Reslaj: Religion Education Social Laa Roiba Journal
Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

Countzkey: Web Based Digital Learning Media Innovation For Special Journal Material For Grade XII Students at Senior High School 2 Bangkalan

Frizka Kinanti Ayyuza[1], Rochmawati[2]
[1,2]Universitas Negeri Surabaya
frizkakinanti.22009@mhs.unesa.ac.id[1], rochmawati@unesa.ac.id[2]

ABSTRACT

This study developed a web based digital learning media COUNTZKEY for special journal material for class XII Economics at SMAN 2 Bangkalan, using a Research and Development (R&D) approach with the ADDIE model. Based on the phenomenon of minimal variation in conventional teaching media and the demands of digital learning for generation Z, this study aims to describe the development process, test the feasibility of material, media, and language aspects through expert validation, and analyze student responses. Subjects included two material experts, one media expert, one language expert, and 20 class XII IPS students. The instruments in the form of a Likert scale validation sheet and a Guttman scale response questionnaire were analyzed descriptively percentage. Expert validation produced an average of 88.7% or the "very feasible" category. The results of material expert validation were 88.8%, media 86.3%, and language 90.9%. Meanwhile, student responses produced 89% or the "very feasible" category, indicating ease of access and increased learning motivation, in line with constructivism theory which emphasizes active learning through meaningful interactions with the digital environment. It can be concluded that the COUNTZKEY web platform is highly suitable for use as a learning tool for specialized journals, supporting student independence, and has the potential to be developed for other economics topics.

Keywords : COUNTZKEY, web platform, specialized journal, ADDIE, Google Site.

INTRODUCTION

The development of information and communication technology (ICT) in recent years has driven the transformation of learning towards a more dynamic, interactive, and flexible model through the use of the internet, mobile devices, and web based platforms (Mulyaningsih, Hendratno, & Subrata, 2023; Yanto, Waskito, Effendi, & Purwanto, 2023). The Industrial Revolution 4.0 era demands that education not only focus on content mastery, but also on developing 21st century skills such as critical thinking, creativity, collaboration, communication, and digital literacy so that graduates are able to adapt to changes in the world of work (Rizaldi, 2023; Maulida & Hardini, 2025). This demand is highly relevant to the characteristics of *generation Z*, who are accustomed to digital environments, prefer visual and interactive displays, and quickly become bored with conventional learning methods that lack variety (Umami & Adha, 2021; Pitri, 2023; Sari & Harti, 2024).

These changes in student characteristics place teachers as facilitators, required to be creative and innovative in utilizing technology to design meaningful learning experiences (Adini, 2021; Rahmadhani, 2023). Web based digital learning media is a potential alternative because it can integrate text, images, videos, and

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

interactive activities in one easily accessible platform (Mulyono & Ampo, 2020; Aviana, 2024). Several studies have shown that using Google Sites as a learning medium can increase student motivation and participation, especially when combined with digital quizzes and active learning models (Islanda & Darmawan, 2023; N. Rahmawati, 2023). The integration of quiz features such as Quizizz Wayground into a web based environment has also been reported to help students understand concepts more deeply through practice and direct feedback (Aprilya & Mariatun, 2024; Fadhillah & Khairani, 2024).

Despite this significant potential, preliminary studies at SMAN 2 Bangkalan show that economics learning, particularly for grade XII special journal materials, is still dominated by lecture methods with static and less varied media (Islamiah., 2023; N. Rahmawati, 2023; Fadhillah & Khairani, 2024). Special journal materials that require procedural and systematic understanding are difficult for some students to understand when presented only through oral explanations and textbooks, potentially decreasing engagement and motivation to learn (N. Rahmawati, 2023; Sari & Harti, 2024). On the other hand, teachers still face obstacles in the development and use of digital media due to limited training and infrastructure support, so that the use of ICT in economics learning is not yet optimal (Pitri, 2023; E. Rizaldi, 2023). This condition indicates the need for digital learning media innovation that is adaptive to student characteristics and curriculum needs in the school (Mulyaningsih, Hendratno, & Subrata, 2023; Rahmadhani, 2023).

Previous relevant research has shown that web based digital learning media is effective in increasing student participation and learning outcomes in various subjects, including economics and accounting (Mulyaningsih et al., 2023; Yanto, Waskito, Effendi, & Purwanto, 2023; Aprilya & Mariatun, 2024). Research developing Google Sites based media has shown increased motivation, learning independence, and ease of access to materials for students (Islanda & Darmawan, 2023; N. Rahmawati, 2023). However, most of these studies have not specifically examined media development for specialized journal materials at the high school level, particularly at SMAN 2 Bangkalan (Fadhillah & Khairani, 2024; Maulina & Susilowibowo, 2024). Furthermore, there are still limited studies that combine the Google Sites platform with interactive quiz features and a discovery learning approach to support specialized journal learning (Maulida & Hardini, 2025; Rahmadhani, 2023). This gap is the basis for the importance of developing interactive web based digital learning media that is contextual to the learning needs of economics subjects and accounting material at the school.

Based on these field conditions, this study developed a web based digital learning media called *COUNTZKEY* on special journal material for grade XII students of SMAN 2 Bangkalan with a Research and Development (R&D) approach using the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model systematically to produce valid and usable products (Branch, 2009; Mulyaningsih et al., 2023). *COUNTZKEY* was developed on the Google Sites platform with a presentation of conceptual material in special journals enriched with several

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

additional features such as modules, asynchronous rooms, meeting rooms, digital quizzes, other references that can be used as additional information regarding special journal material, as well as an attendance feature that can make it easier for teachers to check student attendance. These features are designed to be simple and easy to apply to smartphones so that they can be used by teachers and students easily both in class and independently (Islanda & Darmawan, 2023; N. Rahmawati, 2023). Specifically, this study aims to: (1) describe the process of developing interactive learning media assisted by the *COUNTZKEY* web on special journal material; (2) analyze the feasibility of the media from the aspects of material, media display, and language through expert validation; and (3) examine student responses to the use of *COUNTZKEY* media in learning special journal material. The results of this study are expected to contribute to the development of digital learning media in the field of education, especially for accounting learning and provide alternative media that are more interactive, in accordance with the characteristics of *generation Z* students, and easy to use for economics teachers.

LITERATURE REVIEW

The use of web based digital learning media is increasingly important in meeting the demands of 21st century learning, which emphasizes digital literacy, independent learning, and flexible access. Platforms like Google Sites enable the integration of text, images, videos, and interactive quizzes in a single environment, thus suiting the characteristics of *generation Z*, who are close to technology and quickly bored with conventional methods (Umami & Adha, 2021; Mulyaningsih et al., 2023). In the context of specialized journal material that is procedural and systematic, the use of web based media helps students understand the step by step of note taking (Maulina & Susilowibowo, 2024).

Various previous studies have shown that web media and Google Sites can improve motivation, participation, and learning outcomes in economics and accounting subjects (Islanda & Darmawan, 2023; N. Rahmawati, 2023). The presence of digital quizzes and interactive exercises provides rapid feedback, thus encouraging students to practice more actively, and makes it easier for teachers to monitor learning outcomes (Aprilya & Mariatun, 2024). However, studies specifically developing web media for special journal material at the high school level, particularly at SMAN 2 Bangkalan, are still limited, so contextual innovations such as the *COUNTZKEY* web media are needed (Fadhillah & Khairani, 2024).

Theoretically, the development of the *COUNTZKEY* web media is based on *constructivism theory*, which views learning as an active process of building knowledge through meaningful interactions with the digital environment (Sugiyono, 2013). This web media is used not only as a conveyor of information, but as a learning environment where students explore material, solve problems, and reflect on understanding through module features, quizzes, and discussion spaces. In this research, the development process follows the systematic ADDIE model. This research was conducted through a process of analysis, design, development,

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

implementation, and evaluation, so that the resulting product is tested in terms of content, appearance, and language through expert validation and student responses (Branch, 2009; Sugiyono, 2013).

RESEARCH METHODS

This research is a development research (*Research and Development* or *R&D*) that aims to produce and test the feasibility of *COUNTZKEY* web based digital learning media on special journal material for grade XII high school, with the ADDIE model (analysis, design, development, implementation, evaluation) as a development framework (Branch, 2009; Sugiyono, 2013; Mulyaningsih et al., 2023). Subjects were selected *purposively*, namely from two material experts (accounting lecturers and economics teachers of SMAN 2 Bangkalan), one media expert, one language expert, and 20 grade XII IPS students of SMAN 2 Bangkalan as respondents for the limited trial.

The validation instrument of the material expert uses *4 point likert scale* and includes components regarding the quality of content and objectives that assess the suitability to learning outcomes, completeness, balance, and sequence of materials, then the constructional quality that assesses learning opportunities and assistance, the ability to motivate and encourage critical thinking, and technical quality that assesses the readability of the language and displays contained in the media. Next, the validation instrument of the media expert that assesses the technical quality of the display, namely readability, typeface, color, layout, display quality and ease of use, then the instructional quality that assesses the opportunity to build knowledge and aid understanding, and the suitability of content and objectives. Next, the validation of the linguist focuses on the assessment of linguistic techniques in the media, namely straightforwardness, sentence effectiveness, and standardization of terms, as well as the communicative nature and motivating ability in the media, the suitability of the media to the development of students, and the consistency of terms, symbols, and icons.

The data from the expert validation data were then analyzed using descriptive statistics percentages to determine the feasibility category, with the feasibility value criteria if 81–100% is the "very feasible" category, 61–80% "feasible", 41–60% "quite feasible", 21–40% "less feasible", and <21% "not feasible" (Arikunto & Jabar, 2009). Meanwhile, for the student response questionnaire using the *guttman scale* (Yes/No), the percentage is interpreted in a similar category, where a score of ≥61% indicates the media is feasible to very feasible to use (Riduwan, 2013) in (N. D. Rahmawati & Susilowibowo, 2020).

RESULTS AND DISCUSSION

Results

This research resulted in the *COUNTZKEY* web based digital learning media, developed using the ADDIE model and undergoing needs analysis, design, development, limited trials, and feasibility evaluation. The media contains specialized

Reslaj: Religion Education Social Laa Roiba Journal
Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

journal materials, as well as features such as modules, digital quizzes, asynchronous spaces, and attendance features accessible via smartphone, thus supporting the characteristics of *generation Z* students who require flexible yet structured learning access. These findings align with previous research (Islanda & Darmawan, 2023; Mulyaningsih et al., 2023), which showed that we based digital learning media and Google Sites received high feasibility from experts and users and were easily accessible through digital devices. The following are the results of the experts assessment:

Table 1 Expert Validation Recapitulation Results

Number	Assessment Sub Components	Expert Presentation			Assessment Criteria
		Validator 1	Validator 2	Average	
1	Subject Matter Expert	87,5%	90,0%	88,8%	Very Feasible
2	Media Expert	86,3%	-	86,3%	Very Feasible
3	Language Expert	90,9%	-	90,9%	Very Feasible
Total Eligibility Percentage		**-**	**-**	**266,0%**	**-**
Total Average Eligibility				**88,7%**	**Very Feasible**

Data source: Researcher (2025)

From the expert validation results, the average feasibility score was 88.7%, which is categorized as "very feasible." This indicates that *COUNTZKEY* media has met the content, presentation, and language standards for use as a special journal learning medium. These results are consistent with previous studies *(Islanda & Darmawan, 2023; Mulyaningsih et al., 2023)*, which both reported expert assessments in the category of feasible to very feasible after going through the stages of analysis, design, development, implementation, and evaluation. The following are the results of student responses:

Table 2 Student Response Questionnaire Recapitulation Results

Number	Name	Class	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15
1	NAYLA PUTRI M.F	XII-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Siti Aulia Laila Qudri	XII-4	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
3	Rana Aida	XII-7	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
4	Gladies Meylinda	XII-4	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
5	Khaira Annisa Mulya	XII-4	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
6	Sonia Alia Hali	XII-4	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
7	Alyah	XII-7	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
8	Naufal	XII-7	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
9	Nelly Aisyah W	XII-7	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1
10	Keisya Thera Athena	XII-7	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
11	oktaviano suwarno putra	XII-7	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
12	siti rohillah	XII-7	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
13	Jihan Bulan Fadhilah	XII-1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
14	Anindya Fadiah Ahmad	XII-1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
15	Farah Nur Faizza	XII-1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
16	Nurul Istiqomah	XII-1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
17	Umayma Najia Nuha	XII-4	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
18	Husnul Hotimah	XII-1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
19	Talitha Syahla Prameswari	XII-1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1
20	DYAH AYU PURWANTI	XII-1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1
TOTAL ANSWERS OF "YES" FOR EACH QUESTION			20	19	20	20	20	6	19	20	8	20	20	19	19	19	19
TOTAL ANSWERS "YES" OVERALL			268														
Eligibility Percentage (Total score/ maximum score x 100%)			89%														

Data source: Researcher (2025)

Based on the recapitulation of the student response questionnaire, the percentage of student response eligibility was 89%, meaning it is categorized as "very

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

feasible." This data indicates that students consider the *COUNTZKEY* media to be easily accessible, interesting, and helpful for independent learning on specific journal materials. These feasibility results are consistent with the findings of previous researchers (Islanda & Darmawan, 2023; Mulyaningsih et al., 2023) which showed that web based digital learning media and Google Sites received high feasibility from experts and users and were easily accessible through digital devices. This confirms that the use of digital devices and interactive platforms in accounting learning effectively supports student understanding of the material and independent learning, in line with *constructivism theory* which emphasizes the active role of students in constructing knowledge through meaningful interactions with digital media.

Discussion

The development of the *COUNTZKEY* web media was conducted using an *R&D* approach and the ADDIE model, resulting in a valid web based digital learning medium suitable for use in special journal material for grade XII. The stages of needs analysis, content design, prototype development, limited implementation, and feasibility evaluation ensured the media suited the characteristics of *generation Z* students who require flexible learning access through digital devices.

In its classroom implementation, students used the module feature to build an initial understanding of the special journal concept, then took digital quizzes as reinforcement exercises, and utilized the asynchronous space feature to independently review example questions and discussions. This usage pattern aligns with constructivism theory, which emphasizes that knowledge is actively constructed through interaction with the learning environment and meaningful learning experiences, rather than simply receiving information. The *COUNTZKEY* media provided context, stimulus, and feedback that enabled students to construct their own understanding of the special journal recording procedure.

In terms of feasibility, this media has a "very feasible" category from experts, with an average of 88.7% and student responses of 89%, indicating that the combination of content, display, and interactivity in *COUNTZKEY* has supported students cognitive and affective needs. This finding is consistent with previous research (Islanda & Darmawan, 2023; Mulyaningsih et al., 2023) which showed that web based digital learning media and Google Sites with interactive features obtained high feasibility results and facilitated learning access through digital devices. Thus, the use of *COUNTZKEY* media is not only practically relevant but also theoretically strong because it implements the principles of constructivism and active learning in the context of technology based accounting learning.

CONCLUSION AND SUGGESTIONS

The conclusion of this study departs from the aim to develop and test the feasibility of C*OUNTZKEY* web based interactive learning media on special journal material for grade XII students at SMAN 2 Bangkalan. The development process was carried out in stages using the ADDIE model, starting from analysis to identify

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

learning needs and problems, design to design content structure and web display, development to compile Google Sites based media, to implementation and evaluation through limited trials and review of expert validation results and student responses, so that *COUNTZKEY* media was produced that was ready to be used in special journal learning in class.

In terms of feasibility, the results of expert validation show that the *COUNTZKEY* web media is in the "very feasible" category. Material experts assessed by Accounting Education lecturers and economics teachers of SMAN 2 Bangkalan gave an average feasibility percentage of 88.8%, media experts 86.3%, and language experts 90.9%, so that the overall average reached 88.7% with the "very feasible" category. These findings indicate that the content of the material is in accordance with learning outcomes and is coherent, the media display is attractive and easy to operate, and the language used is quite clear, communicative, and in accordance with student characteristics, so that this *COUNTZKEY* media has fulfilled the content, display, and language aspects as a web based digital learning media.

Judging from user responses, a limited trial of 20 grade XII IPS students showed a total of 268 "Yes" answers from a maximum score of 300 or a percentage of 89% with a "very feasible" category. Students stated that the *COUNTZKEY* media helped understand special journal material, was easily accessible via internet connected devices, and made learning more interesting than conventional learning, in line with the principle of *constructivism* which emphasizes active learning through interaction with the digital environment. Thus, *COUNTZKEY* can be used as an alternative digital learning media for special journal material and has the opportunity to be further developed in economics subjects with other accounting related materials, or tested for its effectiveness on learning outcomes.

BIBLIOGRAPHY

Adini, N. A. S. (2021). Metode Bermain Peran; Meningkatkan Hasil Belajar Peserta Didik dalam Pembelajaran Akuntansi. *Jurnal Penelitian Pendidikan*.

Aprilya, A., & Mariatun, I. L. (2024). Pengembangan Multimedia Berbasis Google Sites dalam Meningkatkan Pemahaman Siswa pada Mata Pelajaran Ekonomi. *Nusantara: Jurnal Pendidikan Indonesia*, *4(4)*, 957–974.

Arikunto, S. , & Jabar, C. S. A. (2009). *Evaluasi Program Pendidikan : Pedoman Teoritis Praktis Bagi Mahasiswa Dan Praktisi Pendidikan*.

Aviana, D. (2024). Implementasi Keterampilan Abad 21 Dalam Pembelajaran Berbasis Media Teknologi Informasi dan Komunikasi di Sekolah Dasar. *Jurnal Pendidikan Dasar Perkhasa: Jurnal Penelitian Pendidikan Dasar*, *10*(2), 657–663. https://doi.org/10.31932/jpdp.v10i2.3595

Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer Science & Business Media.

Fadhillah, L., & Khairani, S. (2024). Game Cards Akuntansi Sebagai Inovasi Media Pembelajaran Akuntansi Berbasis Teknologi Digital Menuju Era Society 5.0. *Jurnal Inovasi Pembelajaran Dan Pendidikan Islam (JIPPI)*, *2(2)*, 72–80.

Volume 8 Nomor 2 (2026) 299 – 306 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v8i2.11134

Islamiah. (2023). Studi pendahuluan pembelajaran ekonomi di SMAN 2 Bangkalan.

Islanda, E. , & Darmawan, D. (2023). Pengembangan Google Sites sebagai media pembelajaran untuk meningkatkan prestasi belajar siswa. .

Maulida, R. , & Hardini, N. (2025). Media pembelajaran ekonomi berbasis digital.

Maulina, C. P., & Susilowibowo, J. (2024). Pengembangan Media Pembelajaran Interaktif Berbasis Web pada Materi Jurnal Penyesuaian Kelas XI Akuntansi di Sekolah Menengah Kejuruan. *EDUKATIF : Jurnal Ilmu Pendidikan*, *6*(4), 3786–3794. https://doi.org/10.31004/edukatif.v6i4.7427

Mulyaningsih, T., Hendratno, H., & Subrata, H. (2023). Literature Review: Development of Google Sites – Based Multimedia to Improve Elementary School Students' Reading Literacy. *International Journal of Emerging Research and Review*, *1*(4), 000045. https://doi.org/10.56707/ijoerar.v1i4.45

Mulyono, & Ampo, I. (2020). Pemanfaatan Media dan Sumber Belajar Abad 21 dalam Dunia Pendidikan di Indonesia. . *Jurnal Paedagogia*, *9(2)*, 99–110.

Pitri, D. (2023). Pengembangan Media Pembelajaran Interaktif Google Sites Pada Sub Materi Tata Nama Senyawa Hidrokarbon Kelas XI MIPA D. *Skripsi, Universitas Islam Kuantan Singingi.*

Rahmadhani, D. W. (2023). Pengaruh Model Pembelajaran Problem Based Learning (PBL) dan Gaya Kognitif Terhadap Hasil Belajar Akuntansi Siswa SMK Negeri 5 Palembang. *Jurnal Akuntansi*.

Rahmawati, N. (2023). Jenis Media Pembelajaran dan Relevansinya dalam Pembelajaran Modern.

Rahmawati, N. D., & Susilowibowo, J. *PENGEMBANGAN MEDIA PEMBELAJARAN INTERAKTIF BERBASIS LECTORA INSPIRE PADA MATERI LAPORAN HARGA POKOK. Jurnal Teknologi Pendidikan* (Vol. 13).

Rizaldi, A. F. (2023). Pengembangan media pembelajaran komputer akuntansi berbasis google sites. *Diploma Thesis, Universitas Negeri Malang.*

Sari, T. A., & Harti, H. (2024). Implementasi Media Pembelajaran Berbasis Google Sites untuk Meningkatkan Hasil Belajar Kognitif Mata Pelajaran Akuntansi Dasar. *AFEKSI INDONESIA.*

Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R &D*.

Umami, S., & Adha, R. (2021). Generasi Z dan transformasi pendidikan.

Yanto, R., Waskito, W., Effendi, H., & Purwanto, W. (2023). Development of Web-Based Learning Media Using Google Sites in Vocational High School Informatics Subjects. *Journal of Vocational Education Studies*, *6*(1), 11–24. https://doi.org/10.12928/joves.v6i1.8027