Web-based Pedagogiadic Application as a Learning Resource During the Covid-19 Pandemic

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Abstract

The Information technology media that can quickly provide information about educational terms make it more difficult for people to learn. The absence of supporting media makes it increasingly difficult for people to learn terms and obtain information about the scientific language of terms quickly and accurately. This study aims to analyze the usability and ease of web-based pedagogiadic applications as learning resources. The research approach used is a quantitative approach with an explanatory survey method. The subjects in this study were students of the library and information science study program with a total of 90 people. Data collection techniques used questionnaires, and data analysis techniques used path analysis. The results of the research being done were there are two things that affect the use of web-based pedagogiadic applications as learning resources. The perceived usefulness of web-based pedagogiadic applications provides benefits for themselves or individuals to use the application as a learning resource. Perceived ease of use, web-based pedagogiadic applications that are easy to use have an influence on individuals to use these applications in supporting teaching and learning activities.

Keywords: Application, Pedagogy, Web, Sumber Belajar, Model Penerimaan Teori

1. INTRODUCTION

As information develops, online media becomes one of the mainstream media that is used as a tool to obtain information (Cengiz & Bakirtas, 2020; Murillo et al., 2020). With the use of online media, information from any part of the world can be obtained. This speed and convenience make online media a favourite media in this modern era (Awaludin & Nugraha, 2021; Darmaningtyas & Suardana, 2017). Using online media as a learning source is like
creating a library with global information in the absence of time and distance (Rohman & Husna, 2017).

These developments also have an impact on the education sector. Education as one of the fields of science that continues to grow certainly needs to adjust to the current technological transformation, both in planning, content/material, methods, media and evaluation are integrated with technological developments (Cengiz & Bakırtaş, 2020; Darmaningtias & Suardana, 2017). Content or material is one of the very important components of learning. The Learning activities are often associated with reading, doing assignments, answering questions, discussing and so on. These activities certainly require content or material (Anggreni & Suardikha, 2020; Arsyika et al., 2019). What is read, and what is discussed are certainly related to the content. The use of digital content in learning and learning has increased in quantity and quality. This skill has a function that depends on the learning side. First, students will repeat the lesson content when creating media. Second, they will practice conveying information effectively and efficiently (Slamet et al., 2020).

The Content in the field of Education has a variety of types, which include: facts, concepts, procedures, processes and principles. All of these types of content can almost all be found on the internet. But in fact, not all content on the internet has good quality, considering the variety of types of websites on the internet. Therefore, it is very important to pay attention to the selection of credible sources of information to provide quality content (Awalludin & Nugraha, 2021; Devina, 2018). For example, fulfilling content of facts on the Internet can be accessed through e-journal or e-repository. The concept of content can be accessed through e-dictionary or e-encyclopedia, as well as other types of content (procedures, processes and principles) can be accessed from e-books. In the age of digital information, repositories are becoming a very important model of scientific communication for research institutes and universities. The repository is a system to archive, manage and disseminate research results in the form of publications, intellectual property rights (IPR), data, prototypes and other research products openly (open access) (Fitriani et al., 2019; Yaniasih, 2018).

The need for reference sources in the field of education is a priority for anyone who is studying it (Musyaffi et al., 2016; Pramanda & Azizah, 2016). One of the frequently used reference sources is a dictionary. A dictionary is a type of reference book that explains the meaning of words. The function of a dictionary is a to help a person in getting to know certain terms. There are several benefits of dictionary as a starting point to know the clear definition and the exact meaning of a term. At this time the dictionary has a conventional or electronic type (Purnajaya et al., 2020). Conventional dictionaries are in the form of printed materials while electronic dictionaries were first produced by Japan in 1979 under the name pocket electric translating machine. The term dictionary belongs to the category of the special dictionary because it refers to a dictionary that has special functions. This dictionary contains specific terms in a particular field, its function is for scientific use (Fitriani et al., 2019).

The change then brings different types of dictionaries. The types of dictionaries that are commonly known are complete dictionaries, bilingual dictionaries, monolingual dictionaries, and special dictionaries or terms. Special dictionaries or terms contain information about common words, but with a certain arrangement, for example, the dictionary of education and learning. The dictionary in printed form has advantages such as expanding finding interesting terms and adding to the vocabulary that we master. However, in the search process that takes a long time. Dictionary of terms of education and learning would like to be developed in such a way. Based on a preliminary study of students at the Faculty of Education, Universitas Pendidikan Indonesia (UPI) stated that some students still have difficulty finding references to the term in the field of education and learning. There are also those who say that opening a printed dictionary is quite complicated and quite time-consuming. The statement further stated that at this time the search for information online is
preferred by students rather than using printed information sources. Students need a special dictionary to support learning. This is evidenced by the results of a questionnaire that showed that they chose a special dictionary in the field of business in French-Indonesian for use in lectures (Utami et al., 2019). Banjar Language Dictionary application that is easy in the process of translation of Banjar-Indonesia and Indonesia-Banjar, it is necessary to develop an application that is able to translate some words or sentences, as well as speech recognition as a translation search media using a voice detector (Purnajaya et al., 2020).

The development of web-based software has been widely used and continues to develop the advantages of websites that are intended to facilitate activities. Media that use websites such as educational facilities, information search, economic competition, and the latest news that is very easy to get. Web-based educational programs that aim to facilitate learning that is tailored to people’s dependence on the internet. Other problems found students also have difficulty remembering a series of events and facts that must be remembered in history learning, and tend to be remembered in a short time, so that some students have not learned to the level of understanding. One solution in overcoming the problem of less varied sources of learning history is to use learning resources in the form of dictionaries in learning history (Ramadani & Ofianto, 2019). Using websites as educational tools provides easy access to the learning process. The many available computer terms make students have difficulty understanding the available lesson materials, since not all computer terms are explained in the package book. It requires a computer lexicon. The built application defines terms relating to information technology and communication (ICT) materials taught in schools (Fitriani et al., 2019).

Learning about the scientific names of all people in general don’t use auxiliary media, because the media available are mostly only in the form of books and not everyone has a book. The absence of Information Technology media that can quickly provide information about educational terms makes it increasingly difficult for people to learn. The absence of supportive media is increasingly making it difficult for people to learn the terms and obtain information about the scientific language of the term education quickly and accurately. In general, Arabic language students are less likely to use a large and thick dictionary to search for unknown vocabulary or terms, but Arabic language students are more likely to use electronic dictionaries because with electronic dictionaries students can easily and quickly search for unknown vocabulary. Although there are advantages and disadvantages between ordinary dictionaries and electronic dictionaries, but students are more likely to take advantage of electronic dictionaries (Azzikri, 2019).

In an effort to introduce educational terms in Indonesia by utilizing computer technology, it is currently a web-based dictionary application to facilitate finding information about educational terms in Indonesia. Web-based dictionary application purpose to introduce and provide information about educational terms. The design of the word grouping application based on the similarity of speech in the dictionary using the Metaphone algorithm on the android operating system has been made in accordance with the specifications and can run well for functional needs such as searching for words, displaying detailed words, and displaying the search algorithm selection (Maryanto et al., 2019).

An information system is a set of things or elements that are interconnected and form a unity with each other in a certain way to perform data processing functions, receive input in the form of data and then process it and produce useful information as a basis for decision making to achieve goals (Novawan et al., 2020; Salsabila, 2016). The use of information technology systems that are considered influential and used to explain the acceptance of a person or individual to the use of information technology systems is a model of acceptance of technology or technology acceptance models (TAM). Technology acceptance models provides a theoretical basis to determine the factors that affect the acceptance of an
information system and its ease of use, as well as the behaviour, goals, and needs of users of an information system evaluation using the TAM method, is a method of evaluation of information systems that have been widely recognized, because the TAM instrument has been frequently tested and used by many studies so that the validity and reliability of the TAM instrument are not in doubt (Murillo et al., 2020; Sabjan, 2018). Technology acceptance models (TAM) is an information systems theory that makes users want to accept and use technology. TAM is a model to evaluate the success of an information system from its use. TAM Model is used to analyze and understand the factors that affect the acceptance of the use of computer technology. TAM provides a theoretical basis for determining the factors that influence the adoption of technology by users in an organization. TAM describes the causal relationship between beliefs and behaviours, goals and actual users of Information Systems (Cengiz & Bakırtaş, 2020; Widodo et al., 2018). The purpose of the research being done was there are two things that affect the use of web-based pedagogiadic applications as learning resources. The perceived usefulness of web-based pedagogiadic applications provides benefits for themselves or individuals to use the application as a learning resource. Perceived ease of use, web-based pedagogiadic applications that are easy to use have an influence on individuals to use the applications in supporting teaching and learning activities.

2. METHODS

The usefulness and ease of web-based pedagogiadic applications as learning resources. The research approach used is a quantitative approach with an explanatory survey method. The subjects in this study were students of the library and information science study program using web-based pedagogiadic applications with a total of 90 people. Data collection techniques used questionnaires, and data analysis techniques used path analysis. The interconnected between research variables is presented in Figure 1.

![Figure 1](image-url)

**Figure 1. Data Analysis Techniques used Path Analysis**

The data analysis techniques used path analysis that uses the calculation of the path test. The path test calculation is used to calculate how much influence the usability and ease of pedagogiadic applications have on the attitude of application use.

3. RESULTS AND DISCUSSION

Result

The usefulness of Pedagogiadic Applications in Learning

Testing path test is intended to the existence test. In the path analysis to determine how much influence the usefulness of web-based pedagogiadic applications as learning...
resources of partially to the use of applications. The calculation of the path test is presented in Table 1.

**Table 1. Data Analysis of Test Path**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>11.092</td>
<td>3.332</td>
<td>3.329</td>
</tr>
<tr>
<td></td>
<td>usefulness</td>
<td>0.214</td>
<td>0.051</td>
<td>0.411</td>
</tr>
</tbody>
</table>

The calculating value found in the t-count column in table 1 is used to indicate the influence of the usefulness of web-based pedagogiadic applications as learning resources partially to the use of the applications is equal to 4.233. There is the influence of the usefulness of web-based pedagogiadic applications (*perceived usefulness*) as learning resources indicated by the magnitude of the influence can be known from the value of the beta coefficient (in the column standardized coefficient Beta) is equal to 0.411 or if made percent to 41.1%.

### The ease of Pedagogiadic Applications in Learning

Testing Path test is intended to the existence test. In the path analysis to determine how much influence perceived ease of use web-based pedagogiadic applications as learning resources of partially to the use of applications. The calculation of the path test is presented in Table 2.

**Table 2. Data Analysis of Test Path**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>0.954</td>
<td>3.051</td>
<td>0.313</td>
</tr>
<tr>
<td>Ease</td>
<td>0.367</td>
<td>0.046</td>
<td>0.647</td>
<td>7.965</td>
</tr>
</tbody>
</table>

The calculating value found in the t-count column in table 2 is used to indicate the influence of the usefulness of web-based pedagogiadic applications as learning resources partially to the use of the applications that is equal to 7.965. There is an effect of ease web-based pedagogiadic applications (perceived ease of use) as learning resources indicated by the amount of influence can be known from the value of the beta coefficient (in the column standardized coefficient Beta) is equal to 0.647 or if made percent to 64.7%.

### Discussion

**The usefulness of Pedagogiadic Applications in Learning**

Data analysis research has been done that in general, the usefulness of the utilization of web-based pedagogiadic applications has a positive influence on supporting learning. The use of Information Technology Systems has an influence that makes users want to receive and use the technology. The use of TAM method in this study is because the approaching model is a concept that is considered good in explaining user behaviour towards the latest information systems and technologies (*Arisyika et al., 2019; Santos, 2021*). Technology Acceptance Model (TAM) is a model of acceptance of information technology systems to be used by users. This Technology Acceptance Model (TAM) method is a measurement of...
acceptance of technology systems related to the use of applications by users (Lule et al., 2012; Noeman & Lubis, 2019).

A user who uses the expected information system can be useful in performing a task. The technical advantage of information technology is one that is expected by the user of the information technology to carry out tasks. The sheer proliferation of information technology has affected most aspects of human life both directly and indirectly. The development of information technology as a result of the industrial revolution is undergoing stages that can be identified in a general way each development (Andri, 2017; Fahrizandi, 2020). An individual will use ICT if they know the positive benefits and uses of its use. Another study mentioned that the acceptance of EWSKIA information system by midwives in Grobogan regency, Temanggung regency, and Salatiga city was influenced by the perception of Midwives towards Ease of use (PEOU) and usefulness (PU) to complete their work. Therefore, midwives will be more receptive to EWSKIA information systems, if midwives have confidence that EWSKIA information systems are easy to operate and provide benefits to complete their work. (Widodo et al., 2018).

The usefulness of the information technology in learning will benefit the user of the technology especially in completing their tasks. Perceived of usefulness provides beneficial benefits for an individual or a person. The main purpose of TAM is to provide a basis for understanding the influence of external factors on internal beliefs and attitudes. TAM is specifically used in the field of information systems to predict acceptance and use in the work of individual users (Darmaningtyas & Suardana, 2017). The benefits an individual believes in can be obtained when using such information technology. Modern technological sophistication is capable of even the greatest variety of systems designed to help produce good quality information for human needs. Computerized and integrated institutions have technologies backed by sophisticated modern support applications, capable of positive effects on the instant, reliable, financial reporting (Anggreni & Suardikha, 2020).

In the context of the organization, this use is of course associated with improving individual performance directly or indirectly which will have an impact on the opportunity to obtain physical, material or non-material benefits. The development of information and communication technology implementation in schools is an effort that should be done (Idrus & Apdelmi, 2017). This is along with the stated that the perception of usefulness is a level where a person believes/believes that the user of a particular subject will be able to improve the performance/achievement of that person. Model technology acceptance model can explain that the perception of the user will determine his attitude in the acceptance of the use of information technology (Awaludin & Nugraha, 2021). The usefulness of the pedagogiadic application is influential in supporting learning that can improve the performance and performance of a person using the technology. A web-based pedagogiadic application uses the information system because it interacts directly with the user.

**The Ease of Pedagogiadic Applications in Learning**

Research data analysis that has been done in general with the web-based pedagogiadic application has a positive impact on supporting learning. The use of information technology systems is what makes users want to receive and use the technology. Information systems ease the use of information technology is not difficult, because it can be studied by anyone. Ease in the use of a technology is defined as a measure by which individuals believe that a technology system can be easily understood and used. A system is of good quality if it is designed to satisfy user satisfaction through the ease with which it is used. Indicators of perception of ease include easy to learn, controllable, clear & understandable, flexible easy, to become skillful, easy to use (Wahyuni & Jurusan, 2016).
The Ease means to be without difficulty or to be freed from difficulties or not to try hard. Ease of use is a level where a person believes that the use of a particular system can reduce the business burden of doing something. Perceived ease of use can be explained that the extent to which a person believes that using technology will be free from effort (Pramanda & Azizah, 2016). Perception of ease is how individuals interpret that learning and using those systems is easy (Devina, 2018). The application of technology is inseparable from aspects of user behaviour. This is because the development of the system is related to individual and organizational problems as users of the system so the system development must be oriented to its use. The success of the acceptance of Information Systems is not only determined by how the system can process information properly but also determined by the level of individual acceptance of the application of the information system (Santioso et al., 2018).

A positive effect on a user’s interest suggests that the user feels the pedagogiadic information system technology becomes fluent and has access to information easily. Users make decisions to use pedagogiadic information systems, and the benefits of pedagogiadic information system applications become significant considerations. Easier as to the extent that one believes that using technology will be free of business, the definition is known that the construction of this ease is also a belief in the decision process. If a person believes that information systems are easy to use, he will use them. On the other hand, if a person believes that information systems are not easy to use, he will not use them (Karima & Asaari, 2019). Perceived of ease use is a belief in the ease of use, which is a level where the user believes that the technology or system can be used easily and without a problem. The intensity of use and interaction between users with systems can also show easier use (Natalia & Br Ginting, 2018).

The ease of use of pedagogical information system reflects the level of ease felt by users of pedagogical information system such as being able to reduce the time or effort in doing the work when using the information system itself. Confidence in using an information system is the degree to which an individual considers others to convince himself that the individual should use a new information system. Ease means to be without difficulty or to be freed from difficulties or not to try hard. Thus this perception of ease of use refers to the individual’s belief that the IT system to be used is not troublesome or does not require great effort, at the time of use (Fiddin, 2019). The perception of the ease of the system is used to predict to what extent a person feels confident that using a particular system can be done without effort (Musyaffi et al., 2016).

4. CONCLUSION

Ease of use (perceived ease of use) web-based pedagogiadic applications have a positive influence on the usefulness of information systems in supporting learning. The ease of use refers to an individual’s belief that the information technology system used is not troublesome or does not require great effort when is used to affect the perceived usefulness of web-based pedagogical applications. Thus, as long as the individual feels that information technology is beneficial in his tasks, he will intend to use it regardless of whether the information technology is easy or not easy to use. In order to reveal more about the interrelationship between the perception of the benefits and perceptions of the ease of using this information technology.

5. ACKNOWLEDGMENTS

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6. REFERENCES


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