JIGE 6 (2) (2025) 1007-1017
JURNAL ILMIAH GLOBAL EDUCATION
ejournal.nusantaraglobal.ac.id/index.php/jige
DOI: https://doi.org/10.55681/jige.v6i2.3856

Evaluating the Acceptance of Wordwall as a Multimodal Learning Media Using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

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Article Info

Article history:

Received May 02, 2025
Approved June 03 , 2025

Keywords:

UTAUT2, digital learning tools, PLS-SEM

ABSTRACT

Effective learning tools are needed by teachers to help them to carry out their profession. As technology develops, teachers have to be skilled in applying tools driven by technology for instruction. Using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework, this study intends to find the elements affecting the acceptance of Word wall as a multi modal learning tool among elementary school teachers. A quantitative research technique was applied, using a questionnaire-based survey approach. Using the Partial Least Squares Structural Equation Modelling (PL S-SEM) approach, data were examined. Data collecting involved distributing surveys to 105 elementary school teachers. The results show that behavioral intention, use behaviour, performance expectations, effort expectations, social influences, facilitating conditions, hedonistic motivation, price value, and established habits are the factors influencing teachers' acceptance of Word wall multi-modal learning tools. This online multi-modal learning tool is efficient for application in elementary school education based on the R-squared value.

How to cite: Oktaviani, W. N., Abidin, Y., & Kurniawan, D. T. (2025). Evaluating the Acceptance of Wordwall as a Multimodal Learning Media Using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). *Jurnal Ilmiah Global Education*, *6*(2), 1007–1017. https://doi.org/10.55681/jige.v6i2.3856

INTRODUCTION

Along with technological advancements, the field of education has experienced significant developments. Technology has become a key factor in supporting the success of the learning process. According to Adzkiya and Suryaman (2021), the educational process must adapt to the times. Budijanto and Setyaningsih (2022) note that ongoing advances in technology are altering many sectors, education among them. Such progress clears a route for learning designs built around digital resources, designs that could make routine classes more interesting and useful.

Even so, having an overflowing kit of online materials does little good if teachers hesitate to use them. Launin et al. (2022) argue, for example, that well-crafted content can spark creativity and keep students engaged. Hanafi et al.(2024) add that clear paired with suitable media also lies at the core of effective teaching. Ratna et al. (2023) extend the discussion by demonstrating that a teachers readiness to adopt mixed-media resources stands as a critical element in the broader effort to fuse technology with pedagogy. One application gradually capturing teachers interest is Wordwall, a platform that packages lessons in varied formats and keeps students actively participating.

Earlier studies by Pradini and Adnyayanti (2022) back this up, showing that online resources can trim prep time and clarify difficult topics. Still, how teachers feel about using Word-wall-and similar platforms-remains under-researched and deserves closer attention. After reviewing the literature, it is clear that researchers have devoted plenty of attention to how teachers and students embrace new classroom technologies in general; however, only a handful of studies have tested the UTAUT2 model-Venkatesh et al. 2012-on acceptance of specific multisensory tools such as Word-wall. Most prior studies have focused more on the technical aspects or the comparison of different learning tools, while few have focused on the factors influencing user acceptance, particularly among elementary school teachers.

Therefore, this study aims to evaluate the acceptance of Word-wall multi modal learning media using the UTAUT2 model, which includes variables such as behavioral intention, social influence, and facilitating conditions. The study aims to map the keys that shape teachers willingness to use classroom technology, hoping those insights will guide the design of better learning tools down the road. In this vein, Sugiani (2022) shows how Word-wall enriches Indonesian language lessons, illustrating the apps practical place in everyday schooling. Solihah and colleagues (2023) advance the debate by evaluating web-based, multimodal content within the UTAUT2 framework; their results correlate closely with the objectives stated in this study. Likewise, Tamilmani et al. (2021) argue that understanding the reasons behind user acceptance or rejection of technology is crucial to the success-or failure-of any innovative educational initiative. Adding another layer, Timothy et al. (2010) connect self-directed study and technology, noting that well-crafted media keeps students actively involved. Finally, recent work by Widhiatama and Brameswari (2024) confirms these ideas, showing Word-wall boosts both engagement and motivation in literature classes.

METHODS

The present investigation adopts a quantitative framework that centres on survey methodology and relies on a structured questionnaire as its main instrument for data collection. Survey designs are widely employed in social research because they facilitate the systematic acquisition of information about respondents demographics, opinions, attitudes, and everyday behaviours. Within this study, the questionnaire invites elementary school teachers to report their perceptions of Word-wall multimodal learning media, drawing specifically on the constructs articulated in the UTAUT2 model.

The target population of this study consists of 100 elementary school teachers. The data collection was carried out using a Google Form distributed to the selected teachers via an online survey. The focus on elementary school teachers is based on the premise that elementary education is the foundational stage of students' learning journey. For teachers working in todays

classrooms, keeping pace with new technology and weaving it into daily lessons is no longer optional; it is a professional necessity (Lawanto, 2000).

The six variables examined in this research borrow from Venkateshs expanded UTAUT2 framework, as detailed by Andrianto (2020), and they include:

1. Performance Expectancy: the gain in teaching quality or student outcomes that instructors believe technology will deliver.
2. Effort Expectancy: how simple-or frustrating-teacher perceive the actual learning curve and daily use of a new tool to be.
3. Social Influence: the unofficial yet powerful pressure educators feel when colleagues, administrators, or even students urge them to adopt a specific platform.
4. Facilitating conditions-the laptops, Wi-Fi speed, clear tutorials, and friendly help-desk staff that either clear a path for daily use or gum up the works.
5. Price value-the mental ledger each teacher keeps as they budget scarce time, dwindling funds, and hard-won focus before saying yes to any new tool.
6. Hedonic Motivation: the pure joy, curiosity, or gamified fun that can spark regular engagement with a digital tool.

In the present investigation, these constructs guide an assessment of how elementary school teachers accept the Word-wall multimodal platform in their classrooms. This model integrates various factors that influence technology acceptance and usage, including performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, and usage habits (Haris et al., 2019; Juningsih et al., 2020).

As shown in Figure 1, the UTAUT2 model illustrates the relationships between variables that affect behavioral intention and use behavior of technology. This figure depicts how each construct influences one another and explains the complex relationships that may influence teachers' decisions to adopt technology in their teaching practices (Hamuy & Galaz, 2010).

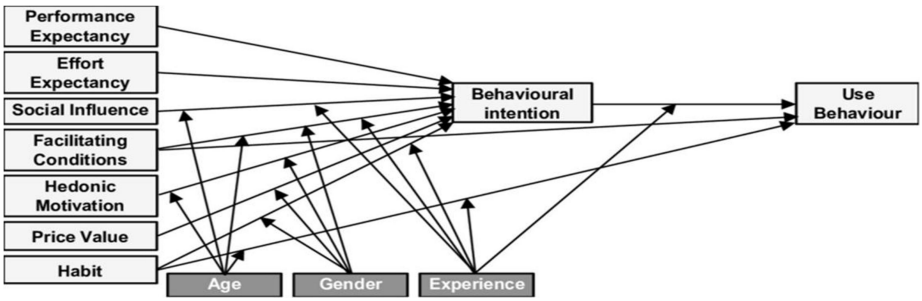


Figure 1. UTAUT2 Model Thinking Framework

In keeping with Venkatesh and colleagues UTAUT2 model, the study assumes that eight psychosocial factors shape intention to use Word-wall, and that intention subsequently predicts actual usage. It also considers whether age, gender and years spent teaching modify the strength of the pathways among these variables.

The instrument therefore contains eight latent constructs, with five indicators assigned to each. These are:

1. Performance Expectancy (PE)
2. Effort Expectancy (EE)
3. Social Influence (SI)
4. Facilitating Conditions (FC)

5. Behavioral Intention (BI)
6. ICT Usage Habits (IUH)
7. Perceived Learning Opportunities (PLO)
8. Hedonic Motivation (HM)

Indicators for each construct draw directly from the UTAUT2 literature (Venkatesh et al., 2012) and can be reviewed in Table 1: Research Instruments.

Responses were gathered on a five-point Likert scale, where:

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

The scaled items thus operationalize each variable in the context of Word-wall technology. As outlined in Table 1, Performance Expectancy, for example, captures teachers beliefs about whether the tool enhances lesson quality and efficiency.

Table 1. Research Instruments

Variable	Variabel Indicator	Question Items	Item Number
Performance Expectancy	PE1	Word-wall multi modality learning media improves the quality of my teaching	1
	PE2	Teaching using word-wall multi modality learning media increases my productivity	2
	PE3	I found that word-wall multi modality learning media helped me when teaching elementary school materials	3
	PE4	I believe using word-wall learning media will increase the effectiveness of my learning process	4
	PE5	I think that using word-wall media helps me make teaching preparation easier	5
Effort Expectancy	EE1	It is easy for me to teach using word-wall multi modality learning media	6
	EE2	I find that word-wall multi-modality learning media is easy to use	7
	EE3	Using word wall multi modal learning media for teaching does not require much preparation	8
	EE4	I feel that using word-wall learning media does not require complicated technological skills	9
	EE5	I feel that it does not require a lot of effort in making word-wall learning media	10
Social Influence	SI1	The people closest to me think I should use word-wall multi-modality learning media to teach	11
	SI2	Other elementary school teachers use web- based multi modal learning media when teaching	12
	SI3	Another elementary school teacher advised me to use word-wall multi-modality learning media	13
	SI4	In general, the school supports me in using word-wall multi modal learning media	14
	SI5	In general, students support me using web- based learning media	15
Facilitating Conditions	FC1	I have the equipment to use word-wall multi-modality learning media for teaching	16

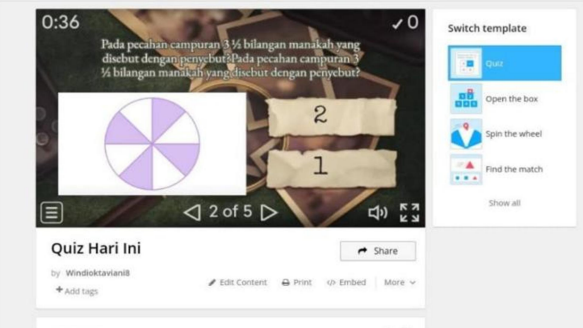
	FC2	There are teachers and a team that will help me even if I have difficulty using web- based multi-modality learning media	17
	FC3	Training is available on the use of web- based multi-modal learning media for elementary school teachers	18
	FC4	Schools have facilities to support the use of word-wall learning media	19
	FC5	The use of word-wall learning media is suitable for use in classroom learning	20
Behavioral Intention	BI1	I will continue to use word-wall multi-modality learning media to teach	21
	BI2	I will use word-wall multi-modality learning media when the situation and conditions allow	22
	BI3	I think most of my teaching will use web-based multi-modality learning media	23
	BI4	I feel the use of word-wall learning media will always help increase student involvement and participation in learning	24
	BI5	I will recommend word-wall 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 word-wall learning media	29
	IUH5	I am used to using word-wall learning media	30
Perceived Learning Opportunities	PLO1	Word-wall multi-modality learning media provides opportunities to teach in new ways	31
	PLO2	Word-wall multi-modality learning media provides opportunities to interact with students	32
	PLO3	Word-wall multi-modality learning media provides opportunities for creative thinking	33
	PLO4	Word-wall multi-modality learning media provides an opportunity to motivate students	34
	PLO5	Word-wall learning media provides more opportunities to improve competence	35
Hedonic Motivation	HM	I feel entertained when using learning media in learning	36

The data analysis technique employed is Partial Least Squares Structural Equation Modeling (PLS-SEM), a variant of Structural Equation Modeling (SEM) that is particularly useful for estimating complex relationships among observed and latent variables. PLS-SEM is chosen for its ability to handle models with multiple constructs and indicators, as well as its efficiency in estimating the validity, reliability, and significance of the constructs (Sholiha & Salamah, 2019; Kuntoro et al., 2019). PLS-SEM also serves as a robust tool for assessing the model's goodness-of-fit, as well as for pinpointing the key determinants that drive the adoption of Word-wall multimodal learning resources. Therefore, the study seeks to apply the UTAUT2 lens to gauge how elementary educators accept this platform; findings should clarify the forces shaping their intent to integrate new technologies in everyday instruction.

RESULTS AND DISCUSSION

Development of Word-wall Multi modality Learning Media

The outcomes of creating word-wall multi modal learning resources in the science curriculum (Plant Body Parts and Their Functions) for fourth-grade elementary school pupils were produced with Google Sites. Users can access this word-wall multi modal learning resource through the following link: https://wordwall.net/resource/91521301



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 word wall multi modality learning media.

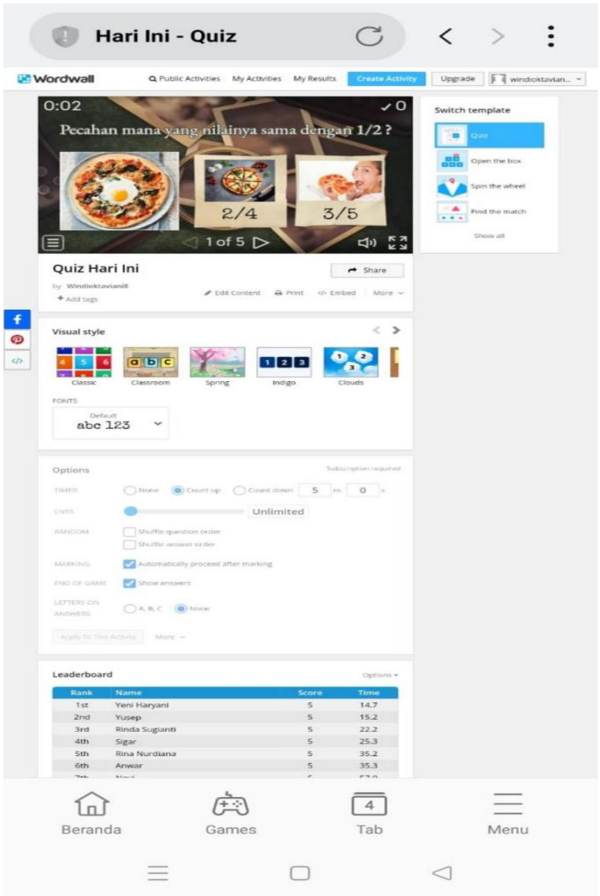


Figure 3. Material page display

On the material page, five media applications are showcased. The media showcased includes learning videos created with the Kine master application, podcasts made through the Spotify application, content delivered via the Prezi application, resources presented through the Hey zine flip books application, and info graphics regarding the material provided. In addition to the media employed for delivering the content, there are also media utilized on quiz pages and worksheets, specifically word wall applications and live worksheets. Subsequently, a discussion forum is available on the discussion page utilizing the pad-let application. On the assessment page, researchers employed the Prezzie Ed puzzle app as a means to gauge the attainment of educational goals.

The outcomes of the survey conducted among 100 elementary school teachers were subsequently analyzed using a software tool, specifically a component-based Structural Equation Model (SEM) or its variation known as Partial Least Square (PLS). SEM PLS is employed to assess the validity test, reliability test, and factors affecting elementary school teachers' acceptance of word wall multi modal learning media.

Table 2. Classification of Respondents

Characteristics	Amount	Percentage
Gender		
Man	34	32,38%
Woman	71	67,62%
Age (in years)		
20-30	24	22,86%
31-40	30	28,57%
41-50	18	17,14%
51-60	33	31,43%
Teaching Experience (in years)		
1-10	34	32,69%
11-20	44	42,31%
21-30	12	11,54%
31-40	14	13,46%
41-50	1	0,96%
Employment status		
Civil servant	53	53%
Non civil servants	47	47%
Education Strata		
S-1	105	99%
S-2	1	1%

Table 3. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Reliabilitas Komposit	Rata-rata Varians Diekstrak (AVE)
BI	0.843	0.863	0.895	0.683
EE	0.874	0.892	0.914	0.727
FC	0.875	0.879	0.914	0.727
FLO	0.917	0.924	0.942	0.802

HM	0.938	0.939	0.953	0.803
IUM	0.917	0.925	0.942	0.802
PE_	0.877	0.885	0.916	0.731
SI	0.855	0.860	0.903	0.700

Table 4. Validity Test

Variabel	AVE	Keterangan
Behavior Intention (BI)	0.683	Valid
Effort Expectancy (EE)	0.727	Valid
Facilitating Conditions (FC)	0.727	Valid
Hedonic Motivation (HM)	0.802	Valid
ICT Usage Habits (IUM)	0.803	Valid
Perceived Learning Opportunities (PLO)	0.802	Valid
Performance Expectancy (PE)	0.731	Valid
Social Influence (SI)	0.700	Valid

The table above shows that every variable has an Average Variance Extracted (AVE) value exceeding 0.5, demonstrating that the variables employed in this research are valid (Ningsi & Agustina, 2018).

The reliability assessment was conducted once all variables were confirmed valid. This reliability assessment was conducted by examining the Cronbach Alpha value > 0.60 and the composite reliability (Haris et al., 2019). Every variable presented in Table 5 is considered reliable as the values of Cronbach's Alpha and composite reliability exceed 0.60, making all variables suitable for use.

Table 5. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Information
Behavior Intention (BI)	0.843	0.895	Reliable
Effort Expectancy (EE)	0.874	0.914	Reliable
Facilitating Conditions (FC)	0.875	0.914	Reliable
Hedonic Motivation (HM)	0.917	0.942	Reliable
ICT Usage Habits (IUH)	0.938	0.953	Reliable
Perceived Learning Opportunities (PLO)	0.917	0.942	Reliable
Performance Expectancy (PE)	0.877	0.916	Reliable
Social Influence (SI)	0.855	0.803	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 (Bashir, 2020).

Besides assessing the validity and reliability, we also examine the path coefficient, significance level, and the goodness of the model created based on the analysis results and the path model.

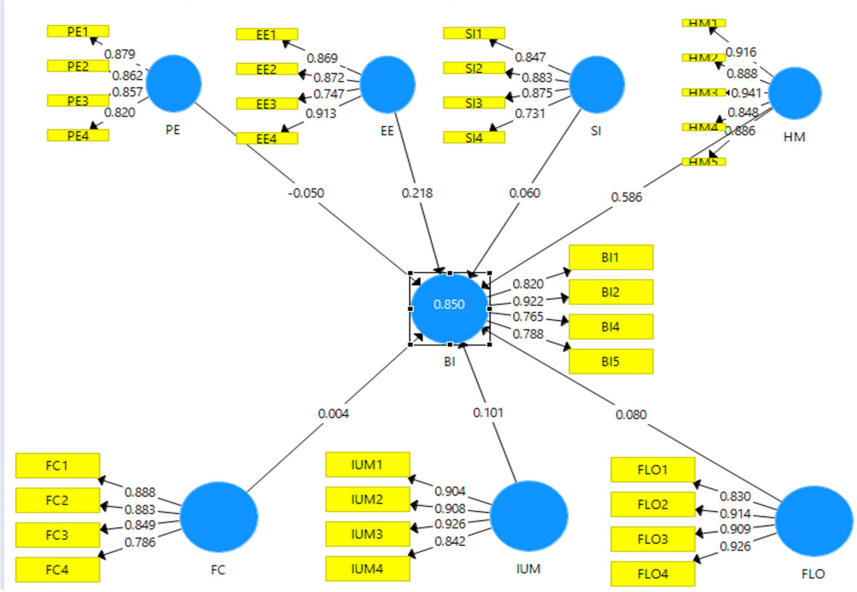


Figure 4. Path Analysis Results Model

From the results of the analysis carried out, it can be seen that the path coefficient of the data indicates that the contribution made in the acceptability of web-based multimodal learning media for elementary school teachers is as follows: performance expectancy of -0.050 units, effort expectancy of 0.218 units, social influence of 0.60 units, facilitating conditions of 0.004 units, hedonic motivation of 0.101 units, perceived learning opportunities of 0.080 units, and habits of 0.586 units.

In addition to knowing the path coefficient, we can also determine the significance level of the t statistic. According to Ringle, C. M., Wende, S., and Becker, J.-M. (2015), the value of the reflective construct indicator can be said to be valid if the resulting t-statistic value is > 0.179. Thus, it can be concluded that this variable is significant for the acceptability of Wordwall multimodal learning media for elementary school teachers. The level of significance obtained is as follows: performance expectancy is 0.998; effort expectancy is 3.126; social influence is 0.352; facilitating conditions is 0.998; hedonic motivation is 0.240; perceived learning opportunities is 0.188; and habit is 2.255.

The mean effort expectancy score of 3.126 indicates that ease of use significantly predicts elementary teachers acceptance of Wordwall as a multimodal learning tool. This result agrees with Arimbawa (2021), who reported that Wordwall increases both student motivation and academic performance.

CONCLUSION

Based on the research conducted and the results of data analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM), it can be concluded that the factors influencing teacher acceptance of the use of Wordwall multimodal learning media include Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Price Value, Hedonic Motivation, and Habits. All of these variables have undergone validity and reliability testing, and they are declared valid and reliable. In addition to testing the validity, reliability, path coefficients, and acceptability of the presented media, assessments were also conducted on the goodness of the developed model. Judging from the R-squared value, which is

greater than 0.26, it can be concluded that the web-based multimodal learning media is effective for use in elementary school education.

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