UTAUT2 MODEL EVALUATION OF ACCEPTANCE WEB-BASED MULTIMODALITY LEARNING MEDIA

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Abstract: In carrying out learning, teachers need a learning media. Along with advances in technology, teachers are required to be able to use technology-based learning media in learning. The purpose of this study is to determine the factors that influence the acceptability of web-based multimodality learning models in elementary school teachers using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model. The method used in this study is a quantitative method with a survey method using a questionnaire. Data processing was carried out using the PLS-SEM analysis technique. The research data was obtained from distributing questionnaires to 100 elementary school teachers. The results of this study indicate that the factors that influence teacher acceptance of web-based multimodality learning media are behavior intention, use behavior, performance expectancy, effort expectancy.), social influence, facilitating conditions, hedonic motivation, price values, and habits. Based on the value of R Square, this web-based multimodality learning model is good for use in teaching in elementary schools.

Keywords: UTAUT2, learning media, PLS-SEM.

INTRODUCTION

Along with advances in technology, progress in the field of education at this time has experienced many developments. Rustaman (Juningsih et al., 2020) states that the learning process must adapt to the circumstances. Kristiawan (Khotimah, Husnul; Astuti, Eka Yuli; Apriani, 2019) states that technological advances can bring many changes in people's lives, including changes in the world of education. Advances in this field of technology encourage the emergence of technology-based learning systems. Technology is applied to support the learning process. Sesmiyanti, et al (Sesmiyanti et al., 2021) suggests that a more lively, interesting and innovative learning atmosphere can be created by designing appropriate teaching materials. In the learning process, good communication is needed to achieve learning objectives. In addition to communication, learning media is also needed. Abidin (Budijanto & Setyaningsih, 2022) states that learning at this time is not only seen from a communication perspective, but has started to integrate multimodality.

Today's teaching materials can be packaged using technology. According to the Association of Education Communication and Technology (Januarysman & Ghufron, 2016), to facilitate learning and to improve performance by making something new, using and controlling appropriate technological processes and resources, a study is needed, namely educational technology. One form of technology that can be used in learning is the use of the web. In the world of education, the use of the web is possible in terms of increasing the ease of teaching and learning.

This technological advancement has indeed had a positive impact, especially for the world of education in the learning process. Information technology, especially computer and internet technology, has provided many conveniences in carrying out daily activities. Educational technology appears as a way that can be done in solving learning problems that have not been solved with a pre-existing approach (Januarysman & Ghufron, 2016). In this case, namely for teachers and students in learning who carry out the learning process using one of the advances in technology, namely the use of the web in learning. According to the Association of Education Communication an Technology (Januarysman & Ghufron, 2016) educational technology is a study and implementation that is used to facilitate learning and can improve work ability by making things, using them and managing processes and technological resources in an efficient manner. With this technology, it will make it easier for teachers to carry out learning activities. The teacher's ability will increase, especially in learning using technology, so that students can be more enthusiastic about learning so that the final result obtained by students is meaningful learning. According to Ferismayanti (Adzkiya & Suryaman, 2021) that internet technology has no time and distance limits, making it easier for the learning process.

The web is one of the media that can be used by teachers in learning activities. According to Hamidjojo (Jennah, 2009) media are all forms of connectors used by humans to convey an idea, design or opinion that is conveyed to the recipient who is our goal. Using this media will help the teacher to convey knowledge so that what is the content of learning reaches students easily and precisely. According to Naz and Akbar (Wahyu et al., 2020), utilizing media in the learning process will have many good influences such as being able to use time carefully, children will be more interested in learning, clarify ideas, concepts will become clearer, and memories will become clearer. the child will become stronger.

Gagne and Briggs (Jennah, 2009) argue that what is included in the physical media that can be used in learning to convey the contents of teaching materials can be in the form of books, tape recorders, cassettes, video cameras, video recorders, films, slides (picture frames).), photographs, drawings, graphics, television, and computers. Teachers can use various types of media in the learning process

according to the material to be delivered. In this case the media used is the web which can be accessed via a computer. Horton argued (Lawanto, 2000) that web-based learning can be defined as the application of web technology in the world of learning for an educational process.

Moran, et al (Fahmi et al., 2021) stated that the current education system is required to contain three things, namely there are interdisciplinary, interactive, and multimodal aspects. From this, the learning media that can be used in learning is multimodality media. According to Kress and Van Leeuwen (Ramadloni, 2022) multimodality is a way of communicating using different methods or forms that are carried out simultaneously. In terms of the use of multimodality media, it means the use of various kinds of media used in the learning process but carried out simultaneously at one time. So that students can easily choose the media they want according to their learning interests. According to Abidin (Kinanti et al., 2023) that multimodality is the study of the interaction and dependence of different modes of communication in creating ones that complement, expand or even contradict one another.

Various theoretical models have been designed to predict the acceptance of the use of technology used in learning. One of the theoretical models developed by Venkatesh to predict acceptance of technology use is the Unifield Theory of Acceptance and Use of Technology (UTAUT) model. Pertiwi and Aryanto (Nopiani & Putra, 2021) suggest that the use of the UTAUT2 model with applications, technology, and users in the same field can give different results due to the influence of cultural differences. According to Venkatesh et al. (Andreas, 2012) UTAUT proposes four main factors that influence the intention and use of information technology. The first is performance expectations. It is the degree to which an individual believes that using the system will help him or her to achieve gains in job performance. The second is business expectations. This is the level of ease associated with using the system. Third, facilitate conditions. It is the degree to which an individual believes that the organizational and technical infrastructure exists to support use of the system. Fourth is social influence. It is the extent to which an individual feels that others believe he or she should use the new system.

Updates to the design of the learning model continue to be made. According to Al Fajri, et al (Rahardi, 2022) this renewal was not only triggered by technological changes as part of a new culture in 21st century learning, but also because of the demands of changing the learning paradigm from monomodality to multimodality.

Although UTAUT is widely accepted, Venkatesh et.al. (Andreas, 2012) incorporates three other constructs into UTAUT, namely hedonic motivation, price value, and habits, expanding UTAUT into UTAUT 2. The UTAUT2 model shows that the intention to behave (behavior intention) and the behavior to use a

technology (use behavior)) is influenced by performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit).

Based on the description above, the researcher took the research title "UTAUT2 Model Evaluation of the Acceptability of Web-Based Multimodality Learning Media". In this learning model various forms of audio, video and visual learning media will be presented which are packaged in a container, namely the web which is in accordance with current technological advances, so that it will make it easier for teachers in the learning process and increase student interest. The results of this study are expected to determine the influencing factors in the proposed research model in order to obtain evaluation results to support the use of web-based multimodal media in learning, especially in elementary schools.

METHOD

In this study using quantitative research, namely the survey method using a questionnaire. Survey research is a form of activity that has become a habit in the community, and many of them have experience with this research as a separate form or another (Adiyanta, 2019). Whereas in survey research the use of questionnaires was limited to gathering data on the demographic characteristics of the community, their social environment, their activities, their opinions and attitudes (Abdullah, 2015).

This research was conducted on 100 elementary school teachers using a Google form which was distributed to elementary school teachers. The basis of this research was conducted on elementary school teachers, namely that elementary school is the basis for students to acquire knowledge. Therefore, a method is needed by the teacher in learning so that it can further motivate students to learn and make learning meaningful. Along with advances in technology, elementary school teachers are expected to be able to adapt to these changes by integrating learning using technology-based media.

The variables used in this study refer to Venkatesh (Andrianto, 2020), namely Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Price Value, Hedonic Motivation, and Habit. Performance Expectancy, namely the benefits/benefits obtained by consumers in using technology to carry out their daily activities. Effort Expectancy is the effort or effort related to the use of the system or technology by the user. Social Influence, namely the extent to which an individual feels that it is important for others to believe that they should use a particular system/technology. Facilitating Conditions, namely the extent to which a person believes that resources and organizational support and technical infrastructure are available to support the use of the system. Price Value, namely the exchange between the user's cognitive with the perceived benefits of the

application and the cost of using it. Hedonic Motivation is the pleasure that comes from using technology/systems and has been shown to play an important role in determining the acceptance and use of technology. Habits are habits in using information systems automatically because they have gone through the learning process.

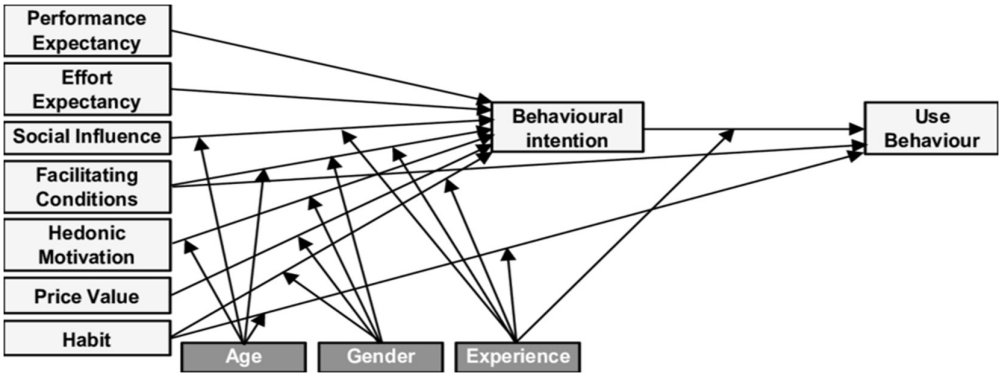

Figure 1. The UTAUT2 Model Thinking Framework

From the framework above, it can be seen that behavioral intention is influenced by performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price values and habits. Meanwhile, use behavior is influenced by facilitating conditions, habits and also behavioral intentions. The seven variables are also influenced by age, gender, and length of experience.

In this study a questionnaire was used with variables referring to the UTAUT2 model. According to Arikunto (Ningsi, 2018) that the questionnaire is a number of written questions that are used to obtain data and information from respondents. This questionnaire consists of 8 variables, namely Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavior Intention, ICT Usage Habits, Perceived Learning Opportunities, and Hedonic Motivation. Each variable consists of 5 indicators. The following are the instruments used.

Table 1. Research Instruments

Variable	Variable Indicator	Question Items	Item Number
Performance Expectancy	PE1	Web-based multimodality learning media improves the quality of my teaching	1
	PE2	Teaching using web-based multimodality learning media increases my productivity	2
	PE3	I found that web-based multimodality learning media helped me when teaching elementary school materials	3

	PE4	I believe using web-based learning media will increase the effectiveness of my learning process	4
	PE5	I think that using web-based media helps me make teaching preparation easier	5
Effort Expectance	EE1	It is easy for me to teach using web-based multimodality learning media	6
	EE2	I find that web-based multimodality learning media is easy to use	7
	EE3	Using web-based multimodal learning media for teaching does not require much preparation	8
	EE4	I feel that using web-based learning media does not require complicated technological skills	9
	EE5	I feel that it does not require a lot of effort in making web-based learning media	10
Social Influences	SI1	The people closest to me think I should use web-based multimodality learning media to teach	11
	SI2	Other elementary school teachers use web-based multimodal learning media when teaching	12
	SI3	Another elementary school teacher advised me to use web-based multimodality learning media	13
	SI4	In general, the school supports me in using web-based multimodal learning media	14
	SI5	In general, students support me using web-based learning media	15
Facilitating Condition	FC1	I have the equipment to use web-based multimodality learning media for teaching	16
	FC2	There are teachers and a team that will help me even if I have difficulty using web-based multimodality learning media	17
	FC3	Training is available on the use of web-based multimodal learning media for elementary school teachers	18
	FC4	Schools have facilities to support the use of web-based learning media	19
	FC5	The use of web-based learning media is suitable for use in classroom learning	20
Behavior Intention	BI1	I will continue to use web-based multimodality learning media to teach	21

	BI2	I will use web-based multimodality learning media when the situation and conditions allow	22
	BI3	I think most of my teaching will use web-based multimodality learning media	23
	BI4	I feel the use of web-based learning media will always help increase student involvement and participation in learning	24
	BI5	I will recommend web-based learning media to colleagues	25
ICT Usage Habits	IUH1	I have used many technology-based learning media	26
	IUH2	I have studied a lot of technology-based learning media in college (S1/S2/S3)	27
	IUH3	I learned to use technology-based learning media in college (S1/S2/S3)	28
	IUH4	I have attended a lot of training on the use of web-based learning media	29
	IUH5	I am used to using web-based learning media	30
Perceived Learning Opportunities	PLO1	Web-based multimodality learning media provides opportunities to teach in new ways	31
	PLO2	Web-based multimodality learning media provides opportunities to interact with students	32
	PLO3	Web-based multimodality learning media provides opportunities for creative thinking	33
	PLO4	Web-based multimodality learning media provides an opportunity to motivate students	34
	PLO5	Web-based learning media provides more opportunities to improve competence	35
Hedonic Motivation	HM1	I feel entertained when using learning media in learning	36
	HM2	I often use learning media because there is satisfaction and pleasure that is obtained	37
	HM3	I feel that the learning media I use provide a more enjoyable learning experience	38
	HM4	I prefer to use learning media that are designed in an interesting and creative way	39
	HM5	I feel that the learning media I use motivates me to develop better	40

This research was conducted using a Likert scale from 1 to 5. For the Likert scale, the answers strongly disagree with a score of 1, disagree with a score of 2, undecided with a score of 3, agree with a score of 4, and strongly agree with a score of 5. For data analysis using a component-based Structural Equation Model (SEM) or a variant called Partial Least Square (PLS). Sholiha and Salamah (Kuntoro et al., 2019) explain that Structural Equation Modeling (SEM) is a multivariate analysis method that can be used to describe the simultaneous linear relationship between observational variables (indicators) and variables that cannot be measured directly (latent variables).). The same thing was stated by Amos, et al (Budiarsi, 2020) that the Structural Equation Modeling (SEM) – Partial Least Square (PLS) method is an alternative method in SEM that complements the previous SEM method. PLS-SEM is used to calculate the validity and reliability, the level of significance, and the goodness of the model used.

RESULTS AND DISCUSSION

Development of Web-Based Multimodality Learning Media

The results of the development of web-based multimodality learning media in the science subject (Plant Body Parts and Their Functions) for grade IV elementary school students were developed using Google Sites. Users can access this web-based multimodality learning media via the following link address https://sites.google.com/view/dewisitisolihah/beranda. The following is a display of web-based multimodality learning media which can be seen in Figures 2 and 3.

Figure 2. Opening page display

On the opening page there are several options to choose from. On this page there are choices of material, quizzes and worksheets, discussions, evaluations, and about the developers of this web-based multimodality learning media.

Figure 3. Material page display

On the material page, there are 5 medi applications presented. The media presented are learning videos using the kinemaster application, podcasts using the Spotify application, material presented with the Prezi application, material presented with the heyzine flipbooks application, and infographics about the material presented. Apart from the media used in presenting the material, there is also media used on quiz pages and worksheets, namely wordwall applications and liveworksheets. Then on the discussion page an online discussion forum is provided with the help of the padlet application. And on the evaluation page, researchers used the Preezi Edpuzzle application as a tool to measure the achievement of learning outcomes.

The results of the questionnaire given to 100 elementary school teachers were then processed using an application tool, namely by using a component-based Structural Equation Model (SEM) or a variant called Partial Least Square (PLS). SEM PLS is used to calculate the validity test, reliability test, and factors that influence the acceptability of elementary school teachers to web-based multimodality learning media.

Respondent Profile

Table 2 shows the classification of respondents based on gender, age, teaching experience, employment status, and educational level.

Table 2. Classification of Respondents

Characteristics	Amount	Percentage
Gender		
Man	22	22%
Woman	78	78%
Age (in years)		
20-30	20	20%
31-40	47	47%
41-50	16	16%
51-60	17	17%

Teaching Experience (in years)		
1-10	38	38%
11-20	41	41%
21-30	11	11%
31-40	10	10%
Employment status		
Civil servant	53	53%
Non civil servants	47	47%
Education Strata		
S-1	95	95%
S-2	5	5%

Validity and Reliability Test

The data generated after being processed using PLS SEM, can be seen in the table below.

Table 3. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Behavior Intention	0,835	0,865	0,885	0,610
Effort Expectancy	0,866	0,898	0,899	0,640
Facilitating Conditions	0,776	0,778	0,839	0,511
Hedonic Motivation	0,883	0,894	0,915	0,683
ICT Usage Habits	0,882	0,902	0,912	0,676
Perceived Learning Opportunities	0,906	0,909	0,931	0,731
Performance Expectancy	0,896	0,898	0,924	0,710
Social Influence	0,891	0,894	0,920	0,698

To test the validity, it can be seen from the Average Variance Extracted (AVE) value for each latent variable which is more than 0.5 (Riyanti, 2018).

Table 4. Validity Test

Variabel	AVE	Keterangan
Behavior Intention (BI)	0,610	Valid
Effort Expectancy (EE)	0,640	Valid
Facilitating Conditions (FC)	0,511	Valid
Hedonic Motivation (HM)	0,683	Valid
ICT Usage Habits (IUH)	0,676	Valid
Perceived Learning Opportunities (PLO)	0,731	Valid
Performance Expectancy (PE)	0,710	Valid
Social Influence (SI)	0,698	Valid

From the table above it can be seen that all variables have an AVE value of more than 0,5. This roves that the variables used in this study are valid.

The reliability test was carried out after all variables were declared valid. This reliability test was carried out by looking at the Cronbach Alpha value > 0.60 and composite reliability (Haris et al., 2019). All of the variables shown in Table 5 are all declared reliable because the value of Cronbach's Alpha and composite reliability is more than 0.60 so that all variables are feasible to use.

Table 5. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Information
Behavior Intention (BI)	0,835	0,885	Reliable
Effort Expectancy (EE)	0,866	0,899	Reliable
Facilitating Conditions (FC)	0,776	0,839	Reliable
Hedonic Motivation (HM)	0,883	0,915	Reliable
ICT Usage Habits (IUH)	0,882	0,912	Reliable
Perceived Learning Opportunities (PLO)	0,906	0,931	Reliable
Performance Expectancy (PE)	0,896	0,924	Reliable
Social Influence (SI)	0,891	0.920	Reliable

The results of using a valid and reliable questionnaire show that the questionnaire used as data collection to test hypotheses is feasible to use (Ainul Bashir, 2020). In addition to calculating the validity and reliability, we also look for the path coefficient, the level of significance and goodness of the model developed based on the results of the analysis and the path model.

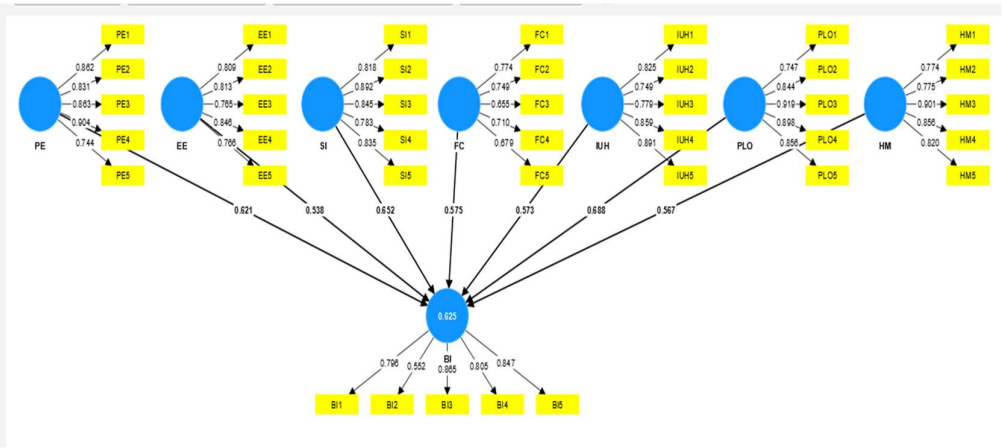

Figure 4. Path Analysis Results Model

From the results of the analysis carried out, it can be seen that the path coefficient of the data is that the contribution made in the acceptability of web-based multimodality learning media for elementary school teachers is the performance expectancy of 0.621 units, effort expectancy of 0.538 units, social influence (social influence) of 0.652 units, facilitating conditions of 0.575 units, hedonic motivation of 0.567 units, Perceived Learning Opportunities of 0.688 units, and habits (habit) of 0.573.

In addition to knowing the path coefficient, we can also know the significance level of the t statistic. According to Ghozali & Latan (Setianingtias et al., 2019) the value of the reflective construct indicator can be said to be valid if the resulting t-statistic value is > 1.96. So it can be said that this variable is significant for the acceptability of web-based multimodality learning media for elementary school teachers. The level of significance is obtained that the performance expectancy is 2.361; effort expectancy 0.155; social influence (social influence) of 2.614; facilitating conditions 0.247; hedonic motivation of 0.181; Perceived Learning Opportunities of 1.984; and habit (habit) of 2.707.

It can be concluded that PE 2.361; SI 2.614; IUH 2.707; and PLO 1.984 has an influence on the acceptability of web-based multimodality learning media for elementary school teachers. While EE 0.155; FC 0.247; and HM 0.181 had no effect on the acceptability of web-based multimodality learning media for elementary school teachers.

In addition to looking for the level of significance, also looking for the goodness of the developed model. According to D. R. Sari (Ainul Bashir, 2020) the value of R Square indicates the magnitude of the influence of the independent variable on the dependent variable. The R Square value is divided into three categories: strong (has a value of 0.67), moderate (has a value of 0.33) and weak (has a value of 0.19). PE 0.621; EE 0.538; SI 0.652; FC 0.575; IUH 0.573; PLO

0.688; HM 0.567 it can be concluded that web-based multimodality learning media is good for use in learning in elementary schools.

CONCLUSION

Based on the research conducted and the results of data analysis using PLS-SEM, it can be concluded that the factors that influence teacher acceptance of the use of web-based multimodality learning media are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Price Value, Hedonic Motivation , and Habits. The influencing factors have carried out the validity and reliability test stages. All of these variables are declared valid and reliable.

In addition to testing the validity, reliability, path coefficient and acceptability of the media presented, tests were also carried out on the goodness of the developed model. Judging from the R Square which is > 0.26, it can be concluded that web-based multimodality learning media is good for use in learning in elementary schools.

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