



Learning from the Perspective of Parent and Teacher Creativity in Using Learning Media

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ABSTRACT

One of the impacts of the pandemic in the world of education is that the learning process must be carried out online. So efforts to provide learning media are too forced. Not only from an economic perspective, but also the ability to understand and use learning media. It takes creativity and solidarity between parents and teachers to outsmart and avoid bad things that will happen. The aim of this research is to determine the role of parents and determine teachers' strategies, designs and plans in determining learning media. This research uses qualitative methods using survey models and in-depth interviews. The results of this research are that parents and teachers have the same point of view and innovation in the use of learning media. This research confirms that the use of learning media is not only focused on learning objectives, but it is important to take into account several things: 1) how to select media, which consists of media selection models and reasons for using media. 2) media selection criteria consisting of the goals and objectives of media use, 3) media characteristics, 4) time and 5) cost of media use and 6) availability of the learning media. It is hoped that all steps chosen really take into account the principles of using learning media. Therefore, the limitation of this research is that researchers only focus on solution actions regarding innovation that make things easier for the parties involved in the learning process. It is hoped that future researchers can continue this research in certain subjects.

Keywords: *Creative Perspective, Educational Media, Parental and Teacher*

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INTRODUCTION

The main foundation of the teaching and learning process in schools is to achieve learning objectives(Christodoulou et al., 2019; Ullah et al., 2020; Xiao et al., 2018). There are five very important components in the world of education, namely objectives, materials, methods, media, and learning evaluation(Bogarín et al., 2018; Harmon et al., 2021; Huang et al., 2018). These five aspects influence each other or are interrelated in learning(Friedler et al., 2019; Haq et al., 2018; Mehta et al., 2019). The choice of a

teaching method will have an impact on the type of learning media used, without forgetting three other important aspects such as objectives, materials and learning evaluation.(Karabulut-Ilgu et al., 2018; Martin et al., 2020; Medeiros et al., 2019). In this case, it can be said that one of the main functions of learning media is as a teaching aid that will influence and motivate both conditions and the learning environment.(Alizadeh et al., 2021; Kappel et al., 2018; Meng & Karniadakis, 2020). Education includes components such as teachers, students, learning methods and others(Page, 2018; Patel et al., 2019; Preim & Saalfeld, 2018). Here the teacher has a role, and the role of the teacher is to function as a guide who conveys and transfers teaching materials in the form of knowledge to students who act as gainers of knowledge, in the learning process.(Cheng & Tsai, 2019; Imants & Van der Wal, 2020; van Leeuwen & Janssen, 2019). There is also teaching material delivered by teachers which is information or messages that students must learn to understand, appreciate and put into practice as a bridge to completing the goals of education.

The role of the teacher is a learning resource for students. As a learning resource, teachers must master the material to be presented, for this reason teachers must prepare themselves with maximum strategies. In order to achieve learning objectives, teachers also act as facilitators who are required to adapt learning media that can facilitate student learning activities(Guilherme, 2019; Haegele et al., 2018; Swindle et al., 2019). As a facilitator, teachers are required to be able to create learning media that are active, educative, creative and fun in principle. With the hope that learning media can build two-way communication between teachers and students(Lee, 2019; Santos et al., 2019; Shorey et al., 2018). There are four main components of learning that teachers must understand and fulfill, namely experience, communication, interaction and reflection.

The use of learning media will also determine the success of learning(Agrawal & Awekar, 2018; Carlson et al., 2018; Zhang et al., 2018). Learning media is a tool or intermediary that is useful for carrying out learning activities smoothly with the right process so that the learning objectives can be achieved(Amini & Mohaghegh, 2019; Fan et al., 2020; Stathopoulou et al., 2019). Learning media is understood as all forms that can convey messages from learning, media will also stimulate students' minds, and also raise attention to students' abilities.(Chhinzer & Russo, 2018; Schmid & Petko, 2019; Spengler et al., 2018). What should be noted for a teaching staff is that each learning material has varying levels of difficulty. Sometimes one material does not require tools or media, but in other materials it is very dependent on learning media. Not only that, the learning process also requires the role of parents as the first people students know.

Parents are the first school for children. Parents' involvement in the lives of children or students is certainly more than that of teachers. Parents are not only role models for children, but also teachers and educators for their children. Parents who teach children to speak, shape and evaluate behavior also accompany their growth and development which will shape the child's character to be more polite and civilized. As parents, it is their responsibility to provide a comfortable atmosphere for their children to carry out their

learning. This certainly affects children's inner motivation to do assignments and study at home.

Allying and coordinating between the two roles of teachers and parents is an urgency that must be understood and given space by society. Because to achieve the specified learning goals, of course it cannot be separated from the guidance and supervision of parents and teachers. This is an important gap that must be taken into account when dealing with learning media. There needs to be harmony in the perspectives of teachers and parents in the use of learning media. Because this will lead to problems media selection methods consisting of media selection models and reasons for media use. And also media selection criteria consisting of goals and objectives in using media, then in using various media characteristics.

From the things described above, it is certainly caused by an inappropriate phenomenon fulfill existing hopes. And parents who are unfamiliar with technology make them forget their duties and roles as parents. Furthermore, students still make mistakes in using the learning media provided by their parents. And also teachers are still fixated on monotonous PBM, lack of interaction and lack of action to stimulate students' enthusiasm for learning and do not use learning media so that students' development does not experience what is called improvement. As a parent or teacher, you must be able to develop and must be able to utilize learning media. The benefits of using learning media are numerous.

By using media, students will be better able to understand material that cannot be understood captured by the five senses. The use of media will also be able to make children interested and passionate about learning, and the media will also be able to provide innovation, creativity, in the shapes and colors provided. (Ghura & Damani, 2022; HamiD et al., 2021; Mungai, 2021). Thus, students are expected to be able or capable of mastering it to be used as an introduction, such as forming a sense of concern in students towards the material in the learning process taught by the teacher. (Ainscow & Messiou, 2018; Andrejevic & Selwyn, 2020; Puljak et al., 2020). Not only that, the benefits of learning media will also make the learning process smoother, such as facilitating interaction between students and educators so that students are more optimal in mastering science and knowledge. (Arce et al., 2019; Koomen et al., 2018; Newman et al., 2020). With this, the material distributed by educators will be uniform.

The reason researchers use learning titles is in the perspective of people's creativity parents and teachers in using learning media, in this research, this is because if you look at today's technology, technology is already sophisticated, so a teacher's perspective or effort is really needed. But not only teachers but also parents, because children learn not only at school but also at home, therefore teachers and parents must open their minds and must always be updated on technological developments so that children do not experience being left behind by the times. And also so that children do not find it difficult to carry out the learning process with the learning model. Therefore, this title is the researcher's choice for conducting research.

RESEARCH METHODS

The research method that researchers use is a qualitative method. Qualitative methods are research that is descriptive or describes something and tends to usually use analysis (Guest et al., 2020; Phillippi & Lauderdale, 2018; Sun et al., 2020). In this qualitative research, meaning and process are prioritized. This theoretical basis is more focused on research based on facts that occur in the field. Qualitative research also explains phenomena in depth in the form of data collection. The more data collected, the more qualified researchers are in conducting this research. This method produces data through speech, writing what is said and the behavior of someone who is the target speaker as the research progresses.

Qualitative methods have the benefit of finding phenomena in the form of interesting conclusions or results originating from relevant events based on the research object carried out by the researcher. In this research, researchers must find valid sources who must match the title chosen to conduct in-depth interviews. So that in the end it will be easy for researchers to find the results that will be displayed in the research results (Doyle et al., 2020; Guest et al., 2020). And here researchers use method techniques because researchers will get more accurate information to believe in, and will also get accurate information. Qualitative research is research by investigating, describing and then discovering the quality of the social processes described in cases that occur in the field.

This research is also often referred to as natural research that does not contain other elements like qualitative research must use measuring instruments and interviews that are not very in-depth, but the information obtained must be from several people. Another reason for qualitative research as natural research is because there is no misuse or fraud in the data in the research, and the data found is still data that could possibly change at any time. In this research, you must also focus on speaking style because with a steady speaking style, the questions asked will be heard clearly by the resource person and the resource person will answer relaxedly and not stammer. So with this research, researchers will make it easier to understand descriptively and theoretically.

DISCUSSION RESULTS

Based on what the researcher understands from interviews that have been conducted directly, the researcher can obtain accurate information. Before continuing with the discussion, the researcher will first explain the background of the sources and the place the researcher used in conducting the research. In this case, researchers interviewed one of the parents of SMPN 5 Batusangkar students, namely Mrs. Asmi Gusri Yelly and a teacher from SMPN 5 Batusangkar, namely Mr. Meshendrizar M.Kom. who is an informatics subject teacher and teaches in all classes at SMPN 5 Batusangkar school. Regarding the two sources who were the targets of the research, they were very helpful to the researchers and supported this research. With this, it is easier for researchers to obtain accurate information.

This research uses qualitative methods with the aim of making the interview process with sources easier and smoother. In conducting interviews, researchers take a

useful source to complete the required data. Next, the researcher asked several questions to the resource person to obtain information related to the title, such as what media the school uses in the learning process, what methods are used in learning activities, and what the school will do if there are problems arising from the use of media. learning, whether learning media has been implemented well at the school, then ask parents, what are the parents' tips or ways to increase the use of learning media, are there any problems caused if children use learning media when doing assignments at home, apart from The researcher also wants to know how important this learning media is in the world of education. So that researchers can easily understand it and also have to explain it broadly and in detail so that people in general can easily understand it.

Based on the information that researchers obtained, the learning media used by SMPN 5 Batusangkar is audio-visual media. Because by using audio-visual media, students will better capture learning, because audio-visual media is in the form of images and sound. So that it is easier for children to master the material being taught because audio-visual media is an interesting medium to use and is very effective. Audio visual media also provides many benefits for students, because using audio visual media provides a clear meaning to the material obtained and is not complicated when received. The presence of media can also help teachers in the learning process, therefore children will be happier and more comfortable in learning.

Regarding the information obtained through Mr Meshendrizal, he said that there were 2 media used in the learning process at SMPN 5 Batusangkar, namely pure audio visual media and impure audio visual media. In pure audio visual media, Mr. Meshendrizal uses videos in learning, such as explaining what computer devices are in the informatics subject taught by Mr. Meshendrizal to students. Because by using videos, students will know more and more quickly about the devices on the computer, so children will know and understand more quickly. Because the video provided by Mr. Meshendrizal contains real information. Not only that, the learning process, especially informatics subjects, also uses impure audio-visual media, such as the use of PPT when Mr Meshendrizal teaches, which only takes the form of slides. In the end, the two media used by Mr. Meshendrizal will be able to increase the knowledge and abilities of his students.

Based on interviews conducted, the methods used by schools in learning use different methods, this is to ensure that children do not get bored in the learning process because children will study at school every day. According to Mr. Meshendrizal, teachers at SMPN 5 must try and develop more interesting methods so that students do not feel empty in class. Therefore, Mr. Meshendrizal also took the students into the computer laboratory to practice so that the students could master it better and not be inclined bored of listening to material that is only explained in class. With the practice carried out in the computer laboratory, the learning environment is also done without watching so that children are more enthusiastic and enthusiastic in carrying out the learning process.

As for the perspective of teacher creativity in schools, researchers also received information that there are many ways that teachers have used to increase the use of learning media. For example, before teaching, the teacher has prepared and designed what

media will be used in the material being taught, including Mr. Meshendrizar, and also in using learning media, the teacher also involves students, meaning the teacher gives students the opportunity to respond to whether they can understand what is being explained or not. Therefore, students must also maximize their use of this learning media. And teachers also carry out evaluations related to the use of learning media used, with the aim of choosing what other learning media will be used next, also to check whether the objectives of this learning media have been achieved or not, as well as measuring and assessing the teacher's ability to use them. learning media. In the end, teachers can improve the media to be even better.

Talking about the role of parents in the use of learning media. According to Ibuk Asmi Gusri Yelly, it is very important, because the learning process is not only carried out at school but also at home, such as in making assignments. Sometimes children also ask questions and ask for guidance from us as parents, therefore we also have to know and understand what kind of learning media should be used, so that children can and are able to understand what we explain. Seeing today's technological developments, parents are also required to understand how to use technology so they don't miss out on information. Therefore, at home we can also help or provide understanding to children. If we are in doubt, we can also seek knowledge on gadgets, according to Mrs. Asmi Gusri Yelli.

Furthermore, researchers can conclude that as parents and teachers, in essence, they must be able to master technology, they must not be inferior to technology, parents and teachers must also be able to develop knowledge. That way parents and teachers will be able to provide good knowledge to children. So that when children ask questions, teachers and parents can answer, therefore parents and teachers must also master the learning media used so that children do not get bored while learning, but with learning media children should be even more enthusiastic. So in that case teachers and parents must be more active and able to release and find out information about what media to use, namely not forgetting what is called technology. In the end, the teacher and parent perspective will turn out well.

Furthermore, it can be concluded that the results of interviews conducted by researchers, Mr. Meshendrizar and Mrs. Asmi Gusri Yelli, said that learning media are physical facilities that can provide knowledge and learning to children, and tools that are used for children to be more enthusiastic in the teaching and learning process. with the aim that learning media can stimulate learning patterns to support the results of the process that has been carried out and with learning media it will form an effective learning process. Learning media also comes in many forms, so especially as a teacher you must be able to control this media. And parents must also be able to monitor children at home in their use of learning media so that children do not use them incorrectly. Therefore, the purpose of learning media, whether at home or at school, can be carried out well.

As a prospective educator, of course you have to understand learning media, so that later when teaching you don't feel awkward, nervous and afraid at school. In this way, as a prospective educator, you must master learning media so that what is conveyed is not obtrusive and stiff. As a prospective educator, you must also be able to use many methods

in teaching with the aim that children do not get bored of learning under the existing conditions. And must be able to improve the learning process and learning media so that the teacher's goals can be achieved. Teachers must also seek the latest information so that communication can develop and success will occur. So that the child's understanding of what is being taught can be obtained well and the child will achieve maximum results on what the teacher has given.

CONCLUSION

It can be concluded based on research that has been conducted by researchers from the perspective of creativity of parents and teachers in using learning media which can be done in many ways by teachers and parents. With creativity from teachers and parents, children will be able to feel comfortable with what is called learning, so that children can more easily understand the material being invited. And as for the way teachers carry out learning, it is not monotonous and there is always creativity in developing and improving the methods taught or applied to students. Apart from that, the existence of learning media will also help teachers in the learning process. So that teachers have the latest innovations in the material taught. With this, parents and teachers will know what needs their children or students want, and students will achieve good achievements.

SUGGESTION

If you look at it now, Indonesia is far behind the world. This happens because the quality of education in Indonesia can be said to be still standard. Therefore, there is a need for appropriate methods to improve the quality of education. And also learning media that must always be improved. In this way, students must be able to master the media used in the learning process and be more active in utilizing media or tools in an effort to improve learning outcomes. Not only students, teachers and parents must also be able to help children develop their use of media. Teachers can also develop learning media in learning materials in line with advances in science and technology that are adapted to learning objectives. This is done so that children can improve their learning outcomes optimally.

THANK-YOU NOTE

By saying Alhamdulillah, in the end the researcher was able to complete the research with the title "Learning from the Perspective of Parent and Teacher Creativity in the Use of Learning Media". Thank you also to the parents of one of the students and the teacher who supported the researcher in conducting this research. Hopefully, with this research, parents and teachers will be more enthusiastic in seeking the benefits of using learning media for children so that children's insight develops further and they learn more about learning.

REFERENCES

Agrawal, S., & Awekar, A. (2018). Deep Learning for Detecting Cyberbullying Across Multiple Social Media Platforms. In G. Pasi, B. Piwowarski, L. Azzopardi, & A.

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- Hanbury (Eds.), *Advances in Information Retrieval* (Vol. 10772, pp. 141–153). Springer International Publishing. https://doi.org/10.1007/978-3-319-76941-7_11
- Ainscow, M., & Messiou, K. (2018). Engaging with the views of students to promote inclusion in education. *Journal of Educational Change*, 19(1), 1–17. <https://doi.org/10.1007/s10833-017-9312-1>
- Alizadeh, R., Abad, JMN, Ameri, A., Mohebbi, M.R., Mehdizadeh, A., Zhao, D., & Karimi, N. (2021). A machine learning approach to the prediction of transport and thermodynamic processes in multiphysics systems—Heat transfer in a hybrid nanofluid flow in porous media. *Journal of the Taiwan Institute of Chemical Engineers*, 124, 290–306. <https://doi.org/10.1016/j.jtice.2021.03.043>
- Amini, S., & Mohaghegh, S. (2019). Application of Machine Learning and Artificial Intelligence in Proxy Modeling for Fluid Flow in Porous Media. *Fluids*, 4(3), 126. <https://doi.org/10.3390/fluids4030126>
- Andrejevic, M., & Selwyn, N. (2020). Facial recognition technology in schools: Critical questions and concerns. *Learning, Media and Technology*, 45(2), 115–128. <https://doi.org/10.1080/17439884.2020.1686014>
- Arce, M.I., Mendoza-Lera, C., Almagro, M., Catalán, N., Romaní, A.M., Martí, E., Gómez, R., Bernal, S., Foulquier, A., Mutz, M., Marcé, R., Zoppini, A., Gionchetta, G., Weigelhofer, G., del Campo, R., Robinson, CT, Gilmer, A., Rulik, M., Obrador, B., ... von Schiller, D . (2019). A conceptual framework for understanding the biogeochemistry of dry riverbeds through the lens of soil science. *Earth-Science Reviews*, 188, 441–453. <https://doi.org/10.1016/j.earscirev.2018.12.001>
- Bogarín, A., Cerezo, R., & Romero, C. (2018). A survey on educational process mining: Survey on educational process mining. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, 8(1), e1230. <https://doi.org/10.1002/widm.1230>
- Carlson, J., Rahman, M., Voola, R., & De Vries, N. (2018). Customer engagement behaviors in social media: Capturing innovation opportunities. *Journal of Services Marketing*, 32(1), 83–94. <https://doi.org/10.1108/JSM-02-2017-0059>
- Cheng, K.-H., & Tsai, C.-C. (2019). A case study of immersive virtual field trips in an elementary classroom: Students' learning experience and teacher-student interaction behaviors. *Computers & Education*, 140, 103600. <https://doi.org/10.1016/j.compedu.2019.103600>
- Chhinzer, N., & Russo, A. M. (2018). An exploration of employer perceptions of graduate student employability. *Education + Training*, 60(1), 104–120. <https://doi.org/10.1108/ET-06-2016-0111>
- Christodoulou, E., Ma, J., Collins, G.S., Steyerberg, E.W., Verbakel, J.Y., & Van Calster, B. (2019). A systematic review shows no performance benefit of machine learning over logistic regression for clinical prediction models. *Journal of Clinical Epidemiology*, 110, 12–22. <https://doi.org/10.1016/j.jclinepi.2019.02.004>
- Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*, 25(5), 443–455. <https://doi.org/10.1177/1744987119880234>
- Fan, C., Wu, F., & Mostafavi, A. (2020). A Hybrid Machine Learning Pipeline for Automated Mapping of Events and Locations From Social Media in Disasters. *IEEE Access*, 8, 10478–10490. <https://doi.org/10.1109/ACCESS.2020.2965550>
-

-
- Friedler, S.A., Scheidegger, C., Venkatasubramanian, S., Choudhary, S., Hamilton, E.P., & Roth, D. (2019). A comparative study of fairness-enhancing interventions in machine learning. *Proceedings of the Conference on Fairness, Accountability, and Transparency*, 329–338. <https://doi.org/10.1145/3287560.3287589>
- Ghura, A.S., & Damani, B. (2022). Sarvaay Solutions – creating value innovation for farmers. *Emerald Emerging Markets Case Studies*, 12(2), 1–21. <https://doi.org/10.1108/EEMCS-01-2022-0018>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLOS ONE*, 15(5), e0232076. <https://doi.org/10.1371/journal.pone.0232076>
- Guilherme, A. (2019). AI and education: The importance of teacher and student relations. *AI & SOCIETY*, 34(1), 47–54. <https://doi.org/10.1007/s00146-017-0693-8>
- Haegele, J., Zhu, X., & Davis, S. (2018). Barriers and facilitators of physical education participation for students with disabilities: An exploratory study. *International Journal of Inclusive Education*, 22(2), 130–141. <https://doi.org/10.1080/13603116.2017.1362046>
- HamiD, N., RoehriG, G., LiEsnor, D., Rachmah, H., Royyani, Muh. A., & Hanifah, M. (2021). Development Model for Environment-Based Learning to Improve Junior High School Students' Geographical Skills. *Review of International Geographical Education Online*. <https://doi.org/10.33403/rigeo.833857>
- Haq, A.U., Li, J.P., Memon, M.H., Nazir, S., & Sun, R. (2018). A Hybrid Intelligent System Framework for the Prediction of Heart Disease Using Machine Learning Algorithms. *Mobile Information Systems*, 2018, 1–21. <https://doi.org/10.1155/2018/3860146>
- Harmon, DJ, Attardi, SM, Barrenkala, M., Bentley, DC, Brown, KM, Dennis, JF, Goldman, HM, Harrell, KM, Klein, BA, Ramnanan, CJ, Richtsmeier, JT, & Farkas, GJ (2021). An Analysis of Anatomy Education Before and During Covid-19: May–August 2020. *Anatomical Sciences Education*, 14(2), 132–147. <https://doi.org/10.1002/ase.2051>
- Huang, A., Nguyen, PQ, Stark, JC, Takahashi, MK, Donghia, N., Ferrante, T., Dy, AJ, Hsu, KJ, Dubner, R.S., Pardee, K., Jewett, M.C., & Collins , J. J. (2018). BioBits™ Explorer: A modular synthetic biology education kit. *Science Advances*, 4(8), eaat5105. <https://doi.org/10.1126/sciadv.aat5105>
- Imants, J., & Van der Wal, M. M. (2020). A model of teacher agency in professional development and school reform. *Journal of Curriculum Studies*, 52(1), 1–14. <https://doi.org/10.1080/00220272.2019.1604809>
- Kappel, D., Legenstein, R., Habenschuss, S., Hsieh, M., & Maass, W. (2018). A Dynamic Connectome Supports the Emergence of Stable Computational Functions of Neural Circuits through Reward-Based Learning. *Eneuro*, 5(2), ENEURO.0301-17.2018. <https://doi.org/10.1523/ENEURO.0301-17.2018>
- Karabulut-Ilgu, A., Jaramillo Cherez, N., & Jahren, C.T. (2018). A systematic review of research on the flipped learning method in engineering education: Flipped Learning in Engineering Education. *British Journal of Educational Technology*, 49(3), 398–411. <https://doi.org/10.1111/bjet.12548>
- Koomen, M. H., Rodriguez, E., Hoffman, A., Petersen, C., & Oberhauser, K. (2018). Authentic science with citizen science and student-driven science fair projects. *Science Education*, 102(3), 593–644. <https://doi.org/10.1002/sce.21335>
-

-
- Lee, J. S. (2019). EFL students' views of willingness to communicate in the extramural digital context. *Computer Assisted Language Learning*, 32(7), 692–712. <https://doi.org/10.1080/09588221.2018.1535509>
- Martin, F., Sun, T., & Westine, C. D. (2020). A systematic review of research on online teaching and learning from 2009 to 2018. *Computers & Education*, 159, 104009. <https://doi.org/10.1016/j.compedu.2020.104009>
- Medeiros, R.P., Ramalho, G.L., & Falcao, T.P. (2019). A Systematic Literature Review on Teaching and Learning Introductory Programming in Higher Education. *IEEE Transactions on Education*, 62(2), 77–90. <https://doi.org/10.1109/TE.2018.2864133>
- Mehta, P., Bukov, M., Wang, C.-H., Day, AGR, Richardson, C., Fisher, C.K., & Schwab, D.J. (2019). A high-bias, low-variance introduction to Machine Learning for physicists. *Physics Reports*, 810, 1–124. <https://doi.org/10.1016/j.physrep.2019.03.001>
- Meng, X., & Karniadakis, G. E. (2020). A composite neural network that learns from multi-fidelity data: Application to function approximation and inverse PDE problems. *Journal of Computational Physics*, 401, 109020. <https://doi.org/10.1016/j.jcp.2019.109020>
- Mungai, E.M. (2021). Climate financing: Case study of Kenya Climate Venture Ltd. *Emerald Emerging Markets Case Studies*, 11(2), 1–25. <https://doi.org/10.1108/EEMCS-09-2020-0355>
- Newman, G., Shi, T., Yao, Z., Li, D., Sansom, G., Kirsch, K., Casillas, G., & Horney, J. (2020). Citizen Science-Informed Community Master Planning: Land Use and Built Environment Changes to Increase Flood Resilience and Decrease Contaminant Exposure. *International Journal of Environmental Research and Public Health*, 17(2), 486. <https://doi.org/10.3390/ijerph17020486>
- Page, J. (2018). Characterizing the principles of Professional Love in early childhood care and education. *International Journal of Early Years Education*, 26(2), 125–141. <https://doi.org/10.1080/09669760.2018.1459508>
- Patel, S., Pelletier-Bui, A., Smith, S., Roberts, M.B., Kilgannon, H., Trzeciak, S., & Roberts, B.W. (2019). Curricula for empathy and compassion training in medical education: A systematic review. *PLOS ONE*, 14(8), e0221412. <https://doi.org/10.1371/journal.pone.0221412>
- Phillippi, J., & Lauderdale, J. (2018). A Guide to Field Notes for Qualitative Research: Context and Conversation. *Qualitative Health Research*, 28(3), 381–388. <https://doi.org/10.1177/1049732317697102>
- Preim, B., & Saalfeld, P. (2018). A survey of virtual human anatomy educational systems. *Computers & Graphics*, 71, 132–153. <https://doi.org/10.1016/j.cag.2018.01.005>
- Puljak, L., Čivljak, M., Haramina, A., Mališa, S., Čavić, D., Klinec, D., Aranza, D., Mesarić, J., Skitarelić, N., Zoranić, S., Majstorović, D., Neuberg, M., Mikšić, Š., & Ivanišević, K. (2020). Attitudes and concerns of undergraduate university health sciences students in Croatia regarding complete switch to e-learning during COVID-19 pandemic: A survey. *BMC Medical Education*, 20(1), 416. <https://doi.org/10.1186/s12909-020-02343-7>
- Santos, H., Batista, J., & Marques, R.P. (2019). Digital transformation in higher education: The use of communication technologies by students. *Procedia Computer Science*, 164, 123–130. <https://doi.org/10.1016/j.procs.2019.12.163>
-

-
- Schmid, R., & Petko, D. (2019). Does the use of educational technology in personalized learning environments correlate with self-reported digital skills and beliefs of secondary-school students? *Computers & Education*, 136, 75–86. <https://doi.org/10.1016/j.compedu.2019.03.006>
- Shorey, S., Kowitlawakul, Y., Devi, M.K., Chen, H.-C., Soong, SKA, & Ang, E. (2018). Blended learning pedagogy designed for communication module among undergraduate nursing students: A quasi-experimental study. *Nurse Education Today*, 61, 120–126. <https://doi.org/10.1016/j.nedt.2017.11.011>
- Spengler, M., Damian, R.I., & Roberts, B.W. (2018). How you behave in school predicts life success above and beyond family background, broad traits, and cognitive abilities. *Journal of Personality and Social Psychology*, 114(4), 620–636. <https://doi.org/10.1037/pspp0000185>
- Stathopoulou, A., Siamagka, N.-T., & Christodoulides, G. (2019). A multi-stakeholder view of social media as a supporting tool in higher education: An educator–student perspective. *European Management Journal*, 37(4), 421–431. <https://doi.org/10.1016/j.emj.2019.01.008>
- Sun, N., Wei, L., Shi, S., Jiao, D., Song, R., Ma, L., Wang, H., Wang, C., Wang, Z., You, Y., Liu, S., & Wang, H. (2020). A qualitative study on the psychological experience of caregivers of COVID-19 patients. *American Journal of Infection Control*, 48(6), 592–598. <https://doi.org/10.1016/j.ajic.2020.03.018>
- Swindle, T., Johnson, S.L., Davenport, K., Whiteside-Mansell, L., Thirunavukarasu, T., Sadasavin, G., & Curran, G.M. (2019). A Mixed-Methods Exploration of Barriers and Facilitators to Evidence-Based Practices for Obesity Prevention in Head Start. *Journal of Nutrition Education and Behavior*, 51(9), 1067–1079.e1. <https://doi.org/10.1016/j.jneb.2019.06.019>
- Ullah, Z., Al-Turjman, F., Mostarda, L., & Gagliardi, R. (2020). Applications of Artificial Intelligence and Machine learning in smart cities. *Computer Communications*, 154, 313–323. <https://doi.org/10.1016/j.comcom.2020.02.069>
- van Leeuwen, A., & Janssen, J. (2019). A systematic review of teacher guidance during collaborative learning in primary and secondary education. *Educational Research Review*, 27, 71–89. <https://doi.org/10.1016/j.edurev.2019.02.001>
- Xiao, Y., Wu, J., Lin, Z., & Zhao, X. (2018). A deep learning-based multi-model ensemble method for cancer prediction. *Computer Methods and Programs in Biomedicine*, 153, 1–9. <https://doi.org/10.1016/j.cmpb.2017.09.005>
- Zhang, Z., He, Q., Gao, J., & Ni, M. (2018). A deep learning approach for detecting traffic accidents from social media data. *Transportation Research Part C: Emerging Technologies*, 86, 580–596. <https://doi.org/10.1016/j.trc.2017.11.027>
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