

A SYSTEMATIC ANALYSIS OF LITERATURE REVIEW STRATEGIES FOR IMPLEMENTING OUT-OF-SCHOOL EDUCATION IN REMOTE AREAS

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Abstract

This study aims to analyze the implementation strategies of out-of-school education (OSE) in remote areas through a systematic literature review (SLR) approach. The primary focus of this research is to identify the main challenges faced in implementing OSE in remote regions, analyze the role of various stakeholders in supporting OSE implementation, and formulate effective strategies that can enhance the quality and access to education in these areas. Additionally, this study aims to provide policy recommendations that can support the sustainability of OSE in remote regions. The research method used is a systematic literature review (SLR), which involves searching for and critically analyzing related literature that has been published. Data were collected from various sources, including reputable international journals and Sinta-accredited journals, which were then analyzed to identify patterns, themes, and gaps in previous research. The findings of the study indicate that the main challenges in implementing OSE in remote areas include limited transportation access, inadequate infrastructure, and a lack of technological support. Furthermore, the study found that the roles of stakeholders such as the government, NGOs, and local communities are crucial in supporting the success of OSE programs. Effective strategies to improve the quality and access to OSE include enhanced teacher training, the utilization of digital technology, and the adaptation of policies that align with local conditions. The proposed policy recommendations emphasize the need for sustained support from central and regional governments, as well as active community involvement in the education process.

Keywords: Out-of-school education, remote areas, systematic literature review

Abstrak

Penelitian ini bertujuan untuk menganalisis strategi implementasi pendidikan luar sekolah (PLS) di daerah terpencil melalui pendekatan *systematic literature review* (SLR). Fokus utama penelitian ini adalah untuk mengidentifikasi tantangan utama yang dihadapi dalam implementasi PLS di daerah-daerah terpencil, menganalisis peran berbagai pemangku kepentingan dalam mendukung pelaksanaan PLS, serta merumuskan strategi efektif yang dapat meningkatkan kualitas dan akses pendidikan di wilayah tersebut. Selain itu, penelitian ini juga bertujuan untuk memberikan rekomendasi kebijakan yang dapat mendukung keberlanjutan PLS di daerah-daerah terpencil. Metode penelitian yang digunakan adalah *systematic literature review* (SLR) yang melibatkan

pencarian dan analisis kritis terhadap literatur terkait yang telah dipublikasikan. Data dikumpulkan dari berbagai sumber seperti jurnal internasional bereputasi dan terakreditasi Sinta, yang kemudian dianalisis untuk mengidentifikasi pola, tema, dan kesenjangan dalam penelitian sebelumnya. Hasil temuan penelitian menunjukkan bahwa tantangan utama dalam implementasi PLS di daerah terpencil meliputi kurangnya akses transportasi, infrastruktur yang terbatas, dan minimnya dukungan teknologi. Selain itu, penelitian ini menemukan bahwa peran pemangku kepentingan seperti pemerintah, LSM, dan masyarakat lokal sangat krusial dalam mendukung keberhasilan program PLS. Strategi yang efektif untuk meningkatkan kualitas dan akses PLS termasuk peningkatan pelatihan guru, pemanfaatan teknologi digital, dan adaptasi kebijakan yang sesuai dengan kondisi lokal. Rekomendasi kebijakan yang diajukan mencakup perlunya dukungan berkelanjutan dari pemerintah pusat dan daerah, serta keterlibatan aktif komunitas lokal dalam proses pendidikan.

Kata kunci: Pendidikan luar sekolah, daerah terpencil, systematic literature review

INTRODUCTION

Out-of-school education is an integral part of the national education system that plays an important role in providing wider access to education to the community, especially in areas not covered by formal education. In the context of Indonesia, which consists of thousands of islands with various geographical difficulties, out-of-school education (OSE) is crucial in efforts to equalize education. However, despite its important role, the implementation of PLS in remote areas often faces various challenges, including limited resources, minimal infrastructure, and unfavorable socio-economic conditions. Therefore, an effective implementation strategy is needed so that PLS can achieve its main goal of improving the quality of human resources across the country.

The underlying theory in this research is the value co-creation theory introduced by (Fan & Luo, 2020). This theory emphasizes the importance of collaboration between service providers and service recipients in creating shared value. In the context of ESD, this approach is relevant because implementing education in remote areas requires the involvement of various parties, including the government, educational institutions, local communities, and even the learners themselves. Good collaboration between these stakeholders is expected to overcome various barriers and produce more appropriate and sustainable education solutions.

The main issue raised in this research is how the PLS implementation strategy in remote areas can be optimized through a value co-creation approach. Although various policies and programs have been implemented by the government to improve access and quality of education in remote areas, the results achieved are often still unsatisfactory. This can be seen from the low enrollment rate, high dropout rate, and low quality of education in these areas. This research seeks to analyze the literature to find effective strategies that can be applied in the specific conditions of remote areas.

To strengthen the argument of this research, the following is a review of relevant previous research. Widodo et al.'s study (2022) found that the lack of access to transportation and infrastructure was the main obstacle to implementing PLS, and emphasized the importance of support from local communities to overcome this obstacle. Meanwhile, Syafitri et al.'s research (2021) highlighted that the utilization of digital technology has

great potential to bridge the education gap in the area, although the challenge of limited internet networks is still a problem that needs to be overcome. Maulido et al.'s (2024) research shows that low teacher competence significantly affects the low quality of education in remote areas, emphasizing the need for more intensive and continuous training. Imam et al.'s (2023) research underlines the importance of policy adaptation to suit local conditions as well as community involvement in the education process to ensure the successful implementation of EE in these areas.

Suhendro's research (2020) highlighted that NGOs can be important partners in providing additional resources and training for communities, which are needed to increase the effectiveness of EE programs. Pangestu et al.'s research (2021) found that programs that actively involve communities tend to be more successful in increasing educational participation, demonstrating the importance of a community-based approach in the implementation of PLS. Sintiawati et al.'s research (2022) proposed a learning model tailored to local geographical and cultural conditions to improve the effectiveness of PLS in border areas that have unique challenges. Al-Wafi & Fathurrahman, (2024) found that local involvement and local government support are crucial in the successful implementation of EE in conflict-affected areas, emphasizing the importance of social and political stability to support education.

Wimbawarni et al.'s (2021) research shows that environment-based education can increase the relevance of education and student engagement, which is crucial for educational success in areas with high natural wealth. Finally, Wimbawarni et al.'s (2021) research highlights that the sustainability of the program relies heavily on continued support from central and local governments, emphasizing the importance of cross-sectoral cooperation to ensure the program can run in the long term.

This research is different from previous studies because its main focus is on systematically analyzing PLS implementation strategies in remote areas through a value co-creation approach. Unlike previous studies that tend to focus on one particular aspect, such as infrastructure or the role of technology, this study seeks to look at PLS implementation holistically by involving various stakeholders. In addition, this study also emphasizes the importance of strategy adaptation according to specific local conditions, which is rarely discussed in depth in previous studies.

The urgency of this research lies in the importance of finding effective and sustainable strategies to overcome the challenges of education in remote areas. Given the importance of education as one of the main pillars of human development, failure to provide quality education in remote areas will negatively impact efforts to improve the quality of life of people in these areas. This research is expected to make a significant contribution in formulating more effective policies and programs for ESD, to support the efforts to equalize education in Indonesia.

The aim of this research starts with identifying the main challenges faced in implementing out-of-school education in remote areas. These challenges cover a wide range of aspects, from infrastructure limitations to the socio-economic conditions of local communities. Once these challenges are identified, the research continues by analyzing the roles of

various stakeholders involved in supporting the implementation of EE, including the government, educational institutions, local communities, and non-governmental organizations. This analysis aims to understand how each party can contribute to overcoming existing barriers. Furthermore, based on the findings from the identification of challenges and the analysis of stakeholders' roles, this study seeks to formulate effective strategies to improve the quality and access to education in remote areas. These strategies are expected to address the existing problems and be tailored to specific local conditions. Finally, this research will provide policy recommendations that can support the sustainability of PLS in remote areas, ensuring that the programs formulated can run consistently and have a long-term impact on improving the quality of education in hard-to-reach areas.

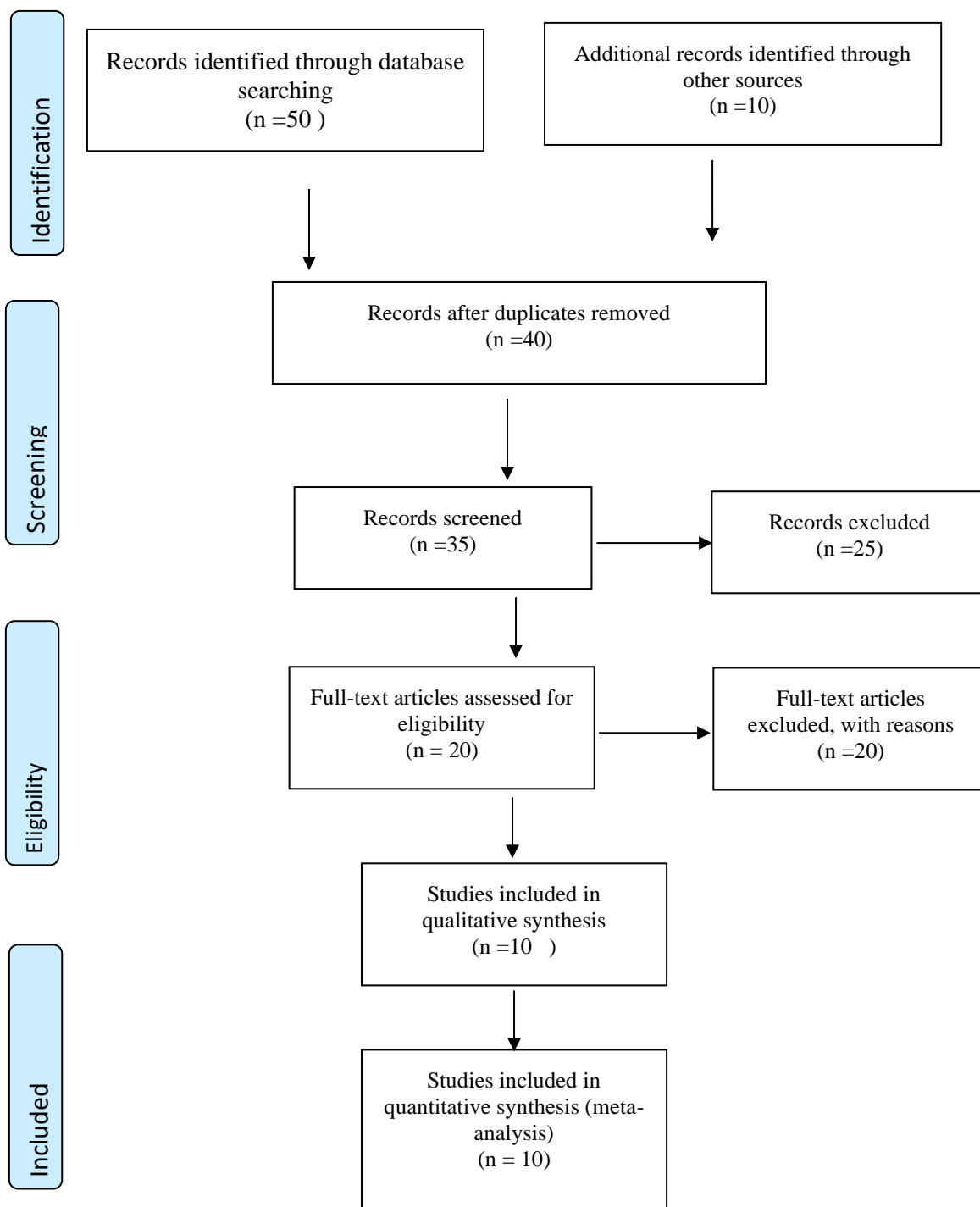
METHOD

The research method used in this study is a Systematic Literature Review (SLR), which aims to identify, evaluate, and interpret all relevant research related to the topic of implementing out-of-school education in remote areas. SLR was chosen because this method allows researchers to gain a comprehensive overview of previous research, identify knowledge gaps, and formulate evidence-based recommendations. The SLR process in this study began with a clear research question, which served as the basis for selecting relevant studies. Next, inclusion and exclusion criteria were established to ensure that only studies that fit the research topic and objectives would be analyzed.

Data collection was conducted through literature searches on reputable academic databases such as Google Scholar, Scopus, and SpringerLink. The keywords used included “out-of-school education,” “implementation strategies,” “remote areas,” and “Indonesia.” After conducting the literature search, an initial screening based on titles and abstracts was conducted, followed by a full-text review of the articles that passed the initial selection.

After the literature collection, the next stage was the selection of articles based on predefined inclusion and exclusion criteria. Inclusion criteria included empirical studies that were relevant to the research topic, published in peer-reviewed journals, and had full access to the text (Purwanza, 2022). Articles that did not meet these criteria, such as studies that only focused on theoretical reviews without empirical data or that were not relevant to the context of the research objectives. The final stage involved a critical analysis of the selected literature using a narrative synthesis technique. The data collected from these articles was then analyzed to identify key themes, research gaps, as well as relationships between the variables under study. This process ensured that the research was not only comprehensive but also made a meaningful contribution to the understanding of how psychological and social factors influence the purchase intention of products with ocean shipping.

The more complete researchers are described in the following diagram:



RESULTS AND DISCUSSION

Based on the background and research methods above, here are the article criteria that researchers use:

Table. Article Criteria

ARTICLE DATA CRITERIA	DESCRIPTION
YEAR PUBLISHED	Articles published between 2020 and 2024
ARTICLE SOURCE	Articles indexed in Sinta, proceedings, and reputable international obtained through Google Scholar.
RELEVANCE TO THE RESEARCH TOPIC	Articles that are directly related to Systematic Analysis of Literature Review Strategies for Implementing Out-of-School Education in Remote Areas.

Source: Data processing

Table. Article Systematic Analysis of Literature Review Strategies for Implementing Out-of-School Education in Remote Areas

NO	TITLE	AUTHOR	INDEXED	METHOD	CITATION
1	Analysis of Intentionally Structured Programs to Improve Life Skills Through Out-of-School Activities	(Yulianto dkk., 2023)	Sinta 3	Qualitative Analysis	26 Kali
2	Barriers, opportunities, and enablers to educate girls from Particularly Vulnerable Tribal Groups (PVTGs): A systematic review of literature	(Thamminaina dkk., 2020)	Reputable International	Qualitative Analysis	14 Kali
3	Dropout in Rural Higher Education: A Systematic Review	(Guzmán dkk., 2021)	Reputable International	Qualitative Analysis	46 Kali
4	Eradicating out-of-school-children: strategies and best practices from alternative education context	(Rosmilawati & Mutaqin, 2024)	Sinta 2	Qualitative Analysis	5 Kali

5	Expert perspectives on how educational technology may support autonomous learning for remote out-of-school children in low-income contexts	(Huntington dkk., 2023)	Reputable International	Qualitative Analysis	5 Kali
6	Geographical Determinants and hotspots of out-of-school children in Nigeria	(Adeleke & Alabede, 2022)	Reputable International	Qualitative Analysis	10 Kali
7	Out-of-school girls in India: a study of socioeconomic-spatial disparities	(Mitra dkk., 2023)	Reputable International	Qualitative Analysis	14 Kali
8	Sustainability in out-of-school science education: identifying the unique potentials	(Evans & Achiam, 2021)	Reputable International	Quantitative Analysis	35 Kali
9	The Cost-Effectiveness of an Accelerated Learning Program on the Literacy, Numeracy and SocialEmotional Learning Outcomes of Out-of-School Children in Northeast Nigeria: Evidence from a Mixed Methods Randomized Controlled Trial	(Diazgranados Ferrás dkk., 2022)	Reputable International	Qualitative Analysis	11 Kali
10	Zones of Educational Exclusion of out-of-school Youth	(Delprato & Frola, 2022)	Reputable International	Qualitative Analysis	9 Kali

Source: Data Processing.

The table above summarizes ten studies relevant to the topic of out-of-school education (OSE) and provides rich insights into various aspects related to the implementation,

challenges, and opportunities in this context. Below is a narrative explanation of each study listed in the table.

The first study, titled "Analysis of Intentionally Structured Programs to Improve Life Skills Through Out-of-School Activities," written by Yulianto and colleagues in 2023, is indexed in Sinta 3. This study used qualitative analysis methods to examine programs intentionally designed to enhance life skills through out-of-school activities. With 26 citations, the study demonstrates its relevance in the context of developing life skills for out-of-school children. The results of this study reveal that well-structured out-of-school activities have great potential to enhance essential life skills, such as social skills, self-management, and decision-making, which in turn can contribute to the personal and social development of children outside the formal school environment.

The second study, "Barriers, opportunities, and Enablers to Educate Girls from Particularly Vulnerable Tribal Groups (PVTGs): A Systematic Review of Literature," was conducted by Thamminaina and colleagues in 2020. This study is indexed in a reputable international journal and uses qualitative analysis methods. Although cited only 14 times, this study provides important insights into the barriers, opportunities, and enablers in educating girls from highly vulnerable tribal groups. The systematic review of the literature highlights the unique challenges faced by these groups, including gender-based discrimination, cultural barriers, and limited access to educational resources. However, the study also underscores existing opportunities, such as government and NGO-supported educational initiatives, which can play a crucial role in empowering girls from these groups.

Guzmán and colleagues in 2021 examined the causes and impacts of school dropouts in rural areas through a study titled "Dropout in Rural Higher Education: A Systematic Review." This study, also indexed in a reputable international journal, employed qualitative analysis methods and has been cited 46 times, indicating its significant influence in the field of rural education. The findings of this study show that economic factors, distance to schools, and lack of family support are the main causes of high dropout rates in rural areas. Furthermore, the study highlights the importance of community-based interventions and more inclusive policies to reduce dropout rates and improve access to higher education in these regions.

The fourth study, conducted by Rosmilawati and Mutaqin in 2024, is titled "Eradicating out-of-school-children: strategies and best practices from alternative education context." This study is indexed in Sinta 2 and uses qualitative analysis methods. Although it has only been cited five times, the study makes an important contribution by identifying strategies and best practices in reducing the number of out-of-school children through alternative education contexts. The study shows that flexible approaches, which integrate skill-based learning and child-centered methods, can be key to attracting and retaining children at risk of dropping out of formal education.

The fifth study, "Expert perspectives on how educational technology may support autonomous learning for remote out-of-school children in low-income contexts," was conducted by Huntington and colleagues in 2023. This study is indexed in a reputable

international journal and uses qualitative analysis methods, though it has been cited only five times. The study explores expert perspectives on how educational technology can support autonomous learning for children in remote areas from low-income backgrounds. The findings of this study show that technology, despite challenges such as accessibility and infrastructure limitations, has great potential to support self-directed learning and expand educational access for children in remote areas.

In 2022, Adeleke and Alabede wrote a study titled "Geographical determinants and hotspots of out-of-school children in Nigeria." This study, indexed in a reputable international journal and using qualitative analysis methods, has been cited 10 times. The study identifies geographical factors that affect the distribution of out-of-school children in Nigeria and highlights hotspots of this issue. The study's findings show that factors such as poverty, conflict, and lack of educational infrastructure significantly contribute to the high number of out-of-school children in certain regions. The study also highlights the importance of location-based policies that can effectively address these challenges.

The seventh study, "Out-of-school girls in India: a study of socioeconomic-spatial disparities," was conducted by Mitra and colleagues in 2023. Indexed in a reputable international journal, this study used qualitative analysis methods and has been cited 14 times. The study explores the socioeconomic and spatial disparities affecting the education of out-of-school girls in India. The findings of this study show that factors such as poverty, gender discrimination, and limited access to educational facilities are major barriers for girls in obtaining education. Additionally, the study emphasizes the importance of holistic and gender-sensitive policy interventions to address these disparities.

The eighth study, titled "Sustainability in out-of-school science education: identifying the unique potentials," was conducted by Evans and Achiam in 2021. This study is indexed in a reputable international journal and used quantitative analysis methods, with 35 citations indicating its influence in discussions on the sustainability of out-of-school science education. The study identifies unique potentials in out-of-school science education that can support sustainability and relevance in the community. The findings of this study emphasize the importance of project-based learning and interdisciplinary approaches in developing sustainable and effective science education programs.

The ninth study, conducted by Diazgranados Ferráns and colleagues in 2022, is titled "The Cost-Effectiveness of an Accelerated Learning Program on the Literacy, Numeracy and Social-Emotional Learning Outcomes of Out-of-School Children in Northeast Nigeria: Evidence from a Mixed Methods Randomized Controlled Trial." Indexed in a reputable international journal and using qualitative analysis methods, this study has been cited 11 times. The study evaluates the cost-effectiveness of an accelerated learning program aimed at improving literacy, numeracy, and social-emotional learning outcomes for out-of-school children in northeast Nigeria. The findings of this study show that the program is not only effective in improving learning outcomes but also relatively cost-efficient, making it a model that can be adopted in similar contexts.

The final study in this table is "Zones of Educational Exclusion of Out-of-school Youth" by Delprato and Frola in 2022. This study is indexed in a reputable international journal and used qualitative analysis methods, with nine citations. The study explores zones of educational exclusion experienced by out-of-school youth, identifying social, economic, and geographical factors that contribute to their marginalization. The study highlights the need for more inclusive and adaptive approaches in the education system to reduce exclusion rates and ensure that all youth have access to quality education.

Overall, this table highlights various in-depth studies on the challenges and solutions in out-of-school education. Each study makes a unique contribution to understanding the context, challenges, and opportunities in OSE, both in Indonesia and in various other countries. These studies underscore the importance of adaptive, collaborative, and evidence-based strategies in addressing out-of-school education issues, especially in remote areas and vulnerable groups. Through a deeper understanding of the various factors affecting out-of-school education, more effective and sustainable policies and programs can be formulated to achieve the goal of education for all.



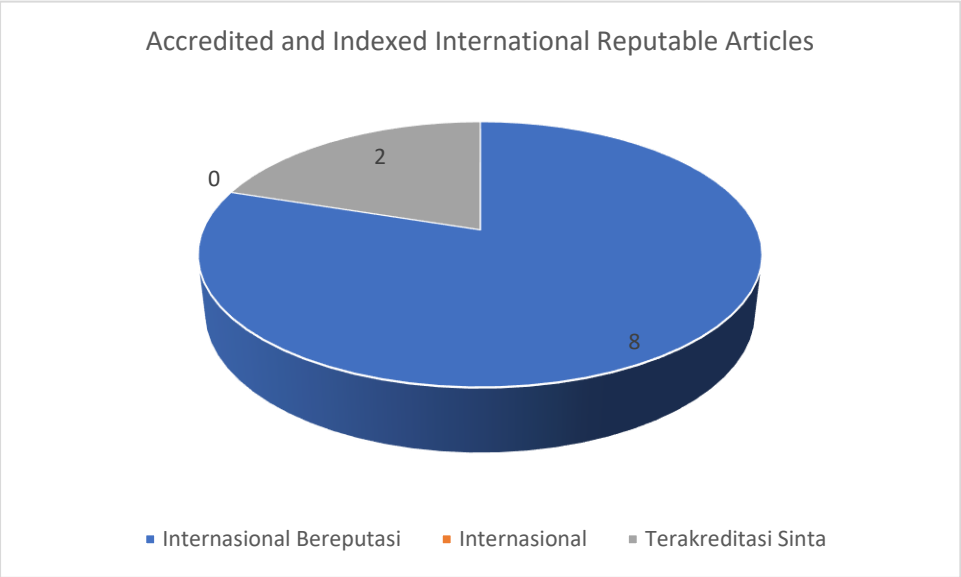
Source of data: Processed results

Figure. List of Cited Articles

The diagram above illustrates the number of citations from ten research articles indexed in various categories, ranging from Sinta 3 to reputable international journals. This data shows variations in the number of citations received by each article, which can serve as an indicator of the relevance and impact of the research in the field of out-of-school education. The article indexed in Sinta 3 has been cited 26 times, demonstrating that despite being in a national index, this article holds considerable influence. Furthermore, some articles indexed in reputable international journals show greater variation in the number of citations, with two articles each cited 14 times, one article with 10 citations, and others with citation counts ranging from 5 to 11.

Interestingly, one article indexed in Sinta 2 has been cited 5 times. Additionally, another article indexed in a reputable international journal with 35 citations also shows a

significant impact, approaching the citation count of the most-cited Sinta 2 article. This emphasizes that reputable international journals remain a primary source of global contribution to knowledge in this field. Overall, the diagram highlights that articles indexed in various categories have diverse citation levels, which could be influenced by the relevance of the topic, the quality of the research, and the wider dissemination networks in international journals. It also indicates that both national and international journals play important roles in disseminating knowledge and influencing research on out-of-school education.



Source: Processed Data

Figure. Diagram of Accredited and Indexed Articles

The diagram above illustrates the distribution of accredited and indexed articles in reputable international journals, standard international journals, and Sinta-accredited journals. This data provides an overview of the spread of articles across these categories, reflecting the quality and reach of the related research.

From the diagram, it is evident that the majority of articles, totaling eight, are indexed in reputable international journals. This indicates that most research on this topic maintains a high standard and is widely recognized within the international scientific community. Research published in reputable international journals typically undergoes a rigorous peer review process, ensuring the validity, novelty, and relevance of the findings. This significant number also suggests that issues related to out-of-school education, particularly in remote areas, have garnered considerable attention in the international arena, and the contributions from these studies are acknowledged in global literature.

Meanwhile, only two articles are indexed in Sinta-accredited journals, which is a national index in Indonesia. These articles may have a more local or regional focus and are published in national journals that, although accredited, may not have the same international reach as globally reputable journals. Nevertheless, articles in this category remain important as they often provide deeper insights into local contexts or more specific issues that may not be covered in international journals.

What stands out from this diagram is the absence of articles indexed in international journals without recognized reputations. This could indicate that research in this field tends to focus on publishing in reputable journals or accredited national journals, avoiding publication in international journals that may lack a rigorous selection process.

Overall, this diagram provides a picture of research orientation in the field of out-of-school education, which leans towards publication in reputable international journals. This not only enhances the visibility of the research but also boosts the credibility and impact of the findings. This is significant in the context of the globalization of knowledge, where research published in reputable journals has a greater chance of influencing policy, practice, and future research worldwide.

The tendency to publish in reputable international journals also reflects the researchers' desire to contribute to global discourse and ensure that their findings can be accessed and utilized by the broader scientific community. This is a crucial aspect of improving out-of-school education, especially in remote areas, as effective approaches and strategies in one context can be adapted and applied elsewhere with similar conditions. Thus, the distribution of articles in this diagram shows that research on out-of-school education in remote areas not only focuses on local scope but also strives to make meaningful contributions to global literature, bridging the gap between knowledge and practice across the world.

DISCUSSION

In analyzing the findings from ten studies on out-of-school education (OSE), it is important to link the research results with relevant theories that can provide a deeper understanding of the phenomenon. These studies cover various aspects of OSE, including strategies for life skills development, barriers and opportunities in educating girls from vulnerable groups, as well as the role of educational technology and geographical factors in access to education. Connecting these findings with relevant theories will help explain the results and offer a broader perspective on the implementation and impact of OSE.

1. Life Skills Development through Out-of-School Activities

The study by Yulianto et al. (2023) focuses on programs designed to enhance children's life skills through out-of-school activities. The findings suggest that well-structured activities can improve children's social skills, self-management, and decision-making abilities. The relevant theory to understand these findings is Albert Bandura's Social Learning Theory, which states that individuals learn through observing and imitating the behavior of others. In the context of OSE, out-of-school activities designed to teach life skills can utilize positive behavioral models demonstrated by educators or facilitators. By participating in activities that emphasize social skills and self-management, children can internalize and apply these skills in their daily lives.

2. Barriers and Opportunities in Educating Girls from Vulnerable Groups

The study by Thamminaina et al. (2020) highlights the barriers, opportunities, and supporting factors in educating girls from highly vulnerable ethnic groups. These findings are relevant to the Social Justice Theory, which emphasizes the importance of equal

access and educational opportunities for all groups, especially marginalized ones. This theory underscores the need for affirmative action to address the inequalities faced by disadvantaged groups. In this context, educational initiatives supported by the government and NGOs can be seen as efforts to overcome the barriers faced by girls from vulnerable ethnic groups and create fairer opportunities for them to receive quality education.

3. Causes and Impacts of School Dropout in Rural Areas

The study by Guzmán et al. (2021) identifies factors such as economic conditions, distance to school, and lack of family support as the main causes of high dropout rates in rural areas. These findings are linked to the Educational Access and Opportunity Theory, which explains that access to education is influenced by external factors such as economic conditions, infrastructure, and social support. This theory emphasizes the importance of community-based interventions and inclusive policies to address these barriers and improve educational access. In this case, policies that reduce education costs, provide transportation, and offer family support can help reduce dropout rates and increase educational participation in rural areas.

4. Strategies to Reduce Out-of-School Children through Alternative Education

The study by Rosmilawati and Mutaqin (2024) highlights strategies and best practices for reducing the number of out-of-school children through alternative education. These findings are connected to the Alternative Education Theory, which emphasizes the importance of flexible and child-centered approaches to attract and retain children at risk of dropping out of the formal education system. This theory underscores that alternative education can offer solutions that are more suited to the individual needs of children and their communities. Skill-based and flexible learning approaches can meet needs unmet by formal education, thereby reducing the number of out-of-school children.

5. The Role of Educational Technology in Supporting Self-Directed Learning in Remote Areas

The study by Huntington et al. (2023) explores the potential of educational technology to support self-directed learning in remote areas. These findings are relevant to Malcolm Knowles' Self-Directed Learning Theory, which states that effective learning occurs when individuals have control over their learning process and can manage their own goals, resources, and strategies. Educational technology can expand access to educational resources and materials, enabling children in remote areas to learn independently and overcome the limitations of traditional educational infrastructure.

6. Geographical Factors and the Distribution of Out-of-School Children

The study by Adeleke and Alabede (2022) identifies geographical factors that influence the distribution of out-of-school children in Nigeria. These findings are linked to the Geographic Determinants of Education Theory, which explains how factors such as poverty, conflict, and educational infrastructure impact access to education in different regions. This theory emphasizes the need for policies that are tailored to local and geographical contexts to address the specific challenges faced by children in certain areas.

7. Socio-Economic and Spatial Disparities in Girls' Education in India

The study by Mitra et al. (2023) explores the socio-economic and spatial disparities affecting girls' education in India. These findings are connected to the Educational Disparities Theory, which explains how socioeconomic and spatial disparities create inequalities in access to and quality of education. This theory highlights the importance of holistic and gender-sensitive policy interventions to address these disparities and ensure that all girls have equal access to education.

8. Sustainability in Out-of-School Science Education

The study by Evans and Achiam (2021) identifies the unique potential of out-of-school science education to support sustainability. These findings are related to the Project-Based Learning Theory, which emphasizes the importance of active and project-based learning approaches to develop students' critical and creative skills. Project-based learning can support sustainability in science education by integrating interdisciplinary approaches and providing hands-on experiences relevant to students.

9. Cost-Effectiveness of Accelerated Learning Programs

The study by Diazgranados Ferráns et al. (2022) evaluates the cost-effectiveness of accelerated learning programs for out-of-school children. These findings are relevant to the Cost-Effectiveness Theory in Education, which assesses how efficiently an educational program achieves its desired outcomes with relatively low costs. Effective and efficient accelerated learning programs can serve as a valuable model for implementation in similar contexts, especially in areas with limited resources.

10. Educational Exclusion Zones for Out-of-School Youth

The study by Delprato and Frola (2022) explores educational exclusion zones experienced by out-of-school youth. These findings are linked to the Educational Exclusion Theory, which explains how social, economic, and geographical factors can lead to marginalization and exclusion within the education system. This theory highlights the need for inclusive and adaptive approaches in education systems to reduce exclusion and ensure equitable access to education for all youth.

CONCLUSION

The conclusion of this research on out-of-school education (OSE) demonstrates that OSE is a crucial area in improving access to and quality of education, particularly for children in remote areas and vulnerable groups. Findings from various studies reveal that well-structured out-of-school activities can significantly contribute to life skills development and support self-directed learning, while educational technology offers great potential to expand educational access in hard-to-reach areas. Additionally, the research highlights the various barriers and opportunities in educating girls from vulnerable ethnic groups, emphasizing the need for more inclusive and gender-sensitive policies. Geographical and socio-economic factors also play an important role in determining access to education, underlining the need for locally adapted approaches to address existing inequalities. Flexible, skill-based alternative education programs can be an effective solution to reduce the number of out-of-school children, while more sustainability-oriented policies can

support out-of-school science education. The cost-effectiveness evaluation of accelerated learning programs shows that this approach can serve as an efficient model to improve educational outcomes. Overall, this research underscores the importance of evidence-based and adaptive strategies in addressing the challenges of OSE, as well as the vital role of policies and practices that are responsive to both local and global needs in achieving equitable and high-quality education.

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