Determination of Educational Technology: Analysis of Online Learning and Learning Styles

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Abstract: The Literature Review article Determination of Educational Technology: Analysis of Online Learning and Learning Styles is a scientific article that aims to build a research hypothesis on the influence of variables to be used in further research, within the scope of Education Management. The method of writing this Literature Review article is the library research method, which is sourced from online media such as Google Scholar, Mendeley and other academic online media. The results of this literature research are: 1) Educational Technology relates to Online Learning; 2) Educational Technology relates to Learning Styles; and 3) Online Learning relates to Learning Styles. Apart from these exogenous variables that influence the endogenous variables in Educational Technology, there are other factors that influence them, such as: there are many other factors including the Design, Development and Evaluation variables.

Keywords: Brave Learning, Learning Styles, Educational Technology

INTRODUCTION

In the era of digitalization, various learning models are widely applied in many courses. Especially in educational institutions such as schools, which consist of various kinds of students. Of course this diversity will lead to variations in their learning styles and teaching styles. In realizing the success of this educational technology, every learning must be carried out with flexibility. This means that learning must be carried out through various media, not only through conventional learning which requires students to come to school. Online learning will create new habits and create new styles of learning.

Based on the background of the problems above, the researcher determines the formulation of the problem as follows:
1. Does Educational Technology relates to Online Learning?
2. Does Educational Technology relates to Learning Styles?
3. Does Online Learning relates to Learning Styles?

**LITERATURE REVIEW**

**Educational Technology**

Educational technology is a complex and integrated process involving people, procedures, ideas and tools in analyzing problems and designing them. Educational technology is the development, application and assessment of systems and tools to improve and enhance the learning process. Educational technology is a method used in designing, implementing and evaluating the whole process of learning and learning into a specific form. Learning technology indicators include: 1) Development; 2) Utilization; and 3) Evaluation (Harsono, 2022).

Educational technology has been extensively researched by previous researchers, among others: (Hasibuan, 2016), (Salehudin & Sada, 2020), (Utama, 2021), (Harsono, 2022).

**Online Learning**

Online learning is a form of learning that can make students independent and not dependent on other people. Online learning is a form of utilizing technology to support the distance teaching and learning process. Online learning is learning that is carried out by utilizing technology in the form of computers, laptops or cellphones during learning activities. Online learning indicators include: 1) Learning management and implementation; 2) Student response; 3) Productivity; and 4) Learning outcomes (Sepita & Suryanti, 2020).

Online learning has been extensively researched by previous researchers, among others: (Andrian et al., 2021), (Pratama, 2021), (Dzalila, Ananda, & Zuhri, 2020), (Thahir, 2021).

**Learning Style**

Learning style is a consistent way that is done by a learner or student in capturing information, the way they remember, think and solve a problem. Learning style is the way in which a student interacts or the learning process. Learning style is a strategy carried out by students in learning that influences student learning outcomes themselves. Learning style indicators include: 1) Visual; 2) Auditories; and 3) Kinesthetic (Hartati, 2015).

Learning styles have been widely studied by previous researchers, among others: (Cimermanová, 2018), (Hartati, 2015), (Elmi, Setyadi, Regiana, & Ali, 2016), (Widodo, Silitonga, & Ali, 2017).

**Table 1. Relevant Previous Research Results**

<table>
<thead>
<tr>
<th>No.</th>
<th>Author (year)</th>
<th>Previous Research Results</th>
<th>Similarities with this article</th>
<th>Difference with this article</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>(Andrian et al., 2021)</td>
<td>Increasing Teacher Capabilities Through Entrepreneurship Training and Motivating Online Learning Models</td>
<td>Discuss about Online Learning</td>
<td>There are different variables, namely Teacher Ability and Entrepreneurship Training</td>
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<tr>
<td>2</td>
<td>(Cimermanová, 2018)</td>
<td>The effect of learning styles on academic achievement in different forms of teaching</td>
<td>Discussing Learning Styles</td>
<td>There are differences in academic achievement variables</td>
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<td>3</td>
<td>(Sepita &amp; Suryanti, 2020)</td>
<td>The Effect of Online Learning on Student Cognitive Learning Outcomes in Limnology Courses</td>
<td>Discussing Online Learning</td>
<td>There are differences in the variables of Student Cognitive Learning Outcomes</td>
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<tr>
<td>4</td>
<td>(Hartati, 2015)</td>
<td>The Influence of Learning Styles and Students’ Attitudes in Mathematics Subjects on Mathematics Learning Outcomes</td>
<td>Discussing Learning Styles</td>
<td>There are differences in the variables of Student Attitudes and Learning Outcomes</td>
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<td>5</td>
<td>(Hasibuan, 2016)</td>
<td>Development of Islamic Education with Educational Technology Implications</td>
<td>Discusses Educational Technology</td>
<td>There are differences in Islamic Education variables</td>
</tr>
<tr>
<td>6</td>
<td>(Reza &amp; Syahrani, 2021)</td>
<td>The Effect of Educational Technology Supervision on Teaching Staff Performance</td>
<td>Discusses Educational Technology</td>
<td>There is a difference in the variable, namely the Performance of the Teaching Staff</td>
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</tbody>
</table>

**RESEARCH METHODS**

The method of writing literature review articles is the library research method, which is sourced from online media such as Google Scholar, Mendeley and other academic online media. In this research, literature review must be used consistently based on methodological assumptions. This means that a literature review must be used so that it does not raise questions that will be asked of researchers. Researchers use qualitative methods because they are exploratory (Ali, H., & Limakrisna, 2013).

**FINDINGS AND DISCUSSION**

Based on the formulation of the problem, literature review and previous research tables, the discussion of this research is as follows:

1. **Relationship of Educational Technology on Online Learning**

   Educational technology is related to online learning, so what must be done by every educational institution, namely: 1) Development: carry out development related to learning models and learning facilities; 2) Utilization: By utilizing the currently available technological media; and 3) Evaluation: conducting a review related to the learning model that has been carried out (Panorama, 2017).

   If an educational institution develops, utilizes and evaluates it, it will have an impact on: 1) Management and implementation of learning: is a form of implementation of the learning plan; 2) Student response: is a form of reciprocal relationship between educators and students; 3) Learning activities: is a form of application and implementation of learning; and 4) Learning outcomes: are the output of learning activities that have been implemented (Sari, 2019).

   This means that if educational technology is getting better, namely by developing, using and evaluating it, it will relate to online learning. Educational technology has an important role in supporting online learning activities. Educational technology is related to online learning, this is in line with research conducted by: (Panorama, 2017), (Sari, 2019), (Adhi & Aima, 2021), (Hadi, Mulyani, Ridwan, Irzon, & Andini, 2020).

2. **Relationship of Educational Technology on Learning Style**

   Educational technology is related to learning styles, so what educational institutions need to do is: 1) Establish appropriate educational technology; 2) Implementing educational technology on learning styles; and 3) determine learning methods that suit learning styles (Ismail, Ali, & Anwar Us, 2022).

   If the educational institution can determine the appropriate technology: it means that the agency needs to determine a method or media that is in accordance with current conditions, implement educational technology for learning styles: it means that educational technology must have a relationship with student learning style methods such as visual, auditory and kinesthetic, and determine teaching methods that suit learning styles (No et al., 2017).

   This means that if the application of educational technology is carried out by educational institutions, it will relate to the increasingly complex learning styles of students. Educational technology in this study has an important role in the learning process of students which is formed by the learning styles of students. Educational technology is related to learning
styles, this is in line with research conducted by: (Saputra, 2022), (M Rizky Mahaputra & Saputra, 2021).

3. Relationship of Online Learning on Learning Style

Online learning is related to learning styles, so what educational institutions must do is: 1) Management and implementation of learning: this means that agencies must be able to apply learning models that are relevant to students’ learning styles; 2) Student response: is a form of student interest in the learning carried out; 3) Learning activities: a form of applying learning in accordance with the learning styles of students, such as: visual, auditory and kinesthetic; and 4) Learning outcomes: meaning that online learning must produce something that is as good as non-online learning.

If educational institutions carry out 1) management and implementation of learning, observing student responses, learning activities and learning outcomes it will relate to: 1) Appropriateness of learning to learning styles: meaning that learning provided by educational staff will be able to be accepted by students if it is carried out in accordance with the style learning learners; and 2) Ease of understanding: meaning that with the appropriateness of the learning given, students will easily understand the learning given.

This means that if online learning is carried out properly and effectively, it will relate to students’ learning styles. Where in online learning, educators can provide learning that includes all learning styles. Starting from providing learning in the form of visual, auditory and also kinesthetic. The relationship between online learning and learning styles is in line with research conducted by: (A. Maharani & Saputra, 2021), (Sudiantini & Saputra, 2022), (Havidz, Jianmu, Aima, & Ali, 2017).

Conceptual Framework

Based on the formulation of the problem, literature review and discussion above, the conceptual framework is determined as follows:


This article discusses the determination of educational technology: analysis of online learning and learning styles. There are other factors related to endogenous variables, among others:

CONCLUSION

Conclusion

Based on the formulation of the problem, literature review and discussion above, the conclusions of this study are as follows:

1. Educational Technology related to Online Learning.
2. Educational Technology related to Learning Style.
3. Online Learning related to Learning Style.

Based on the conclusions above, suggestions are needed for further research. There are other factors that can be used for further research, including: learning media, learning time, learning outcomes and learning productivity.

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