



## ICT-Based Learning Media In the Form of Powerpoint For Grade IV Elementary School Students

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### ABSTRAK

Proses pembelajaran masih belum terlaksana dengan efektif karena kurangnya sarana pembelajaran. Selain itu guru hanya menggunakan metode ceramah dalam memberikan materi, hal ini menyebabkan siswa bosan belajar. Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis TIK untuk siswa kelas IV sekolah dasar. Jenis penelitian ini yaitu penelitian pengembangan dengan menggunakan prosedur ADDIE. subjek uji coba produk berjumlah 6 orang para ahli. Metode yang digunakan dalam mengumpulkan data yaitu wawancara, dokumentasi dan kuesioner. Instrument yang digunakan dalam penelitian ini yaitu kuesioner dengan skala likert. Teknik analisis data pada penelitian ini yaitu analisis deskriptif kualitatif dan metode analisis deskriptif kuantitatif. Hasil penelitian yaitu media pembelajaran 3 pada validasi tahap 1 memperoleh nilai rata-rata sebesar 83% dan pada validasi tahap 2 memperoleh hasil sebesar 89%. Hal ini dapat dikatakan pada media pembelajaran untuk pembelajaran 3 mengalami peningkatan yaitu sebesar 6%. Selanjutnya pada media pembelajaran 3 untuk validasi tahap 1 memperoleh nilai rata-rata sebesar 84% dan pada validasi tahap 2 memperoleh hasil sebesar 92%. Hal ini dapat dikatakan pada media pembelajaran untuk pembelajaran 4 mengalami peningkatan yaitu sebesar 8%. Kemudian untuk media pembelajaran 5 pada validasi tahap 1 memperoleh nilai rata-rata sebesar 83% dan pada validasi tahap 2 memperoleh hasil 92%. Hal ini dapat dikatakan pada media pembelajaran untuk pembelajaran 5 mengalami peningkatan juga yaitu sebesar 9%. Hal ini menunjukkan media pembelajaran berbasis TIK berupa powerpoint layak untuk diterapkan pada proses pembelajaran. Implikasi penelitian ini yaitu media yang dikembangkan powerpoint dapat digunakan oleh guru sehingga dapat membantu siswa yang mengalami kesulitan dalam belajar.

### ABSTRACT

The learning process was still not carried out effectively due to the lack of learning facilities. In addition, teachers only use lecture methods in providing materials. This causes students to get tired of learning. This research aimed to develop ICT-based learning media for grade IV elementary school students. This type of research was research development using ADDIE procedure. Product trial subjects numbered six experts. The methods used in collecting data were interviews, documentation and questionnaires. The instrument used in this study was a questionnaire with a Likert scale. The data analysis techniques in this study were qualitative descriptive analysis and quantitative descriptive analysis methods. The results of the study, namely learning media 3 in validation phase 1, obtained an average score of 83% and in the validation of stage 2 obtained results of 89%. This can be said in the learning media for learning three increased by 6%. Furthermore, in learning media 3 for the validation phase, 1 obtained an average score of 84% and in validation stage 2 got 92%. This can be said in the learning media for learning 4 increased by 8%. Then, for learning media 5 in validation phase 1, an average score of 83% and in the validation phase 2 obtained 92%. This can be said that the learning media for learning 5 had also increased by 9%. This shows ICT-based learning media in the form of powerpoints worthy of being applied to the learning process. This research implied that teachers could use the media developed by PowerPoint to help students with learning difficulties.

### 1. Introduction

Science and technology are increasingly advanced in the modern era, both information technology and communication technology (Booij et al., 2020; Tarighi & Saeed Shavvalpour, 2021). Thus, it can have a great influence on various scopes of life, including the field of education (Hariadi et al., 2016; Mulyanti et al., 2020). The development of information and communication technology knowledge can provide changes in learning systems (Hanik, 2020; Pakpahan & Fitriani, 2020). The rapid growth of science and technology demands improved quality of education to create superior human resources (Lase, 2019; Willya et al., 2019). Through education, one can develop his abilities, skills and potential. In addition, education will also form a discipline, creative, independent, and responsible human being

(Chairiyah, 2017; Sutrisno, 2016). In realizing quality human resources, it can be achieved by creating an optimal learning process.

The current problem, the process of implementation of learning, has not run optimally. This is due to the lack of learning facilities (Effendi et al., 2021; Saidah et al., 2014). In addition, teachers only use lecture methods to quickly get bored in following the learning (Harahap et al., 2021; Ota et al., 2021). Based on the results of interviews with grade IV teachers at SDN 115 Pekanbaru. The facilities at SDN 115 Pekanbaru are adequate, such as electric current, laptops, and others. This is possible to use ICT-based learning media. However, grade IV teachers do not make good use of the means as a learning medium. Teachers use the media images obtained from the internet following the materials taught in the teaching process activities. So students do not understand the material delivered. This is to help the problem. Teachers can use learning media in the form of *Microsoft Powerpoint*. However, grade IV teachers still have difficulty developing *Microsoft Powerpoint*. Teachers' creativity in delivering lesson materials plays an essential role in the success of the learning process. The learning outcomes of students in grade IV SDN 115 Pekanbaru in the last two years on the same theme still do not show satisfactory grades. This can be seen from the percentage of students who achieved KKM only 58%. With the average score obtained by students reached 68.

Based on these problems, one solution that can be done to help students in learning is by developing learning media. Learning media becomes one of the essential parts that helps in the learning process activities. Media is any form of message or information from the message's source to the recipient of the message (Mulyati & Evendi, 2020; Yusnia, 2019). Learning media can be audio, visual, and audiovisual (Shaik Alavudeen et al., 2021; Yuanta, 2017). This will make it easier for students to understand the material they are learning using media. ICT-based learning media can be audiovisual media by utilizing hearing or vision, often referred to as multimedia (Fitriani & Wangid, 2021; Meyer et al., 2019). ICT-based media can also foster students' enthusiasm in the learning process activities to positively impact students in understanding the material delivered by teachers (Azzam Alobaid, 2021; Nookhonga & Wannapiroon, 2015). This can be said ict-based media or creative and innovative multimedia, also quite efficient and effective in transferring materials to students. One of the ICT-based media that can be applied in classroom learning activities is *Powerpoint*.

Previous research findings on *Microsoft Powerpoint* learning media may assist in delivering or explaining materials audiovisually (Lohr et al., 2021; Salmiah et al., 2016). By utilizing *Powerpoint*, learning will be more interesting because *Microsoft Powerpoint* can help combine all media elements of text, sound, images, animation, and video (Leder et al., 2018; P. León & Martínez, 2021). However, research related to ICT-based learning media has not been an in-depth study in elementary schools. This research aims to develop ICT-based learning media for grade IV elementary school students. It is hoped that this media can help students learn so that learning objectives can be achieved well.

## 2. Method

This research used a development research design with ADDIE model in media development was conducted in the third phase only, namely (1) Analysis, (2) Design (3) Development. This was due to the COVID-19 pandemic situation. This research was conducted in grade IV SDN 115 Pekanbaru. The subject of the study was validator experts to test the validity of the learning media products developed. Validators consisted of 6 validators, namely 2 media experts, 2 thematic material experts and 2 linguists. Data collection methods using interviews, questionnaires and documentation. Technical analysis of data used in research using qualitative and quantitative data. Qualitative data in the form of comments from validators. The data was analyzed to improve and know the feasibility of the product produced. Quantitative data in this study was obtained from scores from validator assessments

## 3. Result and Discussion

### Result

The product resulting from this development research was in the form of *Powerpoint* media. This product was designed to be used as an alternative media that teachers can use in teaching-learning the theme of 7 sub-themes 1 in learning 3,4, and 5 for grade IV elementary school students. The implementation of this research used the stages of ADDIE development model. But in its implementation only reached the third stage, namely the Development stage. The development of ICT-based learning media is carried out in several stages as follows:

The analysis phase was the first stage in this study. In this stage, several analyses were done, namely needs analysis and curriculum analysis. In the needs analysis, two things were analyzed, namely

the needs of teachers and students. While curriculum analysis, several things were analyzed, namely analysis of core competencies, basic competencies, indicators, and materials developed. Based on an interview with one of the grade 4 students at SDN 115 Pekanbaru, students preferred interesting learning media such as many pictures of illustration or real, exciting videos, and brief and clear material explanations.

Furthermore, the teacher's analysis aimed to find out what kind of media-related information the teacher expects. Based on interviews with grade IV SDN 115 Pekanbaru teachers in the learning process, students were more interested in using engaging learning media. The media that students want, such as media, contains interesting animated images, interesting videos, and quizzes to better understand the materials taught. Thus students need concreted press in the form of *Powerpoint* media that will foster students' learning motivation and facilitate students in understanding materials taught. Curriculum analysis was carried out to determine the curriculum applied in elementary schools, namely the 2013 curriculum. In this curriculum analysis, several things will be analyzed, namely analysis of core competencies and basic competencies and material analysis. In this analysis, i.e. analyzing the core competencies and essential competencies in the theme of 7 "ethnic and religious diversity in my country" sub-theme 1 "ethnic and religious diversity in my country". This analysis will be the basis of the material in the development of *Powerpoint media*. The KI and KD in grade IV elementary school theme The Beauty of Diversity in My Country sub-theme The Beauty of Cultural Diversity of My Country.

Hold design, at this stage, do the design of the product according to the needs. The initial design was to collect learning materials that want to be developed, such as determining the theme, basic competencies, learning objectives and selection of teaching meters sourced from the thematic books of students of theme 7 "The Beauty of Diversity in My Country". Then search for some templates, images and videos from the internet as well as from Youtube. As well as modifying the template according to the characteristics of students the same age as elementary school children. In the evaluation section of this learning is an interactive quiz. Inside there is a front page and a collection of multiple-choice questions totalling 5 questions. The front page consists of the theme identity, sub-theme, start *icon* and exit *icon*. Then if you click *the start icon* will appear in the form of questions related to learning materials 3, 4, and 5. While if the *icon* clicks out, it will return to the original *slide*. Next, answering the questions with the correct answer option will appear an animated image that shows the right and vice versa if the wrong answer will appear a vibrant image showing the bad. If the answer was correct, then click *next* to continue the next question.

Development Stage: At this stage, do the manufacture of products designed and conduct validation tests and product revisions. This validity test aimed to assess the validity level of the learning media that has been developed. After the first validation process was completed, it will be continued with revisions. The validation process was said to be completed until the ICT-based learning media developed is valid so that it was worth using. The validity test process will be accompanied by revisions that improve ICT-based learning media following the validators' assessment, suggestions, and comments. The results of the analysis of product validity scores from experts were presented in table 1.

**Table 1.** Result of Learning Media Validity

Learning Process	Validity Percentage (%)	
	Step 1	Step 2
Learning Process 3	83%	89%
Learning Process 4	84%	92%
Learning Process 5	83%	92%

Hasil recapitulation of validity by six validators from three aspects, namely media, materials, and language to PowerPoint learning media products for learning media 3 in validation phase 1 obtained an average score of 83% and validation stage 2 obtained results 89%. This can be said in the learning media for learning three increased by 6%. Furthermore, in learning media 3 for the validation phase, 1 obtained an average score of 84%, and in the validation phase 2 got a result of 92%. This can be said in the learning media for learning 4 increased by 8%. Then for learning media 5, in validation phase 1 obtained an average score of 83%, and in validation stage 2 got 92%. This can be said in the learning media for learning 5 has also increased by 9%. This shows ICT-based learning media in the form of powerpoints worthy of being applied to the learning process.

**Table 2.** Feedback and Advice from Experts

No.	Video Test Subjects	Feedback and Advice
1.	Media Expert Test	<ol style="list-style-type: none"> <li>1. there are <i>slides</i> 9 and 14. There were some less apparent images/blur</li> <li>2. <i>slide</i> that still moves automatically change to transition "<i>by click</i>" so that the listener/audience does not panic</li> <li>3. This media, in general, is good. It just needs finishing in terms of slides</li> <li>4. On the quiz <i>slide</i>, there is no <i>next</i> button after answering the ABCD question.</li> </ol>
2.	Learning Material Expert Test	<ol style="list-style-type: none"> <li>1. It is recommended to double-check the references to the material developed and should include the references</li> <li>2. We recommend that you include references to your videos and images so that they don't appear copyrighted or copyrighted</li> </ol>
3	Language Expert Test	<ol style="list-style-type: none"> <li>1. Greetings such as brothers should be replaced with the word Ananda</li> <li>2. Sentence writing there are still some that are not appropriate</li> <li>3. Spelling writing is still not precisely as provoked as it should be in the Province</li> <li>4. Write an incorrect command sentence and give an exclamation point at the end of the sentence</li> </ol>
4.	Individual Test	<ol style="list-style-type: none"> <li>1. Video quality is good</li> <li>2. Video learning is good and needs to be maximized again</li> </ol>

Based on the results of inputs provided by experts, product revisions are made to improve the products developed to be more qualified. The results of the revisions that presented in figure 1.



Figure 1. Revised ICT-Based Learning Media Results

## Discussion

Based on the results of ICT-based learning, media analysis got an excellent qualification, so it was feasible to apply it in the learning process. ICT-based learning media could be involved in the learning process due to several factors, namely the following. First, ICT-based learning media applied in the learning process can attract students in learning. This learning medium can lure students into creating their concept maps of the material being taught. Interesting learning media can also increase students' morale and motivation in learning (Aka, 2017; Wang et al., 2021). In addition, the development of ICT-based learning media also presents interesting images for students. Following previous research findings, this is that interesting images will attract and motivate students in learning (Indahini et al., 2018; Naharir et al., 2019).

Both aspects of the material, ICT-based learning media developed is *Powerpoint*. In developing this media following basic competencies, the learning objectives in *Powerpoint*, materials (text, images, videos) were following the needs and characteristics of students. In addition, the design of interesting media may match the characteristics of students by using interesting images that can attract students' attention and follow the material taught and equipped with video according to the material, interesting *background*. Then the use of transitions and *Animation* in making *Powerpoint* was also needed for the media to be made to look attractive. Through this medium, students can understand abstract material. Elementary school children's thinking was called concrete operational thinking. The meaning of concrete

operations referred to by Piaget is a condition in which children can already function their minds to think logically of something concrete or real (Isdayanti, 2020; Kristiana, 2020).

Previous research findings also state that *ICT-based learning media* can help students with learning difficulties (Arrosagaray et al., 2019; Kuswanto et al., 2017; Nookhonga & Wannapiroon, 2015). Other research findings also state that *ICT-based learning media* can increase students' learning interest (Leder et al., 2018; P. León & Martínez, 2021). The advantages of *ICT-based learning media* are that this media is easier to see the overall picture related to the material, helping the brain organize, remember, compare and make relationships, facilitate the addition of new information, and reassessment can be done faster. However, this study has limitations that are only carried out at the stage of development. The implementation stage is not implemented because of the Covid-19 pandemic situation. This research implies that teachers can use the media to help students who have difficulties in learning. In addition, learning media can also be a student self-learning facility.

#### 4. Conclusion

*ICT-based learning media* get an excellent category. *ICT-based learning* was feasible in the learning process. *ICT-based knowledge* can be used by students who have difficulty learning to impact improving student learning outcomes. Further research was recommended to continue *ICT-based learning media* at the implementation stage.

#### References

- Abrams, Z. I., & Byrd, D. R. (2016). The effects of pre-task planning on L2 writing: Mind-mapping and chronological sequencing in a 1st-year German class. *System*, 63. <https://doi.org/https://doi.org/10.1016/j.system.2016.08.011>.
- Aka, K. A. (2017). Pemanfaatan Teknologi Informasi dan Komunikasi (TIK) sebagai Wujud Inovasi Sumber Belajar di Sekolah Dasar. *Jurnal Pendidikan Dan Pembelajaran Sekolah Dasar*, 1(2), 28–37. <http://journal.um-surabaya.ac.id/index.php/pgsd/article/view/1041/724>.
- Arrosagaray, M., González, M., Pino, M., & Rodríguez, B. (2019). A comparative study of Spanish adult students' attitudes to ICT in classroom, blended and distance language learning modes. *Computers and Education*, 134(October 2018), 31–40. <https://doi.org/10.1016/j.compedu.2019.01.016>.
- Azzam Alobaid. (2021). ICT multimedia learning affordances: role and impact on ESL learners' writing accuracy development. *Journal Pre-Proof*. <https://doi.org/10.1016/j.heliyon.2021.e07517>.
- Booij, R., P.J. Budde, R., L. Dijkshoorn, M., & Marcelvan Straten. (2020). Technological developments of X-ray computed tomography over half a century: User's influence on protocol optimization. *European Journal of Radiology*, 131, 109261. <https://doi.org/10.1016/j.ejrad.2020.109261>.
- Chairiyah. (2017). Implementasi Pendidikan Karakter melalui Nilai-nilai Kearifan Lokal di SD Taman Siswa Jetis Yogyakarta. *Jurnal Pendidikan Ke-SD-An*, 4(1), 208–215. <https://doi.org/http://dx.doi.org/10.30738/trihayu.v4i1.2116>.
- Effendi, R., Herpratiwi, & Sutiarso, S. (2021). Pengembangan LKPD Matematika Berbasis Problem Based Learning di Sekolah Dasar. *Jurnal Basicedu*, 5(2), 920–929. <https://doi.org/10.31004/basicedu.v5i2.846>.
- Fitriani, W., & Wangid, M. N. (2021). Berpikir Kritis dan Komputasi: Analisis Kebutuhan Media Pembelajaran di Sekolah Dasar. *Jurnal Pendidikan Sains Indonesia*, 9(2), 234–242. <https://doi.org/10.24815/jpsi.v9i2.19040>.
- Hanik, E. U. (2020). Self directed learning berbasis literasi digital pada masa pandemi covid-19 di Madrasah Ibtidaiyah. *ELEMENTARY: Islamic Teacher Journal*, 8(1), 183. <https://doi.org/10.21043/elementary.v8i1.7417>.
- Harahap, S. A., Dimiyati, D., & Purwanta, E. (2021). Problematika Pembelajaran Daring dan Luring Anak Usia Dini bagi Guru dan Orang tua di Masa Pandemi Covid 19. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 5(2), 1825–1836. <https://doi.org/10.31004/obsesi.v5i2.1013>.
- Hariadi, B., Dewiyani Sunarto, M. J., & Sudarmaningtyas, P. (2016). Development of Web-Based Learning Application for Generation Z. *International Journal of Evaluation and Research in Education*, 5(1), 60–68.
- Indahini, R. S., Sulton, & Husna, A. (2018). Pengembangan Multimedia Mobile Learning Pada Mata Pelajaran Simulasi Dan Komunikasi Digita Kelas X SMK. *Jurnal Kajian Teknologi Pendidikan*, 1(2), 141–148. <http://journal2.um.ac.id/index.php/jktp/article/view/3730>.
- Isdayanti, D. (2020). Pengembangan Media Pembelajaran Audio Visual Berbasis Adobe Flash Pada Materi Daur Hidup Hewan. *JIPP (Jurnal Ilmiah Pendidikan Dan Pembelajaran)*, 4(2), 390–406. <https://doi.org/http://dx.doi.org/10.23887/jipp.v4i2.27320>.

- Kristiana, A. A. I. D. (2020). Meningkatkan Keterampilan Berbicara Siswa Melalui Model Pembelajaran Role Playing Berbantuan Media Audio Visual. *Jurnal Mimbar Ilmu*, 25(3), 449–459. <https://doi.org/10.23887/mi.v25i3.26388>.
- Kuswanto, J., Walusfa, Y., Artikel, S., Korespondensi, A., Ratu Penghulu No, J., Sari, K., Baru, T., Raja Tim, B., Ogan Komering Ulu, K., & Selatan, S. (2017). Pengembangan Multimedia Pembelajaran pada Mata Pelajaran Teknologi Informasi dan Komunikasi Kelas VIII. *Innovative Journal of Curriculum and Educational Technology IJCET*, 6(2), 58–64.
- Lase, D. (2019). Pendidikan di Era Revolusi Industri 4.0. *Jurnal Sundermaan*, 1(1). <https://doi.org/https://doi.org/10.36588/sundermann.v1i1.18>.
- Leder, J., Horlitz, T., Puschmann, P., Wittstock, V., & Schütz, A. (2018). Personality variables in risk perception, learning and risky choice after safety training: Data of two empirical intervention studies contrasting immersive VR and PowerPoint. *Data in Brief*, 20, 2017–2019. <https://doi.org/10.1016/j.dib.2018.08.153>.
- Lohr, A., Stadler, M., Schultz-Pernice, F., Chernikova, O., Sailer, M., Fischer, F., & Sailer, M. (2021). On powerpointers, clickerers, and digital pros: Investigating the initiation of digital learning activities by teachers in higher education. *Computers in Human Behavior*, 119. <https://doi.org/https://doi.org/10.1016/j.chb.2021.106715>.
- Meyer, O. A., Omdahl, M. K., & Makransky, G. (2019). Investigating the effect of pre-training when learning through immersive virtual reality and video: A media and methods experiment. *Computers and Education*, 140, 103603. <https://doi.org/10.1016/j.compedu.2019.103603>.
- Mulyanti, B., Purnama, W., & Pawinanto, R. E. (2020). Distance learning in vocational high schools during the covid-19 pandemic in West Java province, Indonesia. *Indonesian Journal of Science and Technology*, 5(2). <https://doi.org/10.17509/ijost.v5i2.24640>.
- Mulyati, S., & Evendi, H. (2020). Pembelajaran Matematika Melalui Media Game Quizizz Untuk Meningkatkan Hasil Belajar Matematika Smp 2 Bojonegara. *Jurnal Pendidikan Matematika*, 03(01), 64–73. <https://doi.org/http://dx.doi.org/10.30656/gauss.v3i1.2127>.
- Naharir, R. A., Dantes, N., & Kusmariyatni, N. (2019). Pengaruh Model Pembelajaran Course Review Horay Berbantuan Media Video Pembelajaran Terhadap Hasil Belajar Matematika Siswa Kelas V Semester Ii Sd Gugus Vi Kecamatan Sukasada. *MIMBAR PGSD Undiksha*, 7(1). <https://doi.org/http://dx.doi.org/10.23887/jjpsgd.v7i1.16975>.
- Nookhonga, J., & Wannapiroon, P. (2015). Development of Collaborative Learning Using Case-based Learning via Cloud Technology and Social Media for Enhancing Problem-solving Skills and ICT Literacy within Undergraduate Students. *Procedia - Social and Behavioral Sciences*, 174, 2096–2101. <https://doi.org/10.1016/j.sbspro.2015.02.007>.
- Ota, M. K., Djou, A. M. G., & Numbah, F. F. (2021). Problematika Pembelajaran Daring Siswa Kelas Vii Smpn. *Jurnal Pengabdian Masyarakat*, 2(1), 74–81. <https://doi.org/10.37478/mahajana.v2i1.769>.
- P. León, S., & Martínez, I. G. (2021). Impact of the provision of PowerPoint slides on learning. *Computers & Education*, 173, 104283. <https://doi.org/10.1016/j.compedu.2021.104283>.
- Pakpahan, R., & Fitriani, Y. (2020). Analisa Pemanfaatan Teknologi Informasi Dalam Pembelajaran Jarak Jauh Di Tengah Pandemi Virus Corona Covid-19. *JISAMAR (Journal of Information System, Applied, Management, Accounting and Research)*, 4(2), 30–36. <http://journal.stmikjayakarta.ac.id/index.php/jisamar/article/view/181>.
- Pascual, M., Miñana, E. P., & Giacomello, E. (2016). Integrating knowledge on biodiversity and ecosystem services: Mind-mapping and Bayesian Network modelling. *Ecosystem Services*, 17. <https://doi.org/https://doi.org/10.1016/j.ecoser.2015.12.004>.
- Saidah, N., Parmin, & Dewi, N. R. (2014). Pengembangan LKS IPA Terpadu Berbasis Problem Based Learning Melalui Lesson Study Tema Ekosistem Dan Pelestarian Lingkungan. *USEJ - Unnes Science Education Journal*, 3(2). <https://doi.org/10.15294/usej.v3i2.3357>.
- Salmiah, Fatah, An., & Purnamawati. (2016). Efektivitas Penggunaan Media Powerpoint dalam Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Penerapan Konsep Mutu Hasil Pertanian. *Jurnal Pendidikan Dan Teknologi Pertanian*, 2. <https://doi.org/10.26858/jptp.v2i0.5179>.
- Shaik Alavudeen, S., Easwaran, V., Iqbal Mir, J., Shahrani, S. M., Ali Aseeri, A., Abdullah Khan, N., Mohammed Almodeer, A., & Abdullah Asiri, A. (2021). The influence of COVID-19 related psychological and demographic variables on the effectiveness of e-learning among health care students in the southern region of Saudi Arabia. *Saudi Pharmaceutical Journal*. <https://doi.org/10.1016/j.jsps.2021.05.009>.
- Sutrisno. (2016). Berbagai Pendekatan Dalam Pendidikan Nilai Dan Pendidikan Kewarganegaraan. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, 4(1). <https://doi.org/http://dx.doi.org/10.24269/dpp.v4i1.56>.

- Tarighi, S., & Saeed Shavvalpour. (2021). Technological development of E&P companies in developing countries: An integrative approach to define and prioritize customized elements of technological capability in EOR. *Resources Policy*, 72, 102051. <https://doi.org/10.1016/j.resourpol.2021.102051>.
- Wang, Y., Liu, H., & Zhou, Y. (2021). Development of a deep learning-based model for the entire production process of steam-assisted gravity drainage (SAGD). *Fuel*, 287. <https://doi.org/https://doi.org/10.1016/j.fuel.2020.119565>.
- Willya, Poluakan, Dikayuana, Wibowo, & Raharjo. (2019). Generasi Milenial Pada Era Revolusi Industri 4.0. *Focus: Jurnal Pekerjaan Sosial*, 2(2). <https://doi.org/https://doi.org/10.24198/focus.v2i2.26241>.
- Yuanta, F. (2017). Pengembangan Media Audio Visual Mata Pelajaran Bahasa Indonesia Untuk Sekolah Dasar. *Ibriez: Jurnal Kependidikan Dasar Islam Berbasis Sains*, 2(2), 59-70. <https://doi.org/10.21154/ibriez.v2i2.36>.
- Yusnia, Y. (2019). Penggunaan Media Video Scribe Dalam Pembelajaran Literasi Sains Untuk Mahasiswa PGPAUD. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, 10(1), 71-75. <https://doi.org/https://doi.org/10.17509/cd.v10i1.17436>.

