Interactive Game Learning Media Based on Canva on Five Sensory Materials for Grade IV Elementary School

Vitasha Geushiria Aluintany[1*], Kurniana Bektiningsih[2] 🆔

[1,2] Pendidikan Guru Sekolah Dasar, Universitas Negeri Semarang, Semarang, Indonesia

A B S T R A K

Permasalahan pada pembelajaran IPAS yang terjadi adalah siswa mudah bosan dengan media yang monoton dan kurang bervariasi alhasil menimbulkan kurangnya minat siswa untuk memperhatikan materi yang sedang disampaikan oleh guru. Alhasil guru harus menciptakan metode yang lebih menarik dalam proses pembelajaran agar siswa lebih termotivasi dalam meningkatkan hasil belajar. Riset ini memiliki tujuan yaitu untuk mengembangkan media pembelajaran game interaktif pada materi panca indera untuk kelas empat sekolah dasar. Riset ini termasuk kedalam penelitian pengembangan dengan memakai model dari Borg and Gall yang hanya sampai dengan 8 tahapan, karena disesuaikan dengan kebutuhan dan waktu penelitian. Subjek riset ini terdiri atas siswa kelas IV dan guru kelas IV, tim ahli validator, dan peneliti. Metode pengumpulan data yaitu dengan observasi, tes, kesioner, dan wawancara. Teknik analisis data memakai analisis data awal, analisis produk, dan analisis data akhir. Hasil riset yang diperoleh yaitu uji validasi ahli media sebanyak 85% (layak), uji validasi ahli materi sebanyak 83,5% (layak), serta hasil uji efektivitas diperoleh bahwa pada nilai sebelum dan sesudah terjadi peningkatan nilai rata – rata pengetahuan. Jadi, media pembelajaran interaktif berbasis Canva memiliki kualifikasi yang baik, layak, serta efektiv untuk dipakai dalam melakukan proses pembelajaran.

A B S T R A C T

Problems in the IPAS learning is students easily get bored with media that is monotonous and lacking in variety, resulting in a lack of student interest in paying attention to the material being presented by the teacher. So, teachers must create more interesting methods in the learning process so that students are more motivated in improving learning outcomes. This study aims to develop interactive game learning media on the five sensory materials for 4th grade of elementary school. This research is included in development research using the Borg and Gall model which only has up to 8 stages, because it is adjusted to the needs and time of the research. The subjects of this study consisted of fourth grade students and fourth grade teachers, a team of expert validators and researchers. Data collection methods are by observation, tests, questionnaires, and interviews. Data analysis techniques use initial data analysis, product analysis, and final data analysis. The research results obtained were the media expert validation test of 85% (feasible), the material expert validation test of 83.5% (feasible), and the results of the effectiveness test showed that in the before and after values there was an increase in the average knowledge value. So, Canva-based interactive learning media has good qualifications, is feasible and effective for use in carrying out the learning process.

1. INTRODUCTION

All citizens have the right to education; this is contained in the 1945 Constitution in Article 31. This means that all children, regardless of the class or social status of their parents, have the right to education and the same educational opportunities, depending on everyone's desires and abilities (Maftuh, 2008; Suci et al., 2020). Education is not only considered a place of knowledge and the formation of one's skills but is also developed to include efforts to achieve one's desires, abilities, and needs to achieve the desired social and personal lifestyle (Anantanyu, 2011; Maksum, 2013). Education is not only a forum for future life but also for present life, which is currently developing towards a more mature level (Sulaiman et al., 2018; Suwartini, 2017; Tanu, 2019).

Corresponding author
*E-mail addresses: vitasha.geushiria@students.unnes.ac.id (Vitasha Geushiria Aluintany)

The aim of education is contained in Minister of Education and Culture Regulation Number 32 of 2013, which states that the aim of education is that the learning process in education is carried out in an inspiring, interactive, challenging, enjoyable manner, provides motivation for students to participate actively, and provides sufficient space for creativity, initiative, as well as independence that is in harmony with students' interests, talents, or psychological and physical development (Handayani et al., 2020). As a result, each education unit is expected to be able to achieve national education goals by carrying out assessment, implementation, and good planning of the learning process (Ayu Sri Wahyuni, 2022; Julaeha, 2019).

One of the subjects in the Minister of Education and Culture is the science subject, the science subject is a subject that must be given to all students in basic education. Natural Sciences (IPA) is a branch of science that is closely related to natural phenomena and their influence on human life, and examines all aspects of the universe (Azizi, 2022; Cheryl Ana Safira et al., 2020). Science covers a variety of knowledge that includes facts, principles, concepts and discovery processes, and encourages the development of a scientific attitude (Mardiana, 2018; Megawati, 2018). Basically, science learning can also be used as a tool to solve problems identified in everyday life (Prihatni et al., 2016; Purwana, 2010).

Problems with science also occur at SD Negeri Lempongsari Semarang. From the results of observations carried out on Tuesday, January 24, 2023, at SD Negeri Lempongsari, researchers obtained the results that at SD Negeri Lempongsari, teachers had used learning media such as videos, pictures, PowerPoint, student worksheets (LKPD), or other tools. The models are provided by the school, but the use of learning media based on interactive games has never been used in elementary schools due to the limited time and costs incurred by teachers. Through interviews, it was discovered that students easily get bored with monotonous and less varied media, which results in students' lack of interest in paying attention to the material being presented by the teacher. From the results of classroom observations, students only paid attention to the media provided by the teacher for the first few minutes; the rest of the time, students preferred to chat or joke with their friends. Students' lack of attention in learning was also shown when the teacher gave assignments, but some of them did not pay attention as a result of making mistakes in their work. Apart from that, from the documentation study of student learning outcomes, it is known that the majority of students obtained scores below average in the science course content. This result is in line with the results of the needs questionnaire, which found that 65% of students thought that science was the most difficult subject.

Based on the results of the interview, class IV is currently using the Independent Curriculum, where in its implementation there have been several changes in learning outcomes. The most recent learning outcomes are five senses material, but this material is not in the students' textbooks. As a result, this becomes a concern and a focus for class teachers to teach these learning outcomes. Even though the material is not in the book, teachers have to make their own summaries of the material for students, but it is very difficult for students to learn without media because of the large amount of material and memorization involved in these learning outcomes. To overcome this, teachers provide more material to students by showing videos taken from YouTube or delivering material conventionally using the lecture method.

From the problems that have been described, the researchers and teachers concluded that the development of an interesting interactive learning game for students is an alternative solution to problems in the science and science learning process in class IV at SDN Lempongsari, namely an interactive learning game based on Canva. With the development of interactive learning games based on Canva, it is hoped that the teaching and learning process will become more interesting and motivating, as a result of which learning outcomes will increase and the quality of education will be more advanced along with technological developments.

This research is in line with research entitled Audio Visual Learning Media Based on the Canva Application at SMA Negeri 5 Makassar which aims to develop audio visual learning media based on the Canva application (Rahmatullah et al., 2020). This research uses a development approach with initial analysis stages, material identification, product development and testing. After product development is complete, it continues with a feasibility test carried out by experts to find out whether the media design is feasible or not, whether the material content is appropriate or not, the completeness of the design, and whether it is attractive or not. From the results of the assessment by experts, a score of 82.88% was obtained, which is in the very feasible category. Meanwhile, the results of student responses obtained a score of 86.73%, which is also included in the very appropriate category. In the results of the first cycle of field trials, a score of 67.13% was obtained and in the second cycle a score of 88% was obtained. In the percentage of learning outcomes there is an increase in value. The next research that is relevant to this research also obtained satisfactory validity assessment results, namely the assessment score based on a questionnaire for 8 respondents produced a figure of 88.5% which can be qualified as very good and of course successful (Riztiandi et al., 2020). Further research states that by integrating media containing

games into the learning process, it is hoped that it can create a pleasant learning atmosphere (Satria et al., 2022; Wulandari et al., 2017).

Based on this explanation, the researcher took the title "Development of Interactive Game Learning Media on Five Senses Material for Class 4 Science and Science Lessons at Lempongsari State Elementary School." This research aims to develop interactive game learning media based on five-sensory material for the fourth grade of elementary school.

2. METHOD

This research uses development research methods or what is commonly known as Research and Development (R&D). The place for this research is Lempongsari State Elementary School. This research has subjects, namely grade IV students and teachers in grade IV of Lempongsari State Elementary School, a team of validator experts, and researchers. Data collection was carried out through observation, tests, questionnaires and interviews. The instruments used include validation tests from media experts and material experts. The development of this research uses the development model from Borg and Gall and only uses 8 stages which have been adjusted to the researchers' needs and time. The eight stages are potential and problems, data collection, product design, design validation, design revision, small-scale trials, product revisions, and usage trials (Farida et al., 2019; Fransisca & Mintohari, 2018). In the first stage, namely potential and problems, at this stage the researcher carries out initial research through data, conducting interviews, documentation and questionnaires. In the second stage, namely data collection, at this stage the researcher collects all the information that can be used for product planning. In the third stage, namely product design, is the stage of making a design based on the results of the data analysis that has been carried out. The fourth stage is design validation, at this stage validation of the feasibility of Canva-based interactive learning media is carried out by material and media experts. In the fifth stage, design revisions are carried out based on improvements that are in line with directions from material and media experts. In the sixth stage, namely conducting small-scale trials, namely by conducting media tests and observing responses and suggestions before carrying out large-scale trials. The seventh stage is to revise the product, based on the results of responses and suggestions from the results of small-scale trials. Next is the eighth stage, namely a usage trial, at this stage the product will be tested again in a usage trial.

There is preliminary data analysis, in-depth product analysis, and conclusion data analysis in this research. The improvement and difference in mean in a study is determined after initial data analysis. The data was first tested for normality and analysis of the description of the need's questionnaire. Expert validation of product designs provides data for product analysis, which is then used to determine product media suitability in percentages. Finally, the average difference test and the average increase test were used to analyze the data in this research.

3. RESULT AND DISCUSSION

Result

This development study presents findings that focus on three main areas: Canva-based interactive learning media design; the efficacy of the media; and the practicality of the media. This research framework relies on the Borg and Gall development model, but simplifies the process so that it only takes place in eight phases. Potential and problems, data collection, product design, design validation, design modification, testing, final product, and testing are the eight steps.

At the potential and problem stage, researchers conducted a preliminary investigation using interviews, data, documents and questionnaires. The information obtained shows that there are problems in science learning which have a big impact on science learning for grade 4 students at Lempongsari Public Elementary School, Semarang. Limited learning resources related to variations in learning outcomes between curricula and the less than optimal use of science learning material media encourage researchers to develop products that overcome these problems.

Researchers collect data at this stage for use in the next stage of the product development process. Student learning outcomes, subject content, and student needs questionnaires are the required data. Data analysis revealed deficiencies in student textbooks and deficiencies in learning materials in scientific courses, which informed further iterations of product design. Therefore, academics are interested in creating Canva-based interactive learning media that is tailored to students' information and educational media needs.A media expert and material expert checked the feasibility of Canva-based interactive learning media during the design validation stage. Each expert uses existing tools to make an assessment, after which the two experts also provide media for improvements that researchers can make. At the design revision

stage, researchers make design improvements as directed by material and media experts, the product will be consulted again until it is declared suitable for testing. At the product trial stage, the use of Canva-based interactive learning media was demonstrated in a small trial in Negeri Lemponsari Class IV Elementary School. After testing the media, the researchers asked students and teachers to fill out a questionnaire about the scientific content of the Five Senses material on Canva-based interactive learning media.

Product revisions are based on the results of small-scale product testing. Based on the results of teacher and student questionnaires, improvements have been made to make use more effective. The following is the final media result shown in Figure 1.

Initial display

Identity

Initial Competency

Concept maps

Quiz

References

Figure 1. The Final Media Results

At the usage trial stage, the product is tested again in a usage trial. All 4th grade students at Lempongsari State Elementary School were targeted, totaling 46 students, and all residents participated. The design used is a series of pre-test-post-test designs, namely a pre-experimental design that includes pre-treatment, pre-test, and post-study, post-test. The ability to compare status before and after treatment is useful for knowing definite treatment results.

Before carrying out the post-test, students first get a final product that is in harmony with their learning process, then a validity test and product trial are carried out to determine the suitability of the media being developed. Product verification. The feasibility test of Canva-based interactive learning media for Class IV scientific content was carried out by expert reviewers by referring to the feasibility questionnaire. The results of the following product efficacy studies are presented in Table 1, and the results of the product efficacy studies are presented in Table 1.

Table 1. The Product Validity Test Results

No	Test Subjects	Validity Results	Information
1.	Media Expert Validation	85%	Worthy
2.	Material Expert Validation	83.75%	Worthy

Based on the results above, it is known that the results of the media expert validation test obtained a result of 85% and the results of the material expert validation obtained a result of 83.75%. As a result, it

can be said that Canva-based interactive learning media on material regarding the five senses of the Class 4 Science and Science lesson content at Lempongsari State Elementary School is feasible.

Table 2. The Product Effectiveness Test Results (Average)

No	Test Subjects	Pre-test	Post-test
1.	Average	47	77.5

Based on the results in Table 1 and Table 2, it can be identified that Canva-based interactive learning media is suitable for use in learning material regarding the five senses in Class 4 Science and Technology lessons at Lempongsari State Elementary School. This is proven by the results of an increase in the average knowledge of students regarding the five senses before and after using Canva-based interactive learning media in material regarding the five senses in Class 4 Science and Technology lessons at Lempongsari State Elementary School.

Table 3. The Product Effectiveness Test Results (Average Increase)

No	Test Subjects	Gain Intervals	Information
1.	Average increase	0.5779	Currently

Based on the results of the N-gain score test calculation in Table 3, it is known that the gain interval value is 0.5779, so it is included in the category of moderate effectiveness. As a result, it can be said that the use of Canva-based interactive learning media has moderate effectiveness in learning material regarding the five senses in Class 4 Science and Technology lessons at Lempongsari State Elementary School.

Discussion

Based on research results, Canva-based interactive learning media is proven to have the right prerequisites, can be applied, and is effective in carrying out the learning process. There are several factors that influence whether or not Canva-based interactive learning media is appropriate to use. To begin with, researchers used an iterative process based on the Borg and Gall model with eight stages, including potential and problems, data collection, product design, design validation, design revision, small-scale trials, product revisions, and usage trials, to create learning media. Canva-based interactive. This will help create effective interactive learning materials using Canva. To further assist students in their understanding, this Canva-based interactive learning media includes visually appealing images and text. The use of Canva-based learning media can have benefits in increasing the attractiveness of students and eliminating boredom among students in learning activities. As a result, this can make students motivated and student learning outcomes will also increase (Kaharuddin et al., 2023; Nailiah & Saputra, 2022; Riono & Fauzi, 2022). Motivated students are more likely to engage in productive behavior, such as studying (Listiani, 2017; Wahid et al., 2018). We know that motivation plays an important role in helping students achieve superior learning outcomes, and choosing effective strategies will motivate them to achieve those learning outcomes. Integrating learning management systems and other forms of educational media into the classroom is one strategy for increasing student engagement, especially Canva-based interactive learning media (Oktiani, 2017; Rahmawati et al., 2024). Third, the learning material presented is aligned with the existing concept map. Interactive games provide new experiences for students. Apart from learning materials, it is also equipped with interactive games to keep students active and make their learning activities more enjoyable (Candra & Rahayu, 2021; Paseleng & Arfiyani, 2013). Fourth, the results are in line with relevant research which found that the average percentage of feasibility of learning media using the Canva application was 86.6% or in the "very feasible" category. This puts the Canva application learning media in the category which is very suitable for the 4th grade elementary school learning process.

The results of this research show that Canva-based interactive game learning media has gone through a validation process from media experts and material experts with quite high scores, and has been proven to be effective in increasing student understanding. In the context of comparison with previous studies, these findings are in line with findings which show that the use of technology-based learning media can increase student engagement and learning outcomes.This research is in line with research entitled Audio Visual Learning Media Based on the Canva Application at SMA Negeri 5 Makassar which aims to develop audio visual learning media based on the Canva application (Rahmatullah et al., 2020). This research uses a development approach with initial analysis stages, material identification, product development and testing. After product development is complete, it continues with a feasibility test carried out by experts to find out whether the media design is feasible or not, whether the material content is appropriate or not, the completeness of the design, and whether it is attractive or not. From the results of

the assessment by experts, a score of 82.88% was obtained, which is in the very feasible category. Meanwhile, the results of student responses obtained a score of 86.73%, which is also included in the very appropriate category. In the results of the first cycle of field trials, a score of 67.13% was obtained and in the second cycle a score of 88% was obtained. In the percentage of learning outcomes there is an increase in value. The next research that is relevant to this research also obtained satisfactory validity assessment results, namely the assessment score based on a questionnaire for 8 respondents produced a figure of 88.5% which can be qualified as very good and of course successful.(Riztiandi et al., 2020). Further research states that by integrating media containing games into the learning process, it is hoped that it can create a pleasant learning atmosphere (Satria et al., 2022; Wulandari et al., 2017).

Thus, this research makes a significant contribution to the development of learning methods that are more interesting and effective in increasing student interest and learning outcomes in the science field.The implication of these findings for the development of the scientific field of education is the importance of continuing to develop innovative and technology-based learning methods to overcome challenges in the learning process. Canva-based interactive learning media developed in this research can be an effective alternative in improving the quality of learning in the classroom. However, this research also has several limitations, such as limited data collection methods and the research focus is only on one learning material. Recommendations for further research are to expand data collection methods and the scope of learning materials, as well as involving more research subjects to obtain more representative results and stronger generalizations. Thus, this scientific article provides a deeper understanding of the development of interactive learning media and provides direction for further research in this field.

4. CONCLUSION

The development of Canva-based interactive learning media on five-sensory material for science and science lesson content has good qualifications, is feasible and effective for use in carrying out the learning process. As a result, the product produced in this research can be used to become a suitable learning medium for improving learning outcomes in science and science lessons, especially in the five senses material for grade 4 elementary school

5. REFERENCES

Anantanyu, S. (2011). Kelembagaan Petani: Peran Dan Strategi Pengembangan Kapasitasnya. *SEPA*, *7*(2), 102–109.

Ayu Sri Wahyuni. (2022). Literature Review: Pendekatan Berdiferensiasi Dalam Pembelajaran IPA. *Jurnal Pendidikan Mipa*, *12*(2), 118–126. https://doi.org/10.37630/jpm.v12i2.562.

Azizi, A. (2022). Ilmu Pengetahuan Alam (IPA) dan Filsafat dalam Pengembangan Potensi Lokal untuk Pembelajaran Masa Depan. *LAMBDA : Jurnal Ilmiah Pendidikan MIPA Dan Aplikasinya*, *2*(3), 102–110. https://doi.org/10.58218/lambda.v2i3.298.

Candra, A. M., & Rahayu, T. S. (2021). Pengembangan Media Pembelajaran Berbasis Game Interaktif untuk Meningkatkan Kemampuan Pemecahan Masalah Tematik di Sekolah Dasar. *Jurnal Basicedu*, *5*(4), 2311–2321. https://jbasic.org/index.php/basicedu/article/view/1212.

Cherly Ana Safira, Agung Setyawan, & Tyasmiarni Citrawati. (2020). Identifikasi Permasalahan Pembelajaran IPA Pada Siswa Kelas III SDN Buluh 3 Socah. *Jurnal Pendidikan Mipa*, *10*(1), 23–29. https://doi.org/10.37630/jpm.v10i1.277.

Farida, F., Suherman, S., & Zulfikar, S. (2019). Peningkatan Kemampuan Pemahaman Konsep Himpunan Melalui Pembelajaran Matematika dengan Media Articulate Studio'13. *JSHP : Jurnal Sosial Humaniora Dan Pendidikan*, *3*(1), 20–28. https://doi.org/10.32487/jshp.v3i1.536.

Fransisca, I., & Mintohari. (2018). Pengembangan Media Pembelajaran Video Berbasis Sparkol Videoscribe Pada Pelajaran IPA Dalam Materi tata Surya Kelas VI SD. *J-Pgsd*, *06*(11), 1916–1927. https://ejournal.unesa.ac.id/index.php/jurnal-penelitian-pgsd/article/view/24661.

Handayani, M., Siswantari, Astuti, R., & Hariyanti, E. (2020). Sekolah Aman: Mendukung Kualitas Pembelajaran Melalui Sekolah Aman Dan Menyenangkan Pusat. https://repositori.kemdikbud.go.id/21590/.

Julaeha, S. (2019). Problematika Kurikulum dan Pembelajaran Pendidikan Karakter. *Jurnal Penelitian Pendidikan Islam*, *7*(2), 157. https://doi.org/10.36667/jppi.v7i2.367.

Kaharuddin, Pernando, P. Y., Marfuah, & Musliadi, K. (2023). Aplikasi Augmented Reality (AR) Sebagai Media Pembelajaran Sistem Rangka Manusia. *Journal of Information System Research (JOSH)*, *4*(4), 1168–1175. https://doi.org/10.47065/josh.v4i4.3685.

Listiani, N. M. (2017). Pengaruh Kreativitas Dan Motivasi Terhadap Hasil Belajar Mata Pelajaran Produktif

Pemasaran Pada Siswa Kelas Xi Smk Negeri 2 Tuban. *Jurnal Ekonomi Pendidikan Dan Kewirausahaan*, *2*(2), 263. https://doi.org/10.26740/jepk.v2n2.p263-275.

Maftuh, B. (2008). Internalisasi Nilai-Nilai Pancasila dan Nasionalisme Melalui Pendidikan Kewarganegaraan. *EDUCATIONIST*, *II*(2), 134–144. http://file.upi.edu/Direktori/JURNAL/EDUCATIONIST/Vol._II_No._2-Juli_2008/7_Bunyamin_Maftuh_rev.pdf.

Maksum, A. (2013). *SOSIOLOGI PENDIDIKAN*. https://core.ac.uk/download/pdf/146820399.pdf.

Mardiana, M. (2018). Penerapan Pembelajaran Ipa Berbasis Konstruktivisme Dalam Meningkatkan Sikap Ilmiah Pada Siswa Madrasah Ibtidayah. *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah*, *3*(1), 61–80. https://doi.org/10.35931/am.v0i0.69.

Megawati. (2018). Pentingnya Pengakomodasian Pengalaman Belajar pada Pembelajaran IPA. *Jurnal Tunas Pendidikan*, *1*(1), 21–30. https://ejournal.ummuba.ac.id/index.php/pgsd/article/view/62.

Nailiah, I. M., & Saputra, E. R. (2022). Pengembangan Media Ict Berbasis Video Animasi Pada Pembelajaran Bahasa Indonesia Di Sd. *JIPD (Jurnal Inovasi Pendidikan Dasar)*, *6*(1), 8–15. https://doi.org/10.36928/jipd.v6i1.976.

Oktiani, I. (2017). Kreativitas Guru dalam Meningkatkan Motivasi Belajar Peserta Didik. *Jurnal Kependidikan*, *5*(2), 216–232. https://doi.org/10.24090/jk.v5i2.1939.

Paseleng, M. C., & Arfiyani, R. (2013). Pengimplementasian Media Pembelajaran Berbasis Multimedia Interaktif Pada Mata Pelajaran Matematika. *Jurnal Pendidikan*, *1*(1), 37–39. https://doi.org/10.24246/j.scholaria.2015.v5.i2.p131-149.

Prihatni, Y., Kumaidi, K., & Mundilarto, M. (2016). Pengembangan Instrumen Diagnostik Kognitif Pada Mata Pelajaran Ipa Di Smp. *Jurnal Penelitian Dan Evaluasi Pendidikan*, *20*(1), 111–125. https://doi.org/10.21831/pep.v20i1.7524.

Purwana, U. (2010). Profil kompetensi pedagogik guru IPA-fisika SMP dan MTs di wilayah Paseh Kabupaten Sumedang melalui kegiatan lesson study berbasis MGMP. *Bandung: FPMIPA UPI*, 1–14. http://file.upi.edu/Direktori/FPMIPA/JUR._PEND._FISIKA/195711301981011-UNANG_PURWANA/Makalah/Artikel_2.pdf.

Rahmatullah, Inanna, & Ampa, A. T. (2020). Media Pembelajaran Audio Visual Berbasis Aplikasi Canva. *Jurnal Pendidikan Ekonomi*, *12*(2), 317–327. http://eprints.unm.ac.id/19185/.

Rahmawati, L., Suharni, & Rita, R. S. (2024). Pemanfaatan Aplikasi Canva Dalam Penyusunan Media Pembelajaran Berbasis Teknologi. *Communnity Development Journal*, *5*(1), 129–136. https://doi.org/10.31004/cdj.v5i1.24151.

Riono, & Fauzi. (2022). Pengembangan Media Pembelajaran Pai-Bp Di Sd Berbasis Canva. *Jurnal Cakrawala Pendas*, *8*(1), 117–127. https://doi.org/10.31949/jcp.v8i1.1921.

Riztiandi, M. R., Firmansyah, R., Adhirajasa, U., & Sanjaya, R. (2020). *Media Pembelajaran Game Edukasi Panca Indra Manusia Berbasis Android*. *1*(1), 54–64. http://eprosiding.ars.ac.id/index.php/pti/article/view/172.

Satria, E., Syaefudin Sa'ud, U., Sopandi, W., Tursinawati, T., Hayati Rahayu, A., & Anggraeni, P. (2022). Pengembangan Media Animasi Interaktif Dengan Pemograman Scratch Untuk Mengenalkan Keterampilan Berpikir Komputasional. *Jurnal Cerdas Proklamator*, *10*(2), 217–228. https://doi.org/10.37301/cerdas.v10i2.169.

Suci, I. G. S., Wijoyo, H., & Indrawan, I. (2020). *Pengantar Sosiologi Pendidikan*. https://lmsspada.kemdikbud.go.id/pluginfile.php/709212/mod_resource/content/2/Pengantar%20Sosiologi%20Pendidikan%20%28I%20Gede%20Sedana%20Suci%29.pdf.

Sulaiman, M., Al Hamdani, M. D., & Aziz, A. (2018). Emotional Spiritual Quotient (ESQ) dalam Pembelajaran Pendidikan Agama Islam Kurikulum 2013. *Jurnal Penelitian Pendidikan Islam*, *6*(1), 77. https://doi.org/10.36667/jppi.v6i1.156.

Suwartini, S. (2017). Pendidikan Karakter Dan Pembangunan Sumber Daya Manusia Berkelanjutan. *Trihayu: Jurnal Pendidikan Ke-SD-An*, *4*, 223–226. https://jurnal.ustjogja.ac.id/index.php/trihayu/article/view/2119.

Tanu, I. K. (2019). Pentingnya Pendidikan Anak Usia Dini Agar Dapat Tumbuh Dan Berkembang Sebagai Generasi Bangsa Harapan Di Masa Depan. *Adi Widya: Jurnal Pendidikan Dasar*, *2*(2), 19. https://doi.org/10.25078/aw.v2i2.960.

Wahid, A. H., Muali, C., & Mutmainnah. (2018). Peningkatan Prestasi Belajar Siswa Dalam Menciptakan Suasana Belajar Yang Kondusif. *Al-Fikrah: Jurnal Manajemen Pendidikan*, *5*(2), hal 179. https://ojs.iainbatusangkar.ac.id/ojs/index.php/alfikrah/article/view/1106.

Wulandari, R., Susilo, H., & Kuswandi, D. (2017). Multimedia Interaktif Bermuatan Game Edukasi Sebagai Salah Satu Alternatif Pembelajaran Ipa Di Sekolah Dasar. *Graduate School Conferences*, 1–7. https://www.academia.edu/download/94363542/267023877.pdf.