Meta-Analysis of early childhood learning during the Covid-19 pandemic using the Prism Method

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Abstract
In the current Covid-19 transition period, innovations in early childhood learning models are needed that are effectively used. The many models of early childhood learning during this pandemic need to be studied further which are appropriate for implementation. This study aims to empirically verify the early childhood learning model during the COVID-19 pandemic and analyze the factors that influence early childhood learning during the Covid-19 period. The method used in writing this article is a systematic literature review, which is a literature search from national article sources conducted using indexed searches on Google Scholar and Microsoft Academic. This literature review was conducted using the prism method technique. The articles reviewed are the most recent 50 articles from 2020 to 2021, and the results were sorted into 26 articles. All articles are classified by year of publication, type of indexing journal, method, and early childhood learning model. The results of the study are presented as follows: (1) The search results prove an increase in the number of articles published from 2020-2021. (2) The results of the study show that the most widely used learning model in early childhood learning involves the participation and assistance of parents in children’s learning at home through learning media created by teachers and distributed through social media. (3) The obstacles that can be identified are: (a) the role of parents in children’s learning during the pandemic is still less than optimal, (b) the lack of mastery of technology skills of students and parents during online learning. So it is necessary to develop an early childhood learning model that can be applied in online implementation, able to facilitate collaboration between parents, teachers and students.

Keywords: Meta-Analysis, Early Childhood, Prism Method


Introduction
Learning strategies and methods are one of the important factors that determine the achievement of educational goals. The learning model in early childhood is interpreted as a method of learning approach process in helping stimulate children's growth and development optimally (Hedges, & Cooper, 2018). Early childhood is at a very important stage of development. At an early age, children need a stimulus from the surrounding environment so that their development can develop optimally. One of the educations for early childhood is informal, nor formal and formal education. In early childhood education, it is not only focused on education in schools but also needs an important role from the family environment in helping children grow and develop. Through early childhood education, it is hoped that there will be learning strategies that are appropriate, directed and in accordance with the needs of children. However, in stimulating children’s growth and development, it cannot be done only in the school environment, but also requires the same stimulus from the environment, one of which is the family environment closest to the child.

With the government’s policy to study at home online, the role that was usually carried out by the education unit, has now changed its function in the family unit. This means that currently the house is the center of activity for all family members. This can have a positive impact, because the center of activity returns to its origin, namely the house, but it needs to be managed properly in order to create a comfortable and pleasant atmosphere at home. Since the Covid-19 pandemic, learning that is usually done in schools in face-to-face and direct meetings has been hampered due to overcoming the breaking of the corona chain. For this reason, early childhood educators need to design appropriate and appropriate strategies and learning methods for early
childhood during the COVID-19 pandemic (Yuliejantiningsih, 2020). Online learning requires direct parental involvement in its implementation. During the Covid-19 pandemic, online learning has been carried out in almost all corners of the world, but so far online learning has never been carried out simultaneously. So that in this online learning process, all elements of education are asked to be able to provide learning facilities so that they remain active even though it is done without face to face. Parents are required to be able to guide children to learn from home and be able to replace teachers at school, so the role of parents in achieving online learning goals and guiding children while studying at home is very important. Online learning has been carried out in almost all corners of the world, but so far online learning has never been carried out simultaneously. 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Conditions in the field currently indicate that online learning, or learning that is done at home with parental guidance for early childhood, has several obstacles, so that not a few parents ask the school to be able to immediately carry out face-to-face learning. Obstacles experienced by parents in accompanying children to study at home include lack of understanding of the material by parents, parents’ difficulties in growing children’s interest in learning, not having enough time to accompany children because they have to work, parents are impatient in accompanying children while studying at home, parents’ difficulties in operating gadgets, and obstacles related to internet service coverage. Therefore, In this online implementation, it turns out that parents have many obstacles in assisting their children to study at home. So the need to pay attention to the suitability between methods and ways of online learning requires involvement and cooperation from the family, especially parents to be able to help early childhood so that the learning provided by online teachers can be implemented by students at home. For this reason, the author needs to do a meta-analysis of what strategies and methods of early childhood learning are during the covid 19 pandemic. Researchers try to map out several articles related to what will be the topic of the researcher’s discussion in this paper.

Method

The method used in writing this article is a systematic literature review, which is a literature search from national article sources conducted using indexed searches on Google Scholar and Microsoft Academic. This literature review was conducted using the PRISMA method. The PRISMA method is a method used to carry out literature review and meta-analysis activities to make it easier to review the structure of the roadmap of research objectives (Moher et al., 2015). Meta-analysis in the literature review is used as a source of empirical evidence, through which authors can summarize and analyze articles (Amelia et al., 2019). Furthermore, meta-analysis can also define articles according to their qualifications (Husin et al., 2021), which will play an important role in solving problems by explaining, synthesizing, and assessing quantitative or qualitative evidence for reporting.

The systematic literature review process was carried out in 3 stages, consisting of searching and retrieving articles, filtering and sorting, and analyzing. In the early stages of searching for journal articles related to early childhood learning during the covid-19 pandemic, 50 journal articles were obtained from 2020 to 2021. The results identified using the keyword “early childhood learning during the covid-19 pandemic” which resulted in a google scholar search: 35 and microsoft academic: 15. In the end, 50 articles were thoroughly analyzed, synthesized to extract and summarize the basic findings needed to answer the research objectives. Provide ideas about the philosophy of education during the covid-19 pandemic. In order to better understand the PRISMA flow diagram is presented in Figure 1.

(Meta-Analysis of early childhood learning during the Covid-19 Pandemic using the Prism Method)
Results and Discussion

The results of the meta-analysis data regarding various early childhood learning during the COVID-19 pandemic that have been studied in depth are presented as follows. Figure 2 shows that there is an increase in articles from 2020 to 2021. In 2020 the number of articles published is 10 articles with a percentage of 39%. Meanwhile, in 2021 the number of articles published will increase to 16 articles with a percentage of 61%. This is because in 2020 the online learning transition has only started due to the pandemic period, so teachers have just started designing simple online learning. Learning for early childhood education has just begun to be carried out with face-to-face learning with changes so that there are still few published articles. In 2021, however, many articles on online-based early childhood learning were published due to the COVID-19 outbreak, which required learning to be carried out remotely. Therefore, there are many articles that discuss various methods for early childhood learning innovations during the pandemic.

![Figure 1. Meta Analysis Framework](image)

![Figure 2. Frequency distribution of journals for 2020-2021](image)
The articles in this literature review were taken from 26 national scientific journals from 2020 to 2021. The distribution of articles by type of publication is presented in Figure 3.

![Frequency of articles published in the Journal Index](image)

**Figure 3.** Distribution of the frequency of articles published in the Google Scholar and Microsoft Academic indexes

As shown in Figure 3, in the Google Scholar index the number of articles published is 21 with a percentage of 81%. Meanwhile, in the Microsoft Academic index, the number of published articles increased by 5 with a percentage of 19%. Furthermore, the distribution of articles based on topics, found several articles related to online early childhood learning as follows:

1. Early childhood learning in Century pandemic, found as many as 16 posts, with percentage by 61%, namely: (Shofa, 2020), (Fauziah & Fitriyah, 2020), (Rahmi, 2020), (Ulfadhilah, 2021), (Hariyani, 2020), (Suhendro, 2020), (Rihlah, Kamilah, Shari , 2020), (Widyawati, 2020), (Nurkolis, & Muhdi, 2021), (Renawati, & Suyadi, 2021), (Retnaningrum, 2021), (Maharani, Majid, Yuhanna, 2021), (Fadli, 2021), (Adam, & Mala, 2021), (Kusuma, Rifmasari, & Dahlia, 2021), (Noviandari, Febriani, 2020)
2. Learning problems for early childhood during the pandemic, as many as 2 writings were found, with percentage by 8%, namely: (Harahap, Dimyati, Purwanta, 2021), (Wardani, & Ayriza, 2021).

Based on these findings, various early childhood learning during the pandemic are widely applied in various online-based learning strategies. Figure 4 presents the distribution of articles by topic.

![Frequency of Distribution of Articles by Topic](image)

**Figure 4.** Frequency of article distribution by topic

Furthermore, based on the type of data and methods used in each article analyzed, several methods were found that are often used in this research, such as:

4. Qualitative descriptive: (Shofa, 2020), (Fauziah & Fitriyah, 2020), (Ulfadhilah, 2021), (Harahap, Dimyati, Purwanta, 2021), (Astuti, Harun, 2021), (Suhendro, 2020), (Winarti, 2020), (Tanjung, 2020), (Renawati,
The method that is often used in research is descriptive qualitative and descriptive quantitative. This method is possible to see the application of early childhood learning during the COVID-19 pandemic. With this descriptive method, researchers can create an overview and condition of early childhood learning during the pandemic. While other methods used literature review, development research and case studies. The distribution of articles by data type or method is presented in Figure 5.

The development of innovative learning models is needed (Hidayat et al., 2018; Hidayat et al., 2019a, 2019b; Hidayat et al., 2020; Ganefri et al., 2021), the importance of analyzing learning needs (Ganefri et al., 2017; Hidayat et al., 2019c; Ganefri et al., 2020), learning media and technology (Anwar et al., 2021; Ardi et al., 2021; Hidayat et al., 2021; Hidayat & Muji, 2021; Tasrif et al., al., 2021), is no exception in early childhood learning during the pandemic. This analysis examines various models of early childhood learning during a pandemic, the problems of early childhood learning during a pandemic and the role of parents in children's learning during a pandemic. Research on learning analyzed examines how to develop early childhood learning models that are most widely used during the COVID-19 emergency transition period. This analysis identifies 26 articles from 2020 to 2021. The result is that the most widely used learning model in early childhood learning involves the participation and assistance of parents in children's learning at home through learning media created by teachers and shared through social media such as WA Group. Some of the teacher visits home by making small group divisions to anticipate the spread of the covid-19 virus. (Shofa, 2020), (Fauziah & Fitriyah, 2020), (Rahmi, 2020), (Ulfadhilah, 2021), (Hariyani, 2020), (Suhendro, 2020), (Rihlah, Kamilah, Shari, 2020), (Widyawati, 2020), (Muhdi, Nurkolis, 2021), (Renawati, Suyadi, 2021), (Retnaningrum, 2021), (Maharani, Majid, Yuhanna, 2021), (Fadli, 2021), (Arwendis Wijayanti, 2021), (Adam, Mala, 2021), (Ulfadilah, 2021), (Kusuma, Rifmasari, Dahlia, 2021), (Noviandari, Febriani, 2020).

Conclusion

This systematic literature review using the prism method helps teachers, lecturers and early childhood education stakeholders to assess learning that is suitable to be applied during the Covid-19 period and online learning. The search results prove an increase in the number of articles published from 2020-2021, with a total of 26 articles from the Google Scholar index as many as 21 articles and Microsoft Academic as many as 5 articles. The results of the study show that the topic of online early childhood learning is the most common in early childhood learning in Century pandemic and the most widely used method is the qualitative descriptive method. Furthermore, the most widely used learning model in early childhood learning is to involve the participation...
and assistance of parents in children’s learning at home through learning media created by teachers and shared through social media such as WA Group, partly teacher visits to the house by dividing into small groups to anticipate the spread of the Covid-19 virus.

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