussing its origins and philosophy²⁶.

The material should give what the learners need and the target language which the lecturer should reach in teaching learning process. The materials also provide some stimulus to learning the language.

There are seven principles of CTL, according to Suyanto (2002), as follows: constructivism, questioning, inquiry, modeling, learning community, authentic assessment and reflection. All of the principles are developed integratedly in the constructional material.

The material contains of several sections related to topic on each unit. The title of each section, it may be different from one unit to others. Questioning principle of CTL is shown here. In which, the researcher asks the learners to read the material then give some comprehension questions relate to the reading material given. The learners are encouraged to answer the questions. In this section, the students also need writing creativity to solve reading problem by using inquiry principle of CTL²⁷.

C. Conclusions

Learning using Autoplay media learning according to the research objectives that is to develop learning media for teaching and learning English. Autoplay media is new learning paradigm to emphasize independent learning²⁸. *Autoplay* media can be used as an alternative media in presenting learning materials in English, so effective in achieving learning goals and set to be achieved. *Autoplay* media is used also aims to attract and motivate students to be active in participating in learning English either in groups or independently in accordance with the level of ability of learners. Media usage was expected to form the mastered student in integrated.

Autoplay media has proven that he deserves to be the best learning media. The features provided are also very complete and not limited to the features of e-learning standards. Its features can be modified to suit your needs and learning goals. The media is

²⁶ Jennings, Sycara, and Wooldridge.

²⁷ Drumheller, *Handbook of Curriculum Design for Individualized Instruction: A Systems Approach; How to Develop Curriculum Materials from Rigorously Defined Behavioral Objectives*.

²⁸ Drumheller.

source of software that supports the implementation of e-learning with an integrated paradigm in which a variety of learning support features can easily be accommodated in an e-learning portal²⁹. The Important features of well as key features that can upload various formats of learning materials. The material provided in the different format and it can access anytime.

ICT lessons need to independent exercise the learners. Krashen (2000) proposed the concept that learning the language will be successful if it is supported by the relationship between the provision of adequate language model and the enabling environment for the language used. Media attempted prepared to accommodate learners' literacy and supports the concept of learning more fun and make the learners feel comfortable in teaching learning process³⁰.

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²⁹ Drumheller.

³⁰ Drumheller.