DEVELOPMENT OF AR MEDIA FOR TURONGGO YAKSO DANCE TO IMPROVE ELEMENTARY SCHOOL STUDENTS' UNDERSTANDING OF HUMAN MOTOR SYSTEM CONCEPTS

[1]Novenntya Putri Prastiwi Nurrochma, [2]Surayanah
Program Studi Pendidikan Guru Sekolah Dasar, Universitas Negeri Malang
[1]novenntya.putri.2201516@students.um.ac.id, [2]surayanah.fip@um.ac.id

ABSTRACT

Teaching IPAS on the human musculoskeletal system in elementary schools still faces challenges in visualizing abstract joint concepts. This research seeks to produce augmented reality-based learning media that integrates the Turonggo Yakso dance as local wisdom to improve students' conceptual understanding. This research was designed as a development study adopting the ADDIE framework, which comprises the phases of needs analysis, product design, development, implementation, and evaluation. The analysis stage revealed the need for interactive visual media to aid understanding of joint concepts. The design stage produced an AR media design that visualizes dance movements as a representation of the human musculoskeletal system. In the development stage, the media was declared highly valid and practical based on expert and user validation results. The application of media to sixth-grade students at SDN 1 Surodakan showed a substantial difference between pretest and posttest results, as indicated by the Wilcoxon Signed Rank test ($p \leq 0.05$). The evaluation stage showed an average N-Gain of 0.83, which falls within the high-improvement classification. Therefore, Augmented Reality learning media that integrate Turonggo Yakso Dance have been proven effective in enhancing elementary school students' comprehension of the human movement system.

Keywords: AR, Turonggo Yakso Dance, Conceptual Understanding, Elementary School

INTRODUCTION

Science and Social Studies Education (IPAS) in the Merdeka Curriculum requires integrative learning: linking scientific and social concepts to local culture to create contextual, meaningful learning for students. This approach not only enriches the content of knowledge but also develops students' holistic understanding of interrelated natural and social phenomena. (Sukiastini et al., 2024; Sumarni et al., 2024). Within an ethnopedagogical framework, integrating local wisdom into IPAS learning enables students to relate scientific concepts, such as the human movement system, to local cultural activities, thereby increasing students' relevance and engagement with the material. (Nuralifah et al., 2025).

Conceptually, science as a component of IPAS has two main dimensions. Firstly, as an outcome (a compilation of data, notions, laws, and frameworks) and science as a procedure (scientific skills such as observation, classification, experimentation, and concluding). A

comprehensive understanding of these two dimensions encourages students to view science not merely as memorizing facts, but as a continuous process of exploration. To form strong concepts, visualization and exploratory experiences are crucial; interactive learning media play a crucial role in strengthening students' conceptualization of abstract material, such as the structure and function of joints in the human musculoskeletal system. (Rosmaria & Mairisiska, 2024).

Field conditions at SDN 1 Surodakan indicate that conventional media (textbooks, static images, simple cardboard/straw models) are still predominantly used, which are less effective at visualizing the dynamics of movement and joint function. As a result, many students have difficulty understanding the types and functions of joints when the material is presented verbally or in two dimensions, and show a decline in concentration when the material is abstract without dynamic visual support. These results reinforce previous research findings regarding the limitations of 2D media in teaching physical movement to elementary school children. (Zahroni & Mahariani, 2021; Fearne & Hook, 2023)

Advances in learning technology provide relevant alternatives: interactive digital media such as flipbooks, digital comics, 3D multimedia, and especially Augmented Reality (AR) can visualize abstract concepts as three-dimensional objects for exploration. Recent research shows that AR improves concept understanding and learning motivation because the content is presented visually, interactively, and contextually. (Rahmadhani & Helsa, 2025). With AR, aspects of movement that have been difficult to observe can be reconstructed and directly linked to biological functions, thereby facilitating student understanding.

A needs analysis at SDN 1 Surodakan, based on teacher interviews, learning observations, and student questionnaires, underscores the urgency of developing AR-based media. Questionnaire data show that the majority of students (90%) stated that they were more interested and found the material easier to understand when presented through interactive digital media; however, 60% felt that textbooks were incomplete, and 70% felt bored with conventional worksheets. This confirms that the effectiveness of learning media is determined not only by the information content but also by its appeal and kinesthetic aspects (Siki & Leba, 2025).

In addition to technical and cognitive aspects, the integration of local cultural elements strengthens the learning context. Local cultural diversity can facilitate the internalization of

scientific concepts because students learn through familiar cultural experiences. (Hulwah & Suriani, 2025). Turonggo Yakso dance, as one of the traditional arts of Trenggalek Regency, is well known within the school community and features a variety of body movements that illustrate joint functions and human movement patterns. The use of local dance as an ethnopedagogical teaching material can enhance the meaning of learning while fostering a love of culture. (Kurniawan & Suprayitno, 2024).

Based on pedagogical needs that emphasize the importance of visualization and exploratory activities, the prospective value of Augmented Reality (AR) technology in concretely presenting abstract concepts, and the urgency of culture through the application of ethnopedagogy in line with the local context, this research seeks to create AR-based learning media that integrates the local wisdom of the Turonggo Yakso dance to improve elementary school students' understanding of the human movement system. This approach is expected to bridge scientific concepts and cultural experiences, making IPAS learning more contextual, engaging, and effective. (Hermawan & Hadi, 2024).

LITERATURE REVIEW

Learning media are a means of conveying messages from teachers to students to stimulate students' attention, interest, and understanding of the learning process. (Zaharah et al., 2024). Digital learning media is a relevant alternative for elementary school students who are digital natives. AR is a technology that integrates virtual objects with the real world, allowing users to interact with both simultaneously. (Sari et al., 2023). In science learning, AR can visualize abstract concepts, particularly the structure of human bones and joints, making them easier for students to understand (Syahbania et al., 2023). The Assemblr Edu platform is an educational AR platform that enables teachers to create interactive, contextually relevant 3D learning content. Conceptual understanding is the ability of students to explain, give examples, classify, compare, and conclude a concept (conceptual understanding indicators). Good conceptual understanding is the main objective of science learning because it allows students to apply concepts in their daily lives.

METHODOLOGY

This research employs a Research and Development (R&D) approach to develop AR learning media for human movement systems, grounded in the local culture of the Turonggo Yakso dance. The R&D method is widely used in educational research to develop and test the

feasibility of a learning product systematically. (Yuliani & Banjarnahor, 2021). The ADDIE model is effective for developing technology-based learning media, including AR. (Resnawati et al., 2023). The ADDIE model used in this study comprises five primary phases: analysis, design, development, implementation, and evaluation. (Aztera & Marhadi, 2025).

Analyze Stage. The analysis stage assesses learning requirements, student characteristics, and the suitability of the teaching materials to be developed. A needs analysis was conducted through observation, interviews, and the distribution of questionnaires to students in grades VIa and VIb at SDN 1 Surodakan. The aspects assessed in the student questionnaire were learning materials and media. Furthermore, the aspects of teacher interviews related to needs analysis included student conditions, learning, learning media, and learning support facilities.

The design stage is the planning stage for creating AR-powered learning media by integrating movement elements into the presentation of the Turonggo Yakso dance, visualizing human joint movements in the movement system material. The media was designed using Assemblr Edu to display a 3D model of the human skeleton and its moving joints, so that each type of joint can be observed directly in the context of local culture. At this stage, learning objectives, human movement system material, and media storyboards were compiled to establish the connection between dance movements and the types of joints involved. The material and content were adapted to the Merdeka Curriculum Phase C IPAS Understanding Element, making learning contextual and meaningful.

Development Stage. The development stage is executed by realizing the design into a complete AR learning media product. The developed media undergoes validation by three validators, specifically subject matter specialists, media specialists, and instrument testing specialists. Once validated, the product is then tested for practicality by subject teachers through a practicality questionnaire.

The indicators for subject matter expert validation are material suitability, material completeness, language suitability, sentence usage, and material presentation techniques. The indicators for media expert validation are language suitability, sentence usage, material presentation techniques, media appeal, and balanced proportions. Furthermore, the indicators for validating the test instruments are test suitability, material suitability, test type, test level, sentence usage, and communicativeness. The indicators for the subject teachers' practicality questionnaire are ease of use, clarity of language in the media, clarity of usage instructions, media

appeal, visual presentation of the media, use of core material, and ease of understanding the material. The assessment score recapitulation results were summed for each aspect. (Sugiyono, 2020)

$$Vah/pg = \frac{Tse}{Tsh} \times 100\%$$

The validity and practicality of the media are calculated using a percentage formula. The formula is used to calculate the media suitability percentage based on assessment results from validators and teachers. Tse is the score obtained from the assessment, while Tsh is the maximum possible score. The outcomes of the calculation are then converted into percentages to assess the media's validity and usability. The criteria for media validation and practicality are determined based on the assessment results. A percentage range of 81–100% is categorized as highly valid, indicating that the media can be used without revision. A percentage of 61–80% is categorized as valid and can be used with minor revisions. This categorization serves as the basis for decision-making on the viability of the developed learning media.

Implementation stage. The implementation stage was carried out by using AR media with sixth-grade students at SDN 1 Surodakan. The implementation included a small-scale trial involving five students and a larger-scale trial involving 30 students. Small-scale trials were conducted on five sixth-grade students with varying abilities and one classroom teacher to obtain initial input. After improvements were made, large-scale trials were conducted on 30 sixth-grade students. At this stage, students were given pre- and post-tests to assess their improvement in understanding the concepts. At this stage, students' understanding of the concepts learned is measured based on indicators of their ability to explain, give examples, compare, classify, and conclude through initial and final tests. The data obtained from the initial and final tests are then analyzed using several stages of statistical analysis as follows.

The initial stage of data analysis begins with testing for normality to assess the distribution of the research data. The Shapiro-Wilk test was chosen because the sample size was fewer than 50. The following formula expresses the Shapiro-Wilk test calculation.

$$W = \frac{\left(\sum_{i=1}^{n} a_i x_{(i)}\right)^2}{\sum_{i=1}^{n}(x_i - \bar{x})^2}$$

When the dataset deviates from normality, the analysis of differences between pretest and posttest scores is examined using the Wilcoxon Signed-Rank Test, a nonparametric method for paired samples. The Wilcoxon test formula is as follows.

$$Z = \frac{W - \mu_W}{\sigma_W}$$

The increase in students' conceptual understanding after the use of media was assessed using N-Gain scores.

$$N\ Gain = \frac{Skor\ Posttest - Skor\ Pretest}{Skor\ Ideal - Skor\ Pretest}$$

The improvement in students' conceptual understanding was quantified through the N-Gain formula. This formula compares the difference between the posttest and pretest scores to the maximum possible score. The N-Gain value obtained indicates the extent to which the learning media enhance students' conceptual comprehension. The interpretation of the N-Gain value is divided into three categories, namely high, moderate, and low. An N-Gain value ≥ 0.7 indicates a high increase in conceptual understanding, while a value between 0.3 and 0.7 indicates a moderate increase. This grouping served as a basis for assessing the effectiveness of learning media on students' conceptual comprehension.

Evaluation stage. The evaluation stage is conducted continuously throughout ADDIE to ensure that the AR Tari Turonggo Yakso learning media align with development objectives. At the analysis stage, evaluation focuses on the alignment between the results of the needs assessment, student characteristics, and learning materials used. In the design stage, evaluation centers on the suitability of the media design, concept comprehension indicators, and the integration of the Tari Turonggo Yakso movements with human movement system material. In the development stage, evaluation occurs through validation by material specialists, media specialists, and instrument testing specialists, with the validators' suggestions and input used as the basis for product revision. In the implementation stage, evaluation proceeds through media use trials to assess feasibility and ease of use in the classroom. A final evaluation was conducted to ensure that the developed learning media meet the validity, practicality, and effectiveness criteria, rendering them appropriate for IPAS learning.

RESULT AND DISCUSSION

This development research aims to produce AR learning media with the local wisdom of the Turonggo Yakso Dance to improve elementary school students' understanding of the human motion system concept. Media development is carried out in a structured manner following the ADDIE framework, which comprises the phases of analysis, design, development, implementation, and evaluation.

Analyze stage. The findings of the needs analysis show that IPAS learning, especially the human motion system material, still faces obstacles in terms of concept understanding. Students consider the material on joints abstract and challenging to understand when it is delivered only verbally or through two-dimensional media. Field findings indicate that most students require visual, interactive, and contextual learning media.

The outcomes of the needs assessment questionnaire indicate that 70% of students feel bored during IPAS learning, and 60% report that the textbook material is insufficient to aid their understanding. Conversely, 90% of students reported greater interest and that the material became more straightforward to comprehend when presented through interactive digital media. These findings are in line with the research by Mustafidah et al. (2025), which states that interactive visualization plays a crucial role in building students' understanding of science concepts in elementary school.

Design Stage. In the design stage, the AR media was designed to visualize the types and functions of joints through the movements of the Turonggo Yakso dance. The media design emphasized the connection between the human movement system concept and local cultural activities, enabling students to observe the application of scientific concepts in real life directly.

The media was designed in Assemblr Edu and includes a 3D model of the human skeleton that can be moved at specific joints, along with interactive dance videos to reinforce the ethnopedagogical context. This approach supports contextual and meaningful learning, as emphasized by Hulwah & Suriani (2025). Integrating local culture into science learning can enhance the relevance of the material and student engagement.
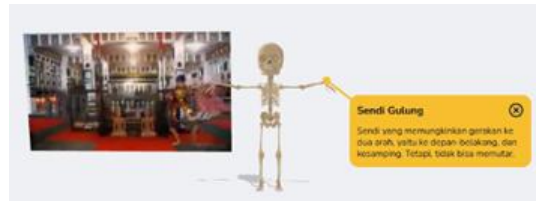
Figure 1. AR Media for the Turonggo Yakso Dance

Figure 2. Instructions for Using AR Media

Development Stage. The results at the development stage show that the AR media produced have met the established standards of validity and practicality. Validation by subject-matter, media, and instrument experts yielded an average validity of 96%, classified as highly valid. The validator stated that the integration of the material with the learning outcomes, the clarity of the visualization, and the integration of local culture had been presented appropriately and accurately.

In addition, the outcomes from the teacher practicality questionnaire showed an average of 98.7% in the convenient category. The media was considered easy to use, enjoyable, and suitable for elementary school students. These results are in line with the research by Lubis et al. (2025). This study concluded that AR media is efficient due to its interactivity and user-friendliness.

Subject-matter experts assessed that the human movement system content was aligned with the IPAS learning outcomes for grade VI and integrated with the cultural context of the Turonggo Yakso dance. They suggested simplifying the language and emphasizing joint functions. Media experts stated that the visual display and 3D animation were attractive and interactive, but recommended improvements to the layout and the addition of usage instructions. Instrument experts assessed that the questions aligned with the concept comprehension indicators and suggested adding the image sources used. After revisions based on validator input, the media was tested for practicality by sixth-grade teachers. Teachers stated

that the media were easy to use, enjoyable, and helpful in explaining abstract joint material, and therefore deemed suitable for implementation.

During the implementation stage, AR learning media were tested with sixth-grade students at SDN 1 Surodakan. This was done in two stages: small-group trials and large-group trials. The effectiveness of the media was measured using a concept comprehension test that assessed indicators of explanation, giving examples, comparison, classification, and conclusion.

The analytical results reveal an improvement in students' conceptual understanding following the use of AR-based learning media. According to the average percentage increase, the indicator of the ability to conclude showed the lowest increase of 15%, followed by the indicator of comparing at 28.4%, the ability to give examples at 35%, the ability to classify at 40%, and the indicator of explaining as the highest increase with a percentage of 41.7% These findings indicate that AR media contributes positively to strengthening students' conceptual understanding, particularly in the aspect of concept explanation.
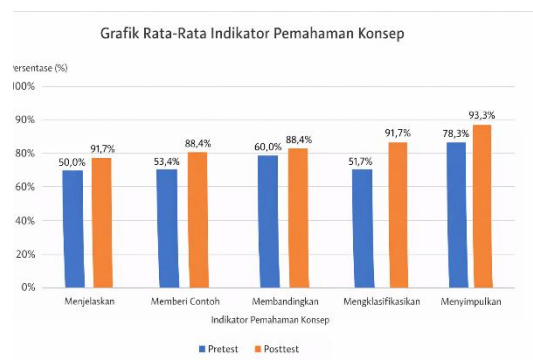

Figure 3. Graph of Average Concept Understanding Indicators

Table 1. Shapiro-Wilk Normality Test Results

	df	Sig.	Kriteria Uji
Pretest	30	0,009	< 0,05
Posttest	30	0,000	

The Shapiro–Wilk test results indicate that the pretest and posttest datasets are statistically significant at the 0.05 level, indicating that both datasets deviate from normality. Thus, the media's effectiveness was further analyzed using the Wilcoxon Signed Rank Test, a nonparametric statistical method.

Table 2. Wilcoxon Signed Rank Test Results

		N	Mean Rank	Sum of Ranks
Pretest-Posttest	Negative Ranks	0	.00	.00
	Positive Ranks	30	15.50	465.00
	Ties	0		
	Total	30		

The results show that all 30 students increased their scores after using AR media, with no decrease or stagnation.

Table 3. Wilcoxon Test Statistics

Test Statistics	
	Pretest - Posttest
Z	-4.842[b]
Asymp. Sig. (2-tailed)	.000

A significance level of 0.000 ($p \leq 0.05$) indicates a statistically meaningful distinction between pretest and posttest results, indicating that the use of AR media has been empirically shown to enhance students' learning outcomes significantly. Moreover, the magnitude of learning improvement was assessed using N-Gain analysis.

Table 4. N-Gain Test Results

	N	Mean
Ngain_Score	30	.8390
Ngain_Persen	30	83.9048

The mean N-Gain value of 0.8390 falls within the high classification range (0.70–1.00), while the N-Gain percentage of 83.90% shows a significant increase. The findings of this research confirm that the AR-based Tari Turonggo Yakso significantly improves elementary school students' comprehension of human movement systems. These findings reinforce the results of studies by Kirana et al. (2025), which shows that the use of AR in science learning significantly improves conceptual understanding by concretizing abstract material through 3D visualization.

Evaluations are carried out systematically at each phase of the ADDIE framework, covering analysis, design, development, and implementation. These activities aim to ensure that the learning media are appropriate for user needs and learning outcomes, and for the feasibility and effectiveness of their application within the instructional process. Evaluation during the analysis and design stages focuses on integrating student needs, material characteristics, and media design with IPAS learning objectives. Meanwhile, during the development stage,

evaluation is conducted through a validation process involving subject matter experts, media experts, and instrument experts to obtain feedback on improvements to content quality, visual appearance, and the clarity of assessment instruments. (Shita et al., 2024).

Next, during the implementation stage, evaluation is carried out through practical testing by teachers and through effectiveness testing using student pre- and post-tests. The findings of the evaluation are used as a reference for improving the media until the final product is achieved. A comprehensive evaluation at each stage of ADDIE is considered important for producing learning media that are valid, practical, and effective. (Fitriani Suryadi et al., 2025).

CONCLUSION

This study produced AR-based learning media based on the Turonggo Yakso dance culture, developed using the ADDIE model. The media was designed to visualize the concept of the human movement system, particularly joint material, through 3D animation and local cultural context using the Assemblr Edu platform.

The validation results indicate that the developed media meets high validity standards, with an achievement rate of 96%, and is highly practical, with a percentage of 98.7%, based on teacher and student assessments. The Wilcoxon Signed Rank Test showed a significance level of 0.000 (p ≤ 0.05), indicating a meaningful difference in performance before and after the intervention. Additionally, the results from the N-Gain analysis showed an average of 0.83 (83%), indicating a high level of improvement. Therefore, the AR media for the Turonggo Yakso dance is deemed suitable and adequate for enhancing elementary school students' understanding of human movement systems.

REFERENCES

Aztera, N. A., & Marhadi, H. (2025). Pengembangan Media Pembelajaran Augmented Reality Berbasis Budaya Melayu Riau Di Sekolah Dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(02).

Fearne, W., & Hook, J. D. (2023). A service design thinking approach: What are the barriers and opportunities of using augmented reality for primary science education? *Journal of Technology and Science Education*, *13*(1), 251–329.

Hermawan, A., & Hadi, S. (2024). Realitas Pengaruh Penggunaan Teknologi Augmented Reality dalam Pembelajaran terhadap Pemahaman Konsep Siswa . *Journal Simki Pedagogia*, *7*(1), 328–340.

Hulwah, L., & Suriani, A. (2025). Pentingnya Pembelajaran Kontekstual dalam Meningkatkan Pemahaman Konsep Sains pada Siswa SD. *Jurnal Arjuna : Publikasi Ilmu Pendidikan, Bahasa Dan Matematika*, *3*(3), 365–373. https://doi.org/10.61132/arjuna.v3i3.1989

Kirana, C. R., Sopandi, W., Putri, F. S. D., & Istiqomah. (2025). Exploring the Effectiveness of Augmented Reality as a Science Visualization Tool for Elementary Students. *Current Issues on Elementary Education in Society 5.0*, *7*(1), 148–163.

Kurniawan, H. N., & Suprayitno, S. (2024). Tari Turonggo Yakso Kabupaten Trenggalek Sebagai Sumber Belajar Berbasis Etnopedagogi Siswa Sekolah Dasar. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, *12*(1).

Lubis, N., Risnawati, V., R., & Hamdani, M. F. (2025). Pengaruh Media Pembelajaran Berbasis Augmented Reality Terhadap Pemahaman Konsep Dan Minat Membaca Siswa Kelas 5 Sekolah Dasar. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, *10*(2), 376–384.

Mustafidah, S., Fahri, M., & Devi, A. (2025). Pengaruh Penggunaan Media Pembelajaran Augmented Reality (AR) Terhadap Hasil Belajar IPA Siswa Kelas V di SDIT Qurrata Aini Baitussalam. *JOURNAL OF ALIFBATA: Journal of Basic Education (JBE)*, *5*(2), 140–149. https://doi.org/10.51700/alifbata.v5i2.1017

Nuralifah, D. A. N., Merliana, A., & Setiadi, P. M. (2025). Pengembangan Bahan Ajar Etnopedagogi Berbasiskearifanlokal Masyarakat Ciamis Pada Mata Pelajaran IPAS Kelas IV. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, *10*(2), 217–228.

Rahmadhani, N. K., & Helsa, Y. (2025). Pemanfaatan Media Augmented Reality Dalam Pembelajaran IPA Untuk Meningkatkan Pemahaman Konsep Pada Siswa Sekolah Dasar. *Sindoro CENDIKIA PENDIDIKAN*, *15*(1).

Resnawati, P., Arifin, M. H., & Hendriyana. (2023). Pengembangan Media Pembelajaran Augmented Reality Pada Materi Keragaman Budaya Kelas IV Sekolah Dasar. *Jurnal Pendidikan Ilmu Pengetahuan Sosial*, *10*(2614–5480).

Rosmaria, R., & Mairisiska, T. (2024). The Effect of Augmented Reality Technology on Science Learning in Elementary School. *Ludi Litterarri*, *1*(3), 12–25. https://doi.org/10.62872/d71vqy28

Sari, I., Wardani, E. F., & Kurnia, F. (2023). Pengembangan Bahan Ajar Cetak IPA Terintegrasi Augmented Reality 2D Materi Sistem Tata Surya untuk Siswa Sekolah Dasar. *JBES (Journal of Basic Education Skills)*, *1*(3), 36–47.

Shita, L., Damayanti, A., Mahardika, G., & Putra, C. (2024). *Development of augmented reality media using Assemblr Edu to enhance learning outcomes*. https://doi.org/10.22219/raden.v4i2

Siki, I. M., & Leba, I. H. (2025). Effectiveness of Augmented Reality-Based Learning Media Towards Elementary School Students' Understanding of Concepts in Science: Systematic Literature Review. *AR-RIAYAH: Jurnal Pendidikan Dasar*, *9*(1), 15–26.

Sugiyono. (2020). *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D* (Sutopo, Ed.; 2nd ed.). ALFABETA, cv.

Sukiastini, I. G. A. N. K., Suastra, I. W., & Arnyana, I. B. P. (2024). Integrasi Etnopedagogi dalam Pembelajaran IPA untuk Memperkaya Pemahaman Budaya dan Sains. *Edukatif: Jurnal Ilmu Pendidikan*, *6*(6), 6507–6518.

Sumarni, M. L., Jewarut, S., Silvester, S., Melati, F. V., & Kusnanto, K. (2024). Integrasi nilai budaya lokal pada pembelajaran di sekolah dasar. *Journal of Education Research*, *5*(3), 2993–2998.

Syahbania, D., Berliana, I., Fadillah, I., & Kamilah. (2023). Pemanfaatan Augmented Reality Sebagai Media Pembelajaran Di Sekolah. *Jurnal Multidisiplin Ilmu*, *1*(1), 1–8.

Yuliani, W., & Banjarnahor, N. (2021). Metode Penelitian Pengembangan (Rnd) Dalam Bimbingan Dan Konseling. *QUANTA: Jurnal Kajian Bimbingan Dan Konseling Dalam Pendidikan*, *5*(3), 111–118. https://doi.org/10.22460/q.v5i3p111-118.3051

Zaharah, F., Husna, M., Sa'bani, N., Aminah, S., & Wismanto. (2024). How To Develop Dalam Fungsi Dan Manfaat Media Pembelajaran Di Sekolah Dasar. *Inspirasi Dunia: Jurnal Riset Pendidikan Dan Bahasa*, *3*(2), 41–51.

Zahroni, M. F., & Mahariani, Y. R. (2021). Pengembangan Ar (Augmented Reality) Sebagai Media Pembelajaran Kelas V Pada Sd Negeri 1 Jepun Tentang Pengenalan Jenis Jenis Sendi Pada Tubuh MANUSIA. *JOEICT(Jurnal of Education and Information Communication Technology)*, *5*(1), 47–57.