"Enjoylish Adventure" Learning Media Based on Construct 2 Improves English Learning Outcomes of Fourth Grade Elementary School

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Abstrak

Guru kesulitan dalam menciptakan media pembelajaran untuk bahasa Inggris sehingga berdampak pada hasil belajar bahasa inggris yang rendah. Berdasarkan hal tersebut tujuan penelitian ini yaitu untuk mengembangkan Media Pembelajaran "Enjoylish Adventure" Berbasis Construct 2 untuk pembelajaran Bahasa Inggris kelas IV Sekolah Dasar. Jenis penelitian ini yaitu pengembangan dengan menggunakan model ADDIE. Subjek penelitian ini yaitu ahli media pembelajaran dan ahli isi pembelajaran. Subjek uji coba penelitian ini yaitu berjumlah 25 siswa. Metode yang digunakan dalam mengumpulkan data yaitu wawancara, kuesioner, obervasi, dan tes. Instrumen pengumpulan data menggunakna lembar kuesioner dan soal tes. Teknik analisis data menggunakan teknik analisis data berupa kualitatif, kuantitatif, dan statistik inferensial. Hasil penelitian yaitu penilaian yang diberikan oleh ahli materi bahasa Inggris diperoleh skor sebesar 94% (sangat valid) dan ahli media pembelajaran yaitu 90% (sangat valid). Hasil respon guru diperoleh persentase skor sebesar 100% (sangat praktis) dan respon siswa yaitu 87,9% (sangat praktis). Hasil uji-t menunjukan terdapat perbedaan hasil belajar siswa setelah menggunakan media petualangan enjoylish. Hasil uji n-gain juga menunjukan pada kelompok kecil mendapatkan kategori tinggi dan pada kelompok besar mendapatkan kategori cukup. Berdasarkan hasil analisis data maka dapat disimpulkan bahwa Media Pembelajaran "Enjoylish Adventure" Berbasis Construct 2 efektif digunakan untuk meningkatkan hasil belajar siswa.

Kata Kunci: Media Pembelajaran, Construct 2, Hasil Belajar, Bahasa Inggris

Abstract

Teachers need help creating learning media for English, resulting in low English learning outcomes. Based on this, this research aims to develop "Enjoylish Adventure" Learning Media Based on Construct 2 for English language learning for fourth-grade elementary schools. This type of research is designed using the ADDIE model. The subjects of this research are learning media experts and learning content experts. The test subjects for this research were 25 students. The methods used to collect data are interviews, questionnaires, observations and tests. Data collection instruments use questionnaire sheets and test questions. Data analysis techniques use data analysis techniques in the form of qualitative, quantitative and inferential statistics. The results of the research, namely the assessment given by English language material experts, obtained a score of 94% (very valid) and learning media experts, namely 90% (very valid). The results of the teacher's response obtained a percentage score of 100% (very practical), and the student response was 87.9% (very practical). The t-test results show differences in student learning outcomes after using enjoylish adventure media. The results of the n-gain test also show that the small group got the high category and the large group got the sufficient category. Based on the results of data analysis, it can be concluded that the "Enjoylish Adventure" Learning Media Based on Construct 2 is effectively used to improve student learning outcomes.

Keywords: Learning Media, Construct 2, Learning Outcomes, English.

1. INTRODUCTION

English learning in elementary school aims to introduce students to the basics of language needed to communicate effectively in a global context. English learning activities begin with the introduction of basic vocabulary and simple phrases that are relevant to children's daily lives such as greeting, giving instructions, and describing objects (Century et al., 2020; Nurkilah, 2021; Wardani & Munir, 2023).English learning in elementary schools places more emphasis on developing listening and speaking skills (Marhamah & Mulyadi,

2013; Megawati & Utami, 2020; Pravitasari & Yulianto, 2018).In learning, students are invited to listen to simple conversations and participate in short dialogues with classmates and teachers. Learning activities such as role-playing can also broaden students' understanding of English-speaking culture and develop confidence in using English (Nadhif, 2019; Saidah et al., 2021; Saraswati et al., 2020).In addition, basic aspects such as writing the alphabet, letter recognition, and reading short words are introduced in an effort to build a strong foundation in reading and writing skills in English (Bayu & Wahyuni, 2019; Rokhman & Ahmadi, 2020).Learning English in primary schools not only prepares students to understand and communicate in an international language, but also helps them develop interpersonal skills and cross-cultural understanding that are important in today's global context (Annisa et al., 2018; Nurvrita, 2020; IMY Pratama et al., 2019).This is what causes teachers to have to design fun learning activities and require supporting learning media.

However, previous research findings revealed that many teachers still have difficulty creating learning media for English (Dartiara et al., 2021; Nasution et al., 2021; Suwastini et al., 2021).Other research also states that the lack of learning media that facilitates students in learning also has an impact on low English learning outcomes (Alobaid, 2020; Cahyana, 2020; Jao et al., 2022). The results of observations and interviews conducted in di SDN Sadeng 01 also found problems in learning English. Based on the results of interviews with class teachers at SDN Sadeng 01, it was found that students still had difficulty in understanding English material because during learning activities it only came from conventional books and the LKS books used were still incomplete and attracted students' attention, they were still black and white. In addition, another problem was that there was no educational game learning media during the learning process. The results of the data analysis showed that only 40% of students completed and 60% of the total 25 students did not complete the learning with a KKM score of 60. This shows that students need help to improve their English language skills. Theoretical learning approaches are often considered less effective, considering that children tend to be more interested in playing activities than conventional learning (Kim & Kim, 2018; Nadhif, 2019; Ratminingsih, 2018).Therefore, an innovative learning approach is needed to arouse children's interest in learning English. Based on these problems, the solution offered is to use innovative digital-based learning media that facilitates students in learning.Along with technological advances, the demand for games tends to increase and the use of games in the world of education is increasing (Lara & Calero, 2020; Li et al., 2021; Troussas et al., 2020).This shows the effectiveness of games as an interesting learning medium. The experimental learning process can be supported by the results of entertaining environmental interactions through computer-based educational games (Kamid et al., 2021; Widiyanto & Yunianta, 2021).In order to simplify and provide differences in the teaching and learning process, e-learning is needed, one of which can use educational games. This is supported by previous findings which state that animations that have a long-term storage of learning materials are the advantages of educational games compared to conventional methods (Melati et al., 2023; Oktafiyana & Septiana, 2021; Putri et al., 2020).One of the digital media that can be used in learning English is the "Enjoylish Adventure" Learning Media Based on Construct 2.

Media is a component in the learning system and is an integral part and must be in accordance with the learning process as a whole (Humairah et al., 2020; Rahmadani & Taufina, 2020; Rejeki & Mukminan, 2020).The selection of media in learning activities is very important, so that it allows students to interact with the selected media. Media is a tool for conveying or delivering learning materials (Prasetyo et al., 2020; Septiani et al., 2020; Yuniarni et al., 2020).The media used in learning must be appropriate to the conditions of the school and students and the selection of media must be adjusted to the learning objectives (Nugroho & Arrosyad, 2020; Rahim et al., 2020; Sari et al., 2022)."Enjoylish Adventure"

Learning Media developed based on Construct 2.Construct 2 is one of the software used for educational game development. Construct 2 is a software used to create 2-dimensional games using HTML 5 and using an easy-to-learn programming language, because it is already set on the Even Sheet (Herawati et al., 2018; Nurhasnah et al., 2020).Web-based platforms that can be used to publish games include Google Chrome, Facebook, Firefox UC Browser, while mobile applications can be operated on Blackberry, Android Operating System, and iPhone. Previous research findings revealed that the aim of using media in the learning process is to make the learning process more effective and efficient, so it is important to use it in learning (Imron, 2022; Syafa et al., 2022; Zulbryanti et al., 2022).Other research also reveals that the aim of using learning media is to help teachers convey messages or lesson materials to students so that the messages are easier to understand, more interesting and more enjoyable for students (Hayya et al., 2022; Ihzani & Wulandari, 2022; Kesumaningtyas et al., 2022).However, there has been no study regardingLearning Media "Enjoylish Adventure" Based on Construct 2 for Elementary School English Learning. The advantages of Learning Media "Enjoylish Adventure" Based on Construct 2 are that it is adjusted to the characteristics of students and presents material by playing games so that it can increase students' enthusiasm for learning. Based on this, the purpose of this study is to develop Learning Media "Enjoylish Adventure" Based on Construct 2 for English learning for grade IV Elementary School.

2. METHODS

This type of research is Research and Development (R&D). The model used in developing the product is the ADDIE model which includes analysis, design, development, implementation, and evaluation (Sugiyono, 2018).At the analysis stage, competency analysis is carried out on students, student characteristics and learning materials. At the design stage, the activities carried out are formulating SMAR (specific, measurable, applicable, and realistic) learning objectives, compiling tests, and designing learning media "Enjoylish Adventure" Based on Construct 2. At the development stage, the development of learning media products "Enjoylish Adventure" Based on Construct 2 and product validity testing are carried out. At the implementation stage, small group and large-scale trials are carried out. At the evaluation stage, evaluations are carried out at each stage. The location of this research is SDN Sadeng 01 Jalan Kol Rw Sugiarto, Central Java Province. The subjects of this research are learning media experts and learning content experts. The subjects of this research trial are 25 fourth grade students of SDN Sadeng 01. The methods used in collecting data are interviews, questionnaires, observations, and tests. The interview method is used as a data collection technique by asking and answering questions with leaders or authorities or other parties directly related to the object being studied. The questionnaire method is used to collect data in the form of assessments given by experts, teachers and students, as well as collecting data on the needs of teachers and students. The observation method is used to determine the actual conditions at SDN Sadeng 01. The test method is used to measure student learning outcomes, especially student learning outcomes cognitively related to the assignment of learning materials in accordance with learning objectives. In this study, the researcher used a multiple-choice test technique. The data collection instrument used a questionnaire sheet and test questions. The questionnaire grid is presented in Table 1.

Table 1. The Research Questionnaire Grid

No	Aspect	Indicator
1	Layout design	Accuracy of background selection with material

No	Aspect	Indicator
		Accuracy of layout proportions
2	Text	Accuracy of font selection for easy reading
		The correct size of the letters for easy reading
		Text colour accuracy for easy reading
3	Picture	Image Composition
		Image size
		Image display quality
		Suitability of moving images to the material
		The attraction of moving images
		The accuracy of the Enjoylish Adventure learning game
		Accuracy of images in Enjoylish Adventure media
4	Audio	Accuracy of background sound selection
		Accuracy of sound effect selection
5	Use	User compatibility
		Flexibility (can be used guided and independently)
		Complete instructions for using learning media
		Display instructions for use
6	Navigation	Accuracy of use of navigation buttons
		Performance accuracy

The data analysis techniques used in this study are qualitative, quantitative, and inferential statistical data analysis techniques. Qualitative descriptive analysis is used to manage data in the form of input provided by experts, teachers and students regarding the "Enjoylish Adventure" learning media Based on Construct 2. Quantitative descriptive analysis is used to manage data in the form of scores given by experts, teachers, and students regarding the "Enjoylish Adventure" learning media Based on Construct 2. Inferential statistical analysis is used to test the effectiveness of the "Enjoylish Adventure" learning media Based on Construct 2 on the English Learning Outcomes of Grade IV Elementary School Students.

3. RESULTS AND DISCUSSION

Result

This study aims to develop a learning media "Enjoylish Adventure" Based on Construct 2 using the ADDIE model. The results of the study according to the flow stages are presented as follows. First, analysis. The results of the analysis are the problems experienced by students and teachers during the learning process, including teachers not providing additional materials, learning only using conventional methods, students getting bored, lack of interaction between teachers and students, students do not understand the material, so that student learning outcomes decline. The results of the data analysis showed that students had difficulty working on English questions because the material presented in books and LKS was still incomplete and uninteresting. With the provision of a KKM value of 60, it is low compared to other subjects, only 40% of students completed and 60% of the total 25 students did not complete. Based on these problems, this study proposes Construct 2 learning media as a solution to improve the learning outcomes of fourth grade students at SDN Sadeng 01. Second, the design stage. At this stage, first, formulate SMAR (specific, measurable, applicable, and realistic) learning objectives. Next, compile a test, where the test must be based on the learning objectives that have been formulated earlier. Then determine the appropriate media and

learning strategy to achieve these objectives. In addition, other supporting sources are also considered, such as relevant learning resources, what kind of learning environment it should be, and so on. The result of the design stage is the design of the "Enjoylish Adventure" learning media based on Construct 2 which has been adjusted to the characteristics of grade IV elementary school students. The learning material presented in the "Enjoylish Adventure" learning media based on Construct 2 is English.

Third, the development stage. At this stage, the development of the "Enjoylish Adventure" learning media based on Construct 2 was carried out based on the design that had been developed previously. The development steps include activities to select and determine the appropriate methods, media, and learning strategies to be used in delivering material in the learning process. The development of Construct 2 learning media goes through several stages of development, namely creating a concept, then creating a Construct 2 design. Next, collect the materials that will be used in Construct 2. The next step is the stage where all materials and materials are combined and arranged into a learning media. The results of product development are presented in Figure 1.

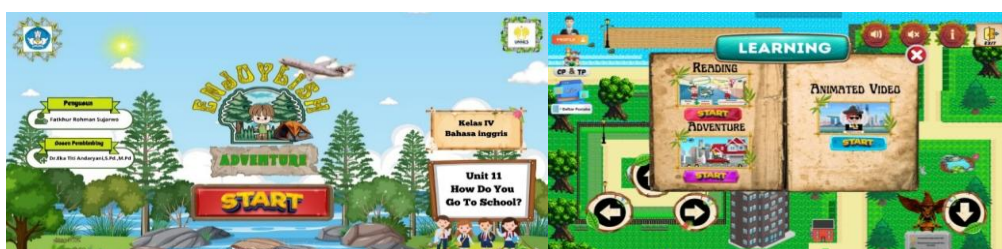**Figure 1.** The Development Results "Enjoylish Adventure" Learning Media Based on Construct 2

The "Enjoylish Adventure" Learning Media Based on Construct 2 that has been developed was then tested for validity by experts. The validity results given by the learning media experts obtained a percentage score of 90% with very valid criteria so that it can be used in learning. The assessment results given by the English material experts obtained a percentage with a score of 94% including the very valid category and can be used for the learning process. The results given by the media experts and learning material experts then obtained an average score with a percentage of 92%. Thus, the development of the enjoylish adventure media based on construct 2 can be applied to the learning process. The results of the validity and practicality tests are presented in Table 2.

Table 2. The Results of Validity and Practicality Tests

No	Validity	Mark	Category
1	Validity of Learning Material Experts	94%	Very Valid
2	Validity of Learning Media Experts	90%	Very Valid
3	Teacher's Response	100%	Very Practical
4	Student Response	87.9%	Very Practical

Fourth is implementation. The learning media is declared valid and feasible by the validator, then the next step is the duplication process which is adjusted to the amount needed and then implemented in the learning process in the classroom. The results of the teacher's response obtained a percentage score of 100% so that it gets a very practical category. Furthermore, small group and large-scale trials were carried out. At this stage,

the trial was carried out to determine the response of students and to be able to provide an assessment of the quality of the product being developed. This small group test was carried out on 6 fourth grade students of SDN Sadeng 01. The results of the student responses obtained were 87.9% so that they got a very practical category, so it can be concluded that the "Enjoylish Adventure" Learning Media Based on Construct 2 can be used in the learning process without revision. Fifth is evaluation. At this stage, an evaluation of the effectiveness of the Enjoylish adventure media product is carried out based on construct 2 on students. The last stage of the formative evaluation that needs to be carried out at this stage is of course the media that is developed or created is close to perfect after going through the first stage. This field trial was conducted on 19 fourth grade students of SDN Sadeng 01. Before the N-gain test was carried out, a data normality test was carried out. The results of the normality test are presented in Table 3.

Table 3. The Normality Test Results

		Shapiro Wilk		
	class	Statistics	df	Sig.
Learning Outcomes	Small group pre-test	0.960	6	0.817
	Small group post-test	0.837	6	0.122
	Large group pre-test	0.952	19	0.420
	Large group post-test	0.927	19	0.152

The results of the pre-test normality test on the small group obtained a significant value of 0.817, so 0.817 > 0.05, it can be concluded that the data is normal. The results of the post-test normality test on the small group obtained a significant value.0.122, so 0.122> 0.05, it can be concluded that the data is normal. The results of the pre-test normality test on the large group obtained a significant value of 0.420, so 0.420> 0.05, it can be concluded that the data is normal. The results of the post-test normality test on the large group obtained a significant value of 0.152, so 0.152> 0.05, it can be concluded that the data is normal. The t-test results show that in the small group, the significance value is 0.001 so that 0.001 <0.005 so that there is a difference in student learning outcomes before and after using the "Enjoylish Adventure" Learning Media Based on Construct 2. The t-test results show that in the large group, the significance value is 0.000 so that 0.000 <0.005 so that there is a difference in student learning outcomes before and after using the "Enjoylish Adventure" Learning Media Based on Construct 2. Furthermore, the n-gain test was carried out. The results of the n-gain test in the small group obtained a value of 0.7680 so that it was in the high category. The results of the n-gain test-Gain in the large group is 0.6045 so that it gets a sufficient category. Based on the results of data analysis, it can be concluded that the "Enjoylish Adventure" Learning Media Based on Construct 2 is effective for improving student learning outcomes. The results of the N-gain test are presented in Table 4.

Table 4. N-gain Test Results

No	Activities	N Gain	Gain %	Interpretation
1	Small scale product trial	0.7680	76.8%	High
2	Large scale product trial	0.6045	60.45%	Average

Discussions

The results of the data analysis show thatThe "Enjoylish Adventure" Learning Media Based on Construct 2 is suitable for use in learning, due to the following factors..

First,The "Enjoylish Adventure" Learning Media Based on Construct 2 is suitable for use in learning because it can improve student learning outcomes. This is in accordance with the purpose of using the media, namely to make the learning process effective and efficient (Bayu & Wahyuni, 2019; Wijaya et al., 2020).Other research also reveals that the aim of learning media is to provide stimulation to students which is intended to make students more interested in understanding learning material through tools or teaching materials that have been prepared, its function is to achieve the effectiveness of the learning process (Annisa et al., 2018; Faisal et al., 2020; Yuliastuti et al., 2020).The "Enjoylish Adventure" Learning Media Based on Construct 2 helps teachers in delivering learning materials to students. The use of the "Enjoylish Adventure" Learning Media Based on Construct 2 makes it easier for students to understand, more interesting and more enjoyable for students. Therefore, with the existence of the "Enjoylish Adventure" Learning Media Based on Construct 2, it can make it easier for students to understand learning materials, so that it has an impact on increasing student learning outcomes. Quality education through appropriate learning activities will help individuals understand themselves and their unique potential (Andaryani, 2019; Zahrik & Andaryan, 2023).

Second, the "Enjoylish Adventure" Learning Media Based on Construct 2 is suitable for use in learning because it can increase learning motivation.The use of media in learning aims to increase the effectiveness of the process of communicating information to students (Devi, 2020; Hayya et al., 2022).Media also helps teachers in delivering lesson materials in a way that is easier to understand, interesting and enjoyable for students (Damayanti & Qohar, 2019; Herawati et al., 2018).Packaging of "Enjoylish Adventure" Learning Media Based on Construct 2 using educational games. Educational games are games designed to stimulate the mind including improving the ability to focus and solve problems (Fahlevi & Yuliani, 2021; Juhaeni et al., 2023).Educational games are games that are developed for learning purposes and are not only used for entertainment, but these games can also increase knowledge (Fahlevi & Yuliani, 2021; Rozi & Khomsatun, 2019).Game-based learning interactions occur when knowledge, information and skills are academic, the game has learning objectives that must be achieved. Learning activities by playing this game make students more motivated in learning (Aulia & Noor Hasan, 2022; Pratama et al., 2019).Through educational games, users can learn while playing so that educational games can combine learning and playing.

Third, the Construct 2-Based "Enjoylish Adventure" Learning Media is suitable for use in learning because it can improve the learning atmosphere. The Construct 2-Based "Enjoylish Adventure" Learning Media is an innovation in education that combines elements of games and English learning interactively. By using this platform, the learning atmosphere can be significantly improved because of the more enjoyable and interesting learning experience for students (Hendrawan & Marlina, 2022; Rozi & Khomsatun, 2019)."Enjoylish Adventure" offers an immersive learning experience through games that are specifically designed to increase student engagement. Through interactive gameplay, students can be directly involved in learning activities, such as overcoming challenges, solving puzzles, or interacting with characters in English. This creates a more lively and exciting atmosphere, which can help students stay focused and engaged during the learning process (Pratama et al., 2019; Rokhman & Ahmadi, 2020). Previous research also revealed that game-based learning media can improve the fun learning atmosphere (Ariyanto et al., 2020; Sitorus & Santoso, 2022).Other research also reveals that game-based learning media can make it easier for students to understand learning materials, thereby improving student learning outcomes (Darmawan & Wahyudi, 2023; Sakdah et al., 2021).It is concluded that the "Enjoylish Adventure" Learning Media Based on Construct 2 is suitable for use in learning because it can improve student

learning outcomes. The advantage of this media is that through this game, teachers can include various English content, such as new vocabulary, grammar, or even cultural aspects related to English, thereby improving students' overall understanding. The limitation of this study is that the development of the media is only intended for grade IV elementary school students. The implications of the study are that the "Enjoylish Adventure" Learning Media Based on Construct 2presenting learning materials in a fun and challenging way, students are more likely to actively participate and experiment with their English. This helps create an environment where mistakes are seen as a natural part of the learning process, rather than as obstacles.

4. CONCLUSION

The results of the data analysis show thatEnjoylish adventure media based on construct 2 received very valid qualifications from experts. The results of the practicality test conducted on teachers and students also showed that Enjoylish adventure media based on construct 2 received very practical qualifications. The results of the t-test showed that there were differences in student learning outcomes after using Enjoylish adventure media based on construct 2. The results of the n-gain test also showed that the small group received a high category and the large group received a sufficient category. Based on the results of the data analysis, it can be concluded that the Construct 2-Based "Enjoylish Adventure" Learning Media is effective for improving student learning outcomes.

5. REFERENCES

Alobaid, A. (2020). Smart multimedia learning of ICT: role and impact on language learners' writing fluency— YouTube online English learning resources as an example. *Smart Learning Environments*, *7*(1). https://doi.org/10.1186/s40561-020-00134-7.

Andaryani, E. T. (2019). Pengaruh Musik Dalam Meningkatkan Mood Booster Mahasiswa The Effects Of Music In Improving Student's Mood Booster. *Musikolastika: Jurnal Pertunjukan Dan Pendidikan Musik*, *1*(2).

Annisa, N., Saragih, A. H., & Mursid. (2018). Pengembangan Media Pembelajaran Interaktif Pada Mata Pelajaran Bahasa Inggris. *Jurnal Teknologi Informasi dan Komunikasi dalam Pendidikan*, *5*(2). https://doi.org/10.24114/jtikp.v5i2.12599.

Ariyanto, L., Rahmawati, N. D., & Haris, A. (2020). Pengembangan Mobile Learning Game Berbasis Pendekatan Kontekstual Terhadap Pemahaman Konsep Matematis Siswa. *JIPMat*, *5*(1), 36–48. https://doi.org/10.26877/jipmat.v5i1.5478.

Aulia, W., & Noor Hasan, F. (2022). Rancang Bangun Game Edukasi Bahasa Sunda pada SDN Jatiwaringin XII. *Prosiding Seminar Nasional Teknoka*, *6*(2502), 8–14. https://doi.org/10.22236/teknoka.v6i1.427.

Bayu, G. W., & Wahyuni, L. G. E. (2019). Efektivitas Implementasi Strategi Enjoyable Learning Berbantuan Media Audio Visual Terhadap Hasil Belajar Bahasa Inggris Permulaan Peserta Didik Sekolah Dasar. *Jurnal Ilmiah Sekolah Dasar*, *3*(3), 335–341. https://doi.org/10.23887/jisd.v3i3.16015.

Cahyana, A. A. C. (2020). The use of Youtube Video in Teaching English for Foreign Langauge at Vocational High School. *Jurnal Pendidikan Bahasa Inggris*, *8*(2). https://doi.org/10.23887/jpbi.v8i2.3399.

Century, J., Ferris, K. A., & Zuo, H. (2020). Finding time for computer science in the elementary school day: a quasi-experimental study of a transdisciplinary problem-based learning approach. *International Journal of STEM Education*, *7*(1). https://doi.org/10.1186/s40594-020-00218-3.

Damayanti, P. A., & Qohar, A. (2019). Pengembangan Media Pembelajaran Matematika Interaktif Berbasis Powerpoint pada Materi Kerucut. *Kreano, Jurnal Matematika Kreatif-Inovatif*, *10*(2), 119–124. https://doi.org/10.15294/kreano.v10i2.16814.

Darmawan, D., & Wahyudi, W. (2023). Pengembangan Media Game Ular Tangga Berbasis Produk BARUNG untuk Meningkatkan Kreativitas Peserta Didik Sekolah Dasar. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, *6*(12), 10723–10729. https://doi.org/10.54371/jiip.v6i12.3420.

Dartiara, R., Suprihain, Y., & Yerni. (2021). Pengembangan Media Animasi Bahasa Inggris berbasis Islamic Content di TK NU Maarif 2 Metro. *Elementary: Jurnal Ilmiah Pendidikan Dasar*, *7*(2), 161–174. https://doi.org/10.32332/ejipd.v7i2.3101.

Devi, N. M. I. A. (2020). Pengembangan Media Pembelajaran Puzzle Angka untuk Meningkatkan Kemampuan Mengenal Lambang Bilangan. *Jurnal Ilmiah Pendidikan Profesi Guru*, *3*(3), 417–428. https://doi.org/10.23887/jippg.v3i3.28331.

Fahlevi, R., & Yuliani, A. (2021). Pengembangan Game Edukasi Cermat Berbasis Android Untuk Meningkatkan Keterampilan Problem Solving Siswa Sma Pada Materi Barisan dan Geometri. *Jurnal Pembelajaran Matematika Inovatif IKIP Siliwangi*, *4*(5), 1191–1204. https://doi.org/10.22460/jpmi.v4i5.1191-1204.

Faisal, A. H., Zuriyati, Nf., & Leiliyanti, E. (2020). Media Pembelajaran Menulis Puisi Berbasis Aplikasi Android Untuk Siswa Sma. *Kwangsan: Jurnal Teknologi Pendidikan*, *8*(1), 1. https://doi.org/10.31800/jtp.kw.v8n1.p1-18.

Hayya, S. F., Aqiella, & Widyasari, R. (2022). Pengembangan Media Pembelajaran Audio Berbasis Podcast Dengan Model ADDIE Pada Pembelajaran Bahasa Indonesia Materi Dongeng Untuk Siswa Kelas III SD. *EduStream: Jurnal Pendidikan Dasar*, *5*(2). https://doi.org/10.26740/eds.v5n2.p160-165.

Hendrawan, G. B., & Marlina, R. (2022). Persepsi Siswa Terhadap Penggunaan Game Edukasi Digital Pada Pembelajaran Matematika. *JPMI (Jurnal Pembelajaran Matematika Inovatif)*, *5*(2), 395. https://doi.org/10.22460/jpmi.v5i2.10288.

Herawati, A., Wahyudi, W., & Indarini, E. (2018). Pengembangan Media Pembelajaran Bangun Ruang Berbasis Discovery Learning dengan Construct 2 dalam Meningkatkan Kemampuan Pemecahan Masalah Matematika. *Jurnal Ilmiah Sekolah Dasar*, *2*(4), 396. https://doi.org/10.23887/jisd.v2i4.16157.

Humairah, N., Muchtar, Z., & Sitorus, M. (2020). The Development of Android-Based Interactive Multimedia for High School Students. *Advances in Social Science, Education and Humanities Research*, *488*, 113–119. https://doi.org/10.2991/assehr.k.201124.027.

Ihzani, Z.-, & Wulandari, F. E. (2022). Pengaruh Media Podcast Sains Sahabat di Era Pandemi Sebagai Teman Belajar IPA SMP terhadap Hasil Belajar Pasca Covid. *PENDIPA Journal of Science Education*, *6*(3). https://doi.org/10.33369/pendipa.6.3.793-799.

Imron. (2022). Penerapan Media Cerita Bergambar Untuk Meningkatkan Minat Belajar Sejarah Siswa Kelas Xi Ips-2 Man Kota Pasuruan. *SOCIAL: Jurnal Inovasi Pendidikan IPS*, *2*(4), 231–239. https://doi.org/10.51878/social.v2i4.1806.

Jao, C. Y., Yeh, H. C., Huang, W. R., & Chen, N. S. (2022). Using video dubbing to foster college students' English-speaking ability. *Computer Assisted Language Learning*, *35*(June), 1–23. https://doi.org/10.1080/09588221.2022.2049824.

Juhaeni, J., Cahyani, E. I., Utami, F. A. M., & Safaruddin, S. (2023). Pengembangan Media Game Edukasi dalam Meningkatkan Hasil Belajar Matematika Kelas III Siswa Madrasah Ibtidaiyah. *Journal of Instructional and Development Researches*, *3*(2), 58–66. https://doi.org/10.53621/jider.v3i2.225.

Kamid, Sofnidar, Septi, S. E., & Citra, Y. D. (2021). The contribution of the traditional game

of congklak to mathematics learning: How is the relationship and influence of interest, cooperative character and student responses. *Premiere Educandum: Jurnal Pendidikan Dasar dan Pembelajaran*, *11*(2), 280–295. https://doi.org/10.25273/pe.v11i2.9995.

Kesumaningtyas, S., Anjani, D. F., Yumerda, D., & Nugraha, D. (2022). Pengembangan Media Audio Berbasis Podcast dalam Pembelajaran Digital: Peran dan Kegiatan Ekonomi Masyarakat. *EDUKATIF : JURNAL ILMU PENDIDIKAN*, *4*(4). https://doi.org/10.31004/edukatif.v4i4.2896.

Kim, H. J., & Kim, B. H. (2018). Implementation of young children English education system by AR type based on P2P network service model. *Peer-to-Peer Networking and Applications*, *11*(6), 1252–1264. https://doi.org/10.1007/s12083-017-0612-2.

Lara, M., & Calero, M. (2020). Playing a Board Game to Learn Bioenergy and Biofuels Topics in an Interactive, Engaging Context. *Journal of Chemical Education*. https://doi.org/10.1021/acs.jchemed.9b00798.

Li, F.-Y., Hwang, G.-J., Chen, P.-Y., & Lin, Y.-J. (2021). Effects of a concept mapping-based two-tier test strategy on students' digital game-based learning performances and behavioral patterns. *Computers & Education*, *24*. https://doi.org/10.1016/j.compedu.2021.104293.

Marhamah, M., & Mulyadi, M. (2013). Jigsaw Cooperative Learning: A Viable Teaching-Learning Strategy? *Journal of Educational and Social Research*, *3*(7), 710–715. https://doi.org/10.5901/jesr.2013.v3n7p710.

Megawati, & Utami. (2020). English Learning with Powtoon Animation Video. *Journal of Education Technology*, *4*(2), 110. https://doi.org/10.23887/jet.v4i2.25096.

Melati, E., Dara Fayola, A., Putu Agus Dharma Hita, I., Muh Akbar Saputra, A., & Ninasari, A. (2023). Pemanfaatan Animasi sebagai Media Pembelajaran Berbasis Teknologi untuk Meningkatkan Motivasi Belajar. *Journal on Education*, *06*(01), 732–741. https://doi.org/10.31004/joe.v6i1.2988.

Nadhif, M. (2019). Pengembangan Multimedia Dalam Pembelajaran Kosakata Bahasa Inggris Di SD. *Cordova Journal : language and culture studies*, *9*(1), 52–71. https://doi.org/10.20414/cordova.v9i1.1776.

Nasution, A., Siddik, M., & Manurung, N. (2021). Efektivitas Mobile Learning Dalam Pembelajaran Bahasa Inggris Pada Sekolah Menengah Kejuruan. *Journal of Science and Social Research*, *4*(1). https://doi.org/10.54314/jssr.v4i1.470.

Nugroho, F., & Arrosyad, M. I. (2020). Learning Multimedia Development Using Articulate Storyline for Students. *International Journal of Elementary Education*, *4*(4), 575–579. https://doi.org/10.23887/ijee.v4i4.27763.

Nurhasnah, N., Kasmita, W., Aswirna, P., & Abshary, F. I. (2020). Developing Physics E-Module Using "Construct 2" to Support Students' Independent Learning Skills. *Thabiea : Journal of Natural Science Teaching*, *3*(2), 79. https://doi.org/10.21043/thabiea.v3i2.8048.

Nurkilah, S. (2021). Teaching English writing with fun to elementary students. *LADU: Journal of Languages and Education*, *1*(2), 59–66. https://doi.org/10.56724/ladu.v1i2.25.

Nurvrita, A. S. (2020). Otonomi Pembelajaran Bahasa Inggris Kampus Merdeka – Merdeka Belajar. *JPAK: Jurnal Pendidikan Agama Katolik*, *20*(2), 107–126. https://doi.org/10.34150/jpak.v20i2.282.

Oktafiyana, C., & Septiana, Y. A. (2021). Pengembangan Media Pembelajaran Interaktif Menggunakan Game Educandy dan Video Animasi Kinemaster dan Animaker pada Pembelajaran Pengenalan Kosakata Anggota Tubuh dan Panca Indera beserta Fungsi dan Cara Perawatannya. *Edustream : Jurnal Pendidikan Dasar*, *5*(2), 166–174.

https://doi.org/10.26740/eds.v5n2.p166-174.

Prasetyo, G., Hidayatullah, M. F., Akhyar, M., Wiranto, & Perdana, R. (2020). Strengthening Students' Character Through Multimedia Learning In Primary Schools Education: Systematic Literatur. *Humanities & Social Sciences Reviews*, 8(3), 268–277. https://doi.org/10.18510/hssr.2020.8328.

Pratama, I. M. Y., Sindu, I. G. P., & Santyadiputra, G. S. (2019). Pengembangan Aplikasi Virtual Reality Mengenal Macam-Macam Benda Di Sekitar Rumah Dalam Bahasa Inggris (Studi Kasus : SD Cerdas Mandiri Denpasar). *Kumpulan Artikel Mahasiswa Pendidikan Teknik Informatika (KARMAPATI)*, 8(3), 544–553. https://doi.org/10.23887/karmapati.v8i3.21695.

Pratama, L. D., Lestari, W., & Bahauddin, A. (2019). Game Edukasi: Apakah membuat belajar lebih menarik? *At- Ta'lim : Jurnal Pendidikan*, 5(1), 39–50. https://doi.org/10.36835/attalim.v5i1.64.

Pravitasari, S. G., & Yulianto, M. L. (2018). Penggunaan Multimedia Interaktif Dalam Pembelajaran Bahasa Inggris (Studi Kasus Di SDN 3 Tarubasan Klaten). *Profesi Pendidikan Dasar*, 1(1), 37. https://doi.org/10.23917/ppd.v1i1.3825.

Putri, A., Kuswandi, D., & Susilaningsih, S. (2020). Pengembangan Video Edukasi Kartun Animasi Materi Siklus Air untuk Memfasilitasi Siswa Sekolah Dasar. *JKTP: Jurnal Kajian Teknologi Pendidikan*, 3(4), 377–387. https://doi.org/10.17977/um038v3i42020p377.

Rahim, A., Hamdi, S., & Arcana, I. N. (2020). Developing Bilingual Learning Multimedia in Integral Application Learning Material For Vocational School. *Al-Jabar : Jurnal Pendidikan Matematika*, 11(2), 201–210. https://doi.org/10.24042/ajpm.v11i2.6816.

Rahmadani, & Taufina. (2020). Pengembangan Multimedia Interaktif Berbasis Model Problem Based Learning (PBL) Bagi Siswa Sekolah Dasar. *Jurnal Basicedu*, 4(4), 938–946. https://doi.org/10.31004/BASICEDU.V4I4.465.

Ratminingsih, N. (2018). Implementasi Board Games dan Pengaruhnya Terhadap Hasil Belajar Bahasa Inggris. *Jurnal Ilmu Pendidikan*, 24(1). https://doi.org/10.17977/um048v24i1p19-28.

Rejeki, W. Y., & Mukminan, M. (2020). Development of Multimedia Learning Geography Based on Adobe Flash to Increase Students' Curiosity. *Geosfera Indonesia*, 5(3), 318. https://doi.org/10.19184/geosi.v5i3.14765.

Rokhman, N., & Ahmadi, F. (2020). Pengembangan Game Edukasi si Gelis Berbasis Android Untuk Meningkatkan Kosakata Bahasa Inggris Siswa. *Edukasi*, 14(2), 166–175. https://doi.org/10.15294/edukasi.v14i2.27477.

Rozi, F., & Khomsatun, K. (2019). Rancang Bangun Game Edukasi Pengenalan Warna Untuk Pendidikan Anak Usia Dini Menggunakan Adobe Flash Berbasis Android. *JIPI (Jurnal Ilmiah Penelitian dan Pembelajaran Informatika)*, 4(1), 12. https://doi.org/10.29100/jipi.v4i1.781.

Saidah, A., Budiman, M. A., & Wijayanti, A. (2021). Analisis Pelaksanaan Pendidikan Karakter Dalam Pembelajaran Bahasa Inggris Siswa Kelas IV SD Bilingual Muhammadiyah 1 Purwodadi. *Wawasan Pendidikan*, 1(2). https://doi.org/10.26877/wp.v1i2.8723.

Sakdah, M. S., Prastowo, A., & Anas, N. (2021). Implementasi Kahoot Sebagai Media Pembelajaran Berbasis Game Based Learning Terhadap Hasil Belajar dalam Menghadapi Era Revolusi Industri 4.0. *Edukatif : Jurnal Ilmu Pendidikan*, 4(1), 487–497. https://doi.org/10.31004/edukatif.v4i1.1845.

Saraswati, W., Budiman, M. A., & Rahmawati, I. (2020). Pembelajaran Bahasa Inggris Di SD Negeri Petompon 01 Semarang. *Jurnal Sekolah*, 4(4). https://doi.org/10.24114/js.v4i4.20616.

Sari, P., Ni Ketut Srie Kusuma, W., & Ni Made, M. (2022). Multimedia-Assisted Genrative Learning Model Towards Ipa Learning Satisfaction In Students Of Grade Iv Elementary School Achievement School Year 2020/2021. *Adi Widya: Jurnal Pendidikan Dasar*, *7*(I), 38–45. https://doi.org/10.25078/aw.v7iI.777.

Septiani, A. N. S., Rejekiningsih, T., Triyanto, & Rusnaini. (2020). Development of Interactive Multimedia Learning Courseware to Strengthen Students' Character. *European Journal of Educational Research*, *9*(3), 1267–1279. https://doi.org/10.12973/eu-jer.9.3.1267.

Sitorus, D. S., & Santoso, T. N. B. (2022). Pemanfaatan Quizizz Sebagai Media Pembelajaran Berbasis Game Pada Masa Pandemi Covid-19. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, *12*(2), 81–88. https://doi.org/10.24246/j.js.2022.v12.i2.p81-88.

Sugiyono, P. D. (2018). *Metode Penelitian Kuantitatif, Kualitatif, Kombinasi dan R D*. CV Alfabeta.

Suwastini, N. K. A., Nalantha, I. M. D., & Dantes, G. R. (2021). The effectiveness of Google Classroom media in teaching English for Tourism at a Tourism and Business Institute. *IJEE (Indonesian Journal of English Education)*, *8*(2), 259–280. https://doi.org/10.15408/ijee.v8i2.21932.

Syafa, I. P., Putri, M., Setiawati, N. Z. E., & Marini, A. (2022). Pengaruh Media Pembelajaran Literasi Berbasis E-Modul Terhadap Pembentukan Karakter Siswa Sekolah Dasar (Studi Literatur). *Jurnal Pendidikan Dasar dan Sosial Humaniora*, *2*(2), 313–328. https://doi.org/10.53625/jpdsh.v2i2.4228.

Troussas, C., Krouska, A., & Sgouropoulou, C. (2020). Collaboration and fuzzy-modeled personalization for mobile game-based learning in higher education. *Computers & Education*, *144*. https://doi.org/10.1016/j.compedu.2019.103698.

Wardani, A. D., & Munir, A. (2023). Teachers' Perspective towards Using the "Lets View" Application as Innovative Learning Media for Elementary Students in English Foreign Language Classroom. *JTP - Jurnal Teknologi Pendidikan*, *25*(1), 1–14. https://doi.org/10.21009/jtp.v25i1.32336.

Widiyanto, J., & Yunianta, T. (2021). Pengembangan Board Game TITUNGAN untuk Melatih Kemampuan Berpikir Kreatif Matematis Siswa. *Mosharafa: Jurnal Pendidikan Matematika*, *10*(3). https://doi.org/10.31980/mosharafa.v10i3.997.

Wijaya, S. N., Johari, A., & Wicaksana, E. J. (2020). Pengembangan Media Pembelajaran Komik Digital Berbasis Karakter Hero Indonesia pada Materi Sistem Peredaran Darah. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, *4*, 67–78. https://doi.org/10.32502/dikbio.v4i2.2582.

Yuliastuti, S. M., Kurniah, N., & Ardina, M. (2020). Penerapan Metode Latihan Dengan Menggunakan Media Audio Visual Dalam Tari Kreasi Untuk Meningkatkan Motorik Kasar Pada Kelompok B. *Jurnal Ilmiah Potensia*, *5*(1), 25–30. https://doi.org/10.33369/jip.5.1.25-30.

Yuniarni, Sari, & Atiq. (2020). Pengembangan Multimedia Interaktif Video Senam Animasi Berbasis Budaya Khas Kalimantan Barat. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *4*(1). https://doi.org/10.31004/obsesi.v4i1.331.

Zahrik, N. A., & Andaryani, E. T. (2023). Kurikulum Berbasis Budaya untuk Sekolah Dasar: Menyelaraskan Pendidikan dengan Identitas Lokal. *Pedagogika: Jurnal Ilmu-Ilmu Kependidikan*, *3*(2). https://doi.org/10.57251/ped.v3i2.1124.

Zulbryanti, A. C., Wahyudi, W., & Nurhidayah, D. A. (2022). Ropitri: Media Pembelajaran Matematika Materi Trigonometri Untuk Meningkatkan Motivasi Belajar Siswa. *EDU-MAT: Jurnal Pendidikan Matematika*, *10*(2), 300. https://doi.org/10.20527/edumat.v10i2.14160.