



INDONESIAN LANGUAGE TEACHING BASED ON INTERNET OF THINGS (IOT) IN ARCHIPELAGO

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Abstrak

Penelitian ini memiliki tujuan untuk (1) analisis kajian teori pembelajaran yang cocok diterapkan di wilayah kepulauan di Indonesia, (2) melakukan analisis terhadap terapan pembelajaran berbasis *Mobile Learning* dalam proses belajar mengajar di wilayah kepulauan dan (3) kajian pemanfaatan *Internet of Things* (IOT) pada materi Bahasa Indonesia di wilayah kepulauan. Metode yang digunakan adalah penelitian etnografis dengan mengambil kepulauan di wilayah Jawa Timur yang masuk dalam Laut Jawa. Hasil dari penelitian ini adalah (1) penerapan *Mobile Learning* meski fokus pada IOT, yang memperhatikan ketersediaan infrastruktur, (2) pembelajaran berbasis *Mobile Learning* meski memperhatikan desain pembelajaran yang fokus pada media belajar *offline* dan (3) pembelajaran berbasis *Mobile Learning* meski diarahkan pada *Students Centered Method* dalam pengembangan pembelajaran berbasis *Mobile Learning*. Disarankan kepada *Stakeholders* untuk melakukan diversifikasi proses pembelajaran.

Abstract

This study aims to (1) analyze the study of learning theory that is suitable to be applied in the archipelago in Indonesia, (2) conduct an analysis of the application of Mobile Learning -based learning in the learning process in the archipelago and (3) study the use of the Internet of Things (IoT) on Indonesian language material in the archipelago. The method used is ethnographic research by taking islands in the East Java region that enter the Java Sea. The results of this study are (1) the application of Mobile Learning despite focusing on IoT, which pays attention to the availability of infrastructure, (2) Mobile Learning -based learning despite paying attention to learning designs that focus on offline learning media and (3) Mobile Learning -based learning even though directed students Centered Method in the development of Mobile Learning based learning. It is recommended to stakeholders to diversify the learning process.

INTRODUCTION

De Araujo (2018: 3) states that the skills and development ability of the individual is a design process that also participates in every process of character education. In this case, the ability to process and design a process involves the creative process of cultural development and transformation in the learning process. In every aspect of life, design and learning processes play an active role in every design and quality value, accompanied by the development of learning innovations that participate in every process of developing ideas and ideas.

The process of innovation is active and creative even though it is accompanied by the design of an adequate learning process, accompanied by design and study of learning that is innovative and has the design work of each learning process. To design the learning process, every process even though it is designed to accompany the stages of the creative and innovative learning process, besides that, the design in each process determines the *output* of the learning process designed to fit each learning process. To design a process of character education, the learning process despite adjusting creative work designs is accompanied by a development process that adapts to the development of ideas and times according to De Araujo (2018 : 3)

Susanto & Murwaningsih (2015: 170) state that Indonesia is the location where integrated design takes place, considering that from the geographical side it consists of areas that are affordable in technology as well as territorial areas. To develop the design of comprehensive skills in addition to the process of developing ideas that reach the Indonesian archipelago in remote areas. In this case, learning innovation is the main idea in developing island-based learning. Ziniel & Ghalib (2017: 5) reveal the planning process despite paying attention to creative and innovative ideas that are comprehensive. Another thing that participates in the creative process of ideas. Creative and

innovative processes in the development of STEM Education in the archipelago.

First preliminary study Shah & Quinn (2016: 395) carried out for areas that generally consist of island countries. In this case, learning is based on *Mobile Learning*, although it considers the existence of supporting devices such as the existence of communication towers, device memory capacity and the price of the device itself. In this case, the effectiveness in the learning process based on *Mobile Learning* is an inseparable material from the system and governance of learning. The work system in the learning process based on *Mobile Learning* is a learning process that provides opportunities for students to develop character education that provides opportunities for students to move progressively.

The second preliminary study was conducted Othman, et al (2014: 5) yielded In general, the process of ICT development in isolated areas is closely related to the development of character education values. In this case, the process of developing *Mobile Learning* despite paying attention to the pattern of performance and cultural order, which provides an opportunity for participants in the learning process to conduct an adequate learning process. In line with the third preliminary study conducted by Sofiana, Yuliasri, and Haryanto (2018: 175) reveals p roses learning on the basis of ICT is closely related to learning touch of local culture and transformation in the learning process in Indonesia, in this case, the learning process even touched on the procurement process learning. The learning process in Mobile L earnings despite paying attention to the meaning in the learning process.

Learning based on *Information and Communication Technology (ICT)*, although developed by a learning process accordingly. The thing that accompanies the process of developing ICT-based learning is the affordability of technology, which is more widely used to adapt to the main ideas of an adequate learning process. In the learning

process, ICT design although adapts to the development process of adequate character education, which emphasizes the values of each learning process that can be included in each learning process. Design in learning STEM Education even though it emphasizes process skills to adapt to the appropriate learning process.

METHOD

The research method in this study uses ethnographic-based research. In the design of this study, data collection was carried out by making direct observations into the area that was the object of the research. The location of the study took isolated islands in the Java Sea and the Indian Ocean. The discussion was carried out by verifying the data with previous research combined with the study of Pust aka to find the results and then enter the discussion process with synthesis with the previous theory.

RESULT AND DISCUSSION

Mobile Learning Technology in Elementary Schools on Remote Islands

According to Muger, E. (2015: 4), the building of character education is closely related to the planning system adequate development process. In this case, *Mobile Learning* -based *learning* is closely related to Indonesian cultural design which provides opportunities for students to study the structure and systems in the learning process thoroughly and consistently. The thing that is related to Mobile Learning-based learning is strengthening character education of the students themselves, in terms of systems and strengthening character education even though promoting Indonesian culture as an integral part of the overall cultural system.

According to Nurjanah, S. (2018: 176) *Mobile Learning* is a learning process that also participates in the design of an adequate learning process. In this case, the process of strengthening and developing character values is closely related to the design of an adequate learning process, which is an integral part of the learning system itself. Things related to *Mobile Learning* are values that reinforce character

education that is considered in the design process of *Mobile Learning*. In this case, learning innovation in *Mobile Learning* based *learning* is a necessity. For this reason, the design process is based on *Mobile Learning*, despite paying attention to adequate learning designs.

Indonesian Language Learning Process in Primary Schools

Strengthening character education in elementary schools is a program that is closely related to the learning process in elementary school. To develop the learning process, strengthening character education is the design and development of character education. In the progress of strengthening character education in primary schools in the archipelago, the process of developing character values despite paying attention to adequate design and design. In this case, the strengthening of character education even though the development process in the stages of character education is concerned with the interests of the process compared to the results LEE (2017: 138).

To develop process skills, steps in the learning process are included in the design steps in the learning process adequately. To develop the learning process, it is necessary to design a comprehensive performance process. The design of the development of character education is an integral part of the process of developing character education that touches on system design from the process of developing values in character education. For the process of developing character education, a student is introduced to the skills to innovate in the learning process itself. In sitting this case, the development of learning even though the focus is on learning innovations that touch on the levels in the learning process of the learning participants Malik (2016 : 3).

In the learning process, Indonesia is a region that has a process of developing learning that accompanies learning. Another thing that accompanies the learning process is the ability and skills to learn the learning process of each learning process that adjusts the teaching and

learning process LEE (2017: 138). In this case, the teaching and learning process even teaches the process of adjusting the design of learning that adapts to language proficiency. Language skills and competencies in learning in the archipelago are even placed in the highest learning domain area. Focus on learning Indonesian in the archipelago despite focusing on performance, displaying language proficiency and understanding on a stage. Indonesian Language Learning despite paying attention to the development of region-based learning.

ICT Design in the Indonesian Archipelago

To develop the learning process, students are taught to understand and analyze the process of learning that has been done so far to develop ideas and ideas. In general, Indonesia which consists of islands is a design in the learning process closely related to design in a comprehensive learning process LEE (2017: 138). Another thing that gives birth to skills in the learning process is the existence of students as the development of a comprehensive learning process. In the design of the learning process, a student is even taught to develop learning itself, in terms of learning even though he considers the design process that is valuable in the learning process itself.

Learning design even though giving students the opportunity to explore ideas and ideas. ICT development in the archipelago even though the focus on developing students is an integral part of the learning process. In this case, the ability and opportunity to open space for exploration and creativity in assembling learning devices becomes easy along with the pace and development of the times. The learning process in Mobile Learning despite paying attention to the meaning in the learning process LEE (2017: 138).

STEM Education Based Learning Design for the Indonesian region

Strengthening character education in the archipelago is an integral part of the national education transformation system in Indonesia. In this case, strengthening character education, especially in learning the Indonesian

language, although accompanied by an increase in capability and capacity of the learning process itself. In this case, the process of developing and strengthening character education even though the focus is on student involvement in the process of developing character education which provides opportunities for students to innovate in an adequate learning process. In this case, the learning process even though it focuses on the skills to make innovations carried out by students. In this case, the ability to control oneself is considered in the development of the learning process.

Learning innovation in learning Indonesian in the archipelago is a learning process that provides adequate opportunities for students. In this case, the process of developing character education despite paying attention to the development of adequate learning. To develop an adequate learning process, even though it focuses on aspects of the development of Information and Communication technology that are part of the development of learning. In this case, the process of strengthening character education despite paying attention to design and design of skills and the possibility of designing possibilities in changes to the possibility of data and facts sufficient to design an adequate process of change. For this reason, in the development of the learning process, despite paying attention to the learning design process.

School Based on STEM Education in Archipelago Region

Learning design in the archipelago is a process design of the design of the learning process. In this case, the skills to condition and design changes to a change process, although accompanied by attention to the availability of adequate infrastructure to design the teaching and learning process according to Kempf (2017: 5)

. In this case, the teaching and learning process even prioritizes the process of developing adequate character education, to develop an adequate learning process, in this case, the design of learning despite paying attention to the presence of the accompanying. To do an

adequate learning design, despite paying attention to the design and design of adequate learning. Besides that, the design of knowledge in learning design despite paying attention to the existence and design of the learning process.

The process of developing ICT in the archipelago despite paying attention to the design and learning process. In this case, the position and design to prioritize process skills even though the teaching and learning process is prioritized. To pay attention to the design of learning, the process of developing character values based on ICT even though it touches on the processes and skills to develop skills and skills in processing the development of adequate character education values according to Kempf (2017: 5)

. In this case, the design of ICT learning even touches on the process of developing and designing character education that provides opportunities for skills in self-development of a student in the island region. To develop ideas and nuances of character education we need to improve individual quality and design adequate learning. Mobile Learning based learning is a development process that develops skills to develop character and values of character education. In this case, the skills and abilities to strengthen character education even though it was developed to design skills to design and make students have the skills to be able to release an adequate learning process that benefits the development of the learning process. To develop the development process and the nuances of adequate character education. In this case, the development of the process of developing character education that touches on the design of processes that are appropriate for the process of character education is adequate. For this reason, the process of character education takes into account the accompanying processes in the development of character education according to Gonzales (2014: 65).

The development of multiple intelligence-based learning processes is a process of developing character education that provides space for

students to explore the accompanying skills. In this case, the improvement and ability of a student to work on increasing multiple intelligence despite paying attention to the ability to develop the ability to adapt to skills and increase identity. Besides that, increasing the ability and values of character education despite paying attention to the ability and skills to adjust to the ability to adapt to the skills of the community. To develop the process of proficiency in the community, students even pay attention to the learning process that adjusts in the teaching and learning process. For this reason, learning Indonesian in the archipelago even though it focuses on multiple intelligences according to Gonzales (2014: 65).

The design process in STEM Education learning though touches on the development of a continuous learning process. Application of information and communication technology even though it focuses on human and community aspects. The process of learning Indonesian even though it emphasizes the social aspects of the humanities, which touches on the learning process of Indonesian Language Learning design even though it is focused on actual and comprehensive Mobile Learning design according to Di Biase (2015: 214). The design of the STEM Education process is directed at the planning of the learning process, which is meaningful to the Strategic Character Education program. The learning process in the design of Mobile Learning, although paying attention to aspects of science compared to the use of Mobile learning itself.

Language-based creativity learning despite promoting socio-cultural aspects encompassed by humanistic ideas. The design of the STEM Education-based learning process is directed towards communication between individuals who have habituation in the learning process. To promote local culture, individual skills are needed in interpreting the learning process that is in accordance with STEM Education-based learning. STEM Education-based learning though directed at culture-based learning, means education-based schools and

surrounding environment according to Di Biase (2015: 214).

CONCLUSIONS AND SUGGESTIONS

Conclusion

STEM Education-based learning must be directed at local wisdom, more specifically the development of learning technology, by utilizing materials that exist in the surrounding community to be taken as a learning technology. In this sense, the teaching and learning process even takes into account the cultural distance possessed by the student. To teach STEM Education studies, despite paying attention to the existence of the teaching and learning process in the elementary school environment. The learning process is based on Mobile Learning, although paying attention to the balance in the learning process is adequate, in the sense of the process of developing ideas even though paying attention to adequate ideas in developing the *Mobile Learning* process. To develop a *Mobile Learning*-based learning process even though it is in the focus of learning even though it focuses on improving skills in developing learning. This is what must be the background in Mobile Learning-based learning that provides opportunities for the learning process to develop ideas.

Suggestion

It is recommended to those who have authority in the field of education to sort out the application of learning following graduation standardization, given the diversity of Indonesian territories based on islands with different affordability of technology. For this reason, it is recommended for region-based learning. In technology-based areas, the teaching and learning process can use Mobile Learning, while for remote areas, the learning process uses a *Student-Centered Method*-based learning. In this case, improving skills and abilities in the process of learning English even though paying attention to the opportunities for the learning process that accompanies the learning process based on Mobile Learning. This is what despite the focus on developing Mobile learning based

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