



Educational Program for Early Childhood Teachers to Enhance Awareness of Child Growth and Development Detection

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Article Info	Abstract
<p>Received: 10-02-2025</p> <p>Revised: 27-04-2025</p> <p>Accepted: 18-07-2025</p> <p>Published: 30-08-2025</p> <p>Keywords: Awareness, Early Childhood Teachers, Educational Program, Growth And Development Detection, Service Learning</p>	<p>Background: Awareness of early childhood teachers regarding the detection of child growth and development is essential to support optimal child development and early intervention. However, field conditions indicate that many teachers still have limited understanding and skills in identifying growth and developmental indicators in children.</p> <p>Aims: This program aims to enhance early childhood teachers' awareness and competence in detecting child growth and development through an educational program.</p> <p>Methods: This program employed a Service Learning approach, integrating educational sessions with practical activities and reflection. The implementation was conducted in three stages: preparation, implementation, and evaluation. The program involved early childhood teachers as participants. Activities included educational sessions, guided practice, and evaluation through pre-test and post-test, as well as observation of participants' engagement. Data were analyzed descriptively to assess changes in participants' understanding.</p> <p>Results: The results indicate an improvement in teachers' awareness and understanding of child growth and development detection. Participants demonstrated better ability to identify developmental indicators and increased readiness to apply detection practices in their institutions. The pre-test and post-test results showed a consistent increase, indicating the effectiveness of the educational intervention. In addition, participants showed greater confidence in conducting early detection activities and were more active in discussing child development cases during the sessions. This also reflects a positive change in their professional attitudes toward the importance of early identification and intervention in early childhood settings.</p> <p>Conclusion: The educational program effectively enhances early childhood teachers' awareness of child growth and development detection. The integration of education and practical activities provides meaningful learning experiences and supports the improvement of teachers' competence in early detection practices.</p>
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INTRODUCTION

Early childhood development is a critical foundation for lifelong learning, health, and well-being. During this period, children experience rapid physical, cognitive, social, and emotional growth that significantly influences future outcomes (Britto et al., 2022; Black et al., 2021; Jeong et al., 2021). Early identification of developmental delays is essential to ensure timely intervention and support (Grantham-McGregor et al., 2021; Richter et al., 2020). Educational environments, particularly early childhood education settings, play a vital role in monitoring children's development (Yoshikawa et al., 2020; Rao et al., 2021). Teachers are often the first to observe developmental issues in children during daily learning activities. Therefore, strengthening teachers' awareness and competence in detecting child development is highly important.

The role of early childhood teachers extends beyond instructional activities to include monitoring children's growth and development. Teachers are expected to identify developmental milestones and recognize potential delays (OECD, 2021; UNICEF, 2020). However, research indicates that many teachers still have limited knowledge and skills in developmental assessment (Egert et al., 2020; Slot et al., 2022). This limitation affects their ability to provide early support for children with developmental challenges. Inadequate awareness may also delay appropriate intervention efforts. These conditions highlight the need for targeted educational programs for teachers.

Educational programs for teachers have been widely implemented as part of professional development initiatives. Such programs aim to improve teachers' knowledge, skills, and attitudes toward teaching and child development (Avalos, 2021; Darling-Hammond et al., 2020). Studies show that training programs that include practical components tend to produce more effective outcomes (Desimone & Garet, 2020; Opfer & Pedder, 2020). However, many programs still focus on theoretical aspects without sufficient emphasis on application. This results in limited impact on classroom practices. Therefore, more practice-oriented educational approaches are needed.

Service Learning has emerged as an effective approach in community-based educational programs. It integrates academic learning with real-world practice and reflection (Bringle & Hatcher, 2021; Eyler, 2020). This approach enables participants to apply knowledge directly in their professional context. In teacher education, Service Learning has been shown to enhance both cognitive and practical competencies (Celio et al., 2021; Salam et al., 2020). It also promotes active engagement and meaningful learning experiences. Thus, Service Learning is relevant for programs aiming to improve teachers' competencies.

Awareness of child growth and development detection is closely related to teachers' ability to observe, assess, and respond to children's needs. Teachers who possess adequate awareness are more likely to identify early signs of developmental issues (Shonkoff et al., 2021; Center on the Developing Child, 2020). This awareness

supports early intervention and improves developmental outcomes. Conversely, lack of awareness may lead to missed opportunities for early detection. This underscores the importance of strengthening teachers' awareness through structured educational interventions.

The integration of health and developmental monitoring in early childhood education has gained increasing attention. Educational institutions are expected to collaborate with health services to support children's development (WHO, 2020; UNICEF, 2021). Teachers play a key role in bridging educational and health perspectives. However, studies show that many teachers are not adequately prepared to perform developmental screening (Fukkink & Lont, 2021; Urban et al., 2021). This gap indicates the need for integrated training programs that address both education and health aspects.

Community-based educational programs provide opportunities to address real challenges faced by teachers. These programs allow direct interaction between facilitators and participants in authentic contexts (Furco, 2021; Jacoby, 2021). Participants can immediately apply what they learn and receive feedback. Such approaches are more relevant and impactful compared to conventional training. However, not all programs are designed with structured implementation and evaluation. This highlights the need for well-designed community service interventions.

Field observations indicate that many early childhood teachers still face difficulties in identifying indicators of child growth and development. Teachers often rely on general observation without using structured assessment tools. In addition, limited access to training and mentoring contributes to this problem. Teachers also experience challenges in integrating developmental detection into daily learning activities. These conditions suggest that teachers need practical guidance and continuous support. Addressing these challenges requires targeted and context-based educational programs.

More specifically, field observations conducted during the implementation of the program at a kindergarten located in Jorong Sungai Jambu on Wednesday, 6 December 2023, revealed contextual challenges in greater detail. Teachers tended to rely on general visual observation without using structured instruments for detecting child growth and development. Several teachers demonstrated limited understanding of developmental indicators, particularly in distinguishing between typical and atypical development. In addition, documentation of children's development was not systematically organized, making it difficult to monitor progress over time. The learning process also showed that developmental detection had not been fully integrated into daily classroom activities. These findings reinforce the urgency of providing structured educational programs combined with practical guidance and mentoring.

The gap identified in previous studies lies in the limited focus on awareness-based interventions combined with practical application. Many programs emphasize knowledge improvement but do not sufficiently address behavioral change in teaching practice. In addition, the integration of Service Learning in teacher training related to developmental detection remains limited. Evaluation processes are often not comprehensive and focus mainly on short-term outcomes. This creates a gap between training implementation and actual classroom practice. Therefore, an integrated and practice-oriented approach is needed.

The novelty of this program lies in the integration of educational activities, practical application, and reflection using a Service Learning approach. The program emphasizes not only knowledge acquisition but also awareness building and practical skill development. It combines educational sessions, guided practice, and contextual application in a structured manner. This approach enables participants to directly apply learning outcomes in their teaching practices. The integration of these elements provides a comprehensive model for teacher professional development. This makes the program both relevant and innovative in addressing real educational challenges.

This program aims to enhance early childhood teachers' awareness of child growth and development detection through an educational program. The program is important because it addresses real challenges faced by teachers in identifying developmental issues and supporting children's growth. By integrating education, practice, and reflection, the program provides meaningful learning experiences. It also contributes to improving early detection practices in educational settings. Strengthening teachers' awareness is expected to support better child development outcomes. Therefore, this program represents a strategic effort to improve the quality of early childhood education.

METHODS

Community Service Design

This community service program employed a Service Learning approach, integrating educational activities with practical application and reflection in real classroom contexts. This approach was selected to ensure that participants not only gained knowledge but also developed awareness and practical skills in detecting child growth and development. The program combined educational sessions, guided practice, and reflective evaluation to create meaningful and sustainable learning experiences.

Location, Time, and Collaboration

The program was conducted in Padang Panjang, West Sumatra, Indonesia, with one of the key implementation sites located in a kindergarten in Jorong Sungai Jambu. The core activity was carried out on Wednesday, 6 December 2023. This program was implemented through a collaboration between the Early Childhood

Islamic Education Study Program (PIAUD) of STAI YPI Al-Ikhlâs Painan, Pesisir Selatan, West Sumatra, and the PIAUD Study Program of UIN Mahmud Yunus Batusangkar. The collaboration also involved 30 university students, who actively participated in assisting the implementation of educational activities, mentoring, and field observations.

Participants

The participants consisted of early childhood education teachers who were actively teaching in kindergarten settings. They were selected based on their involvement in daily teaching activities and their need to improve competence in detecting child growth and development. The participants represented various early childhood education institutions, allowing the program to address diverse teaching contexts and challenges.

Procedure of Implementation

The implementation followed three main stages within the Service Learning framework:

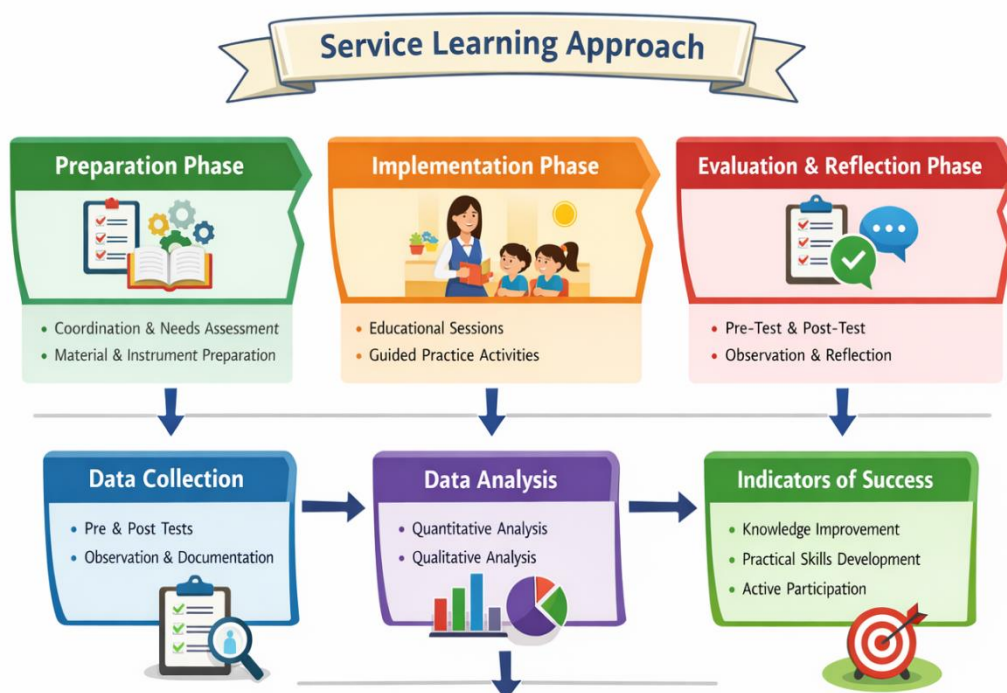


Figure 1. Stages of Service Learning Approach in Educational Intervention for Early Childhood Teachers

Preparation Stage

This stage included coordination between collaborating institutions, identification of participants' needs, preparation of educational materials, and development of evaluation instruments such as pre-test and post-test. In addition,

students were prepared and assigned roles to support the implementation process in the field.

Implementation Stage

The implementation stage consisted of educational sessions focusing on child growth and development detection, including developmental indicators, early identification techniques, and practical application in classroom settings. Participants were engaged in guided practice activities using simple observation and assessment tools. University students assisted in facilitating activities, supporting documentation, and helping participants during practice sessions. Interactive discussions and case-based learning were conducted to strengthen understanding.

Evaluation and Reflection Stage

This stage involved assessing participants' learning outcomes through pre-test and post-test, observation of participation, and evaluation of practical performance. Reflection sessions were conducted to allow participants and students to share experiences and identify challenges in applying the knowledge. This stage aimed to reinforce learning and ensure sustainability of the outcomes.

Data Collection Techniques

Data were collected through pre-test and post-test to measure participants' understanding, observation to assess engagement and practical skills, and documentation to verify program implementation. The involvement of students also supported data recording and field documentation.

Data Analysis

The data were analyzed using a descriptive approach. Quantitative data from pre-test and post-test were used to identify improvements in participants' understanding, while qualitative data from observations were analyzed to describe changes in awareness and practical skills.

RESULTS AND DISCUSSION

Results

This section presents the findings of the community service program based on the stages of the Service Learning approach, namely preparation, implementation, and evaluation and reflection. The results highlight measurable improvements in teachers' awareness and skills in detecting child growth and development, supported by both quantitative and qualitative data.

Preparation Stage Results

The preparation stage revealed fundamental gaps in teachers' initial competencies. Field observations conducted in Jorong Sungai Jambu showed that teachers primarily relied on unstructured observation and lacked standardized instruments for developmental detection. In addition, documentation practices were

minimal and not systematically organized, making it difficult to track children's developmental progress. Teachers also demonstrated limited understanding in distinguishing between normal and atypical developmental patterns. These conditions indicate that awareness and practical competence in developmental detection were still at a basic level. Therefore, the program was designed to address both conceptual understanding and practical application. This stage ensured that the intervention directly targeted the identified problems.

Implementation Stage Result

The implementation stage demonstrated significant improvements in participants' engagement and learning outcomes. During educational sessions, participants showed increased comprehension of developmental concepts, as reflected in their active participation in discussions and ability to respond to case-based questions. The integration of guided practice enabled participants to apply knowledge directly using simple observation tools.



Figure 2. Educational Activities and Guided Practice

Participants began to demonstrate improved skills in identifying developmental indicators, classifying developmental conditions, and recording observations more systematically. The involvement of university students further enhanced the learning process by providing technical assistance and facilitating small group discussions. This collaborative learning environment contributed to a more interactive and supportive learning experience. As a result, participants were not only able to understand theoretical concepts but also translate them into practical actions in classroom settings. These findings indicate that the Service Learning approach effectively bridges theory and practice.

Evaluation and Reflection Stage Results

The evaluation stage provides evidence of measurable improvement in participants’ awareness and competence. The quantitative results, based on pre-test and post-test scores, indicate a significant increase in cognitive awareness and practical understanding, categorized as *moderate-to-high improvement*.

Table 1. Improvement in Teachers’ Awareness and Competence on Child Growth and Development Detection

No	Aspect Assessed	Pre-Test Mean	Post-Test Mean	Gain	Improvement Category
1	Understanding of Developmental Indicators	60.5	82.1	+21.6	High
2	Ability to Identify Developmental Delays	58.9	80.3	+21.4	High
3	Knowledge of Growth Monitoring	62.3	83.5	+21.2	High
4	Awareness of Early Detection Importance	64.1	85.2	+21.1	High
5	Ability to Use Observation Tools	57.8	79.6	+21.8	High

The results indicate that all aspects experienced consistently high improvement, with gain scores above 20 points. The highest improvement was observed in the ability to use observation tools, suggesting that practice-based activities had a strong impact on skill development.

Table 2. Classification of Improvement Based on Competency Dimensions

Competency Dimension	Indicators Included	Result
Cognitive Awareness	Understanding indicators, monitoring, importance	growth significantly improved
Practical Skills	Identifying delays, using observation tools	Highly improved
Professional Attitude	Awareness, responsibility in detection	Improved

Implementation Readiness	Ability to apply detection in classroom	Improved
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The classification shows that the program did not only improve knowledge but also enhanced practical skills and professional attitudes. This indicates that the intervention had a multidimensional impact on participants' competence. Qualitative findings further strengthen these results. Observations and reflection sessions revealed that participants became more confident in conducting developmental detection and more aware of its importance in early childhood education. Participants also demonstrated improved ability to document children's development systematically and integrate detection practices into daily learning activities.



Figure 3. Evaluation and Reflection Activities

Despite these positive outcomes, several challenges were identified, including limited time for practice and variations in participants' initial competencies. However, the overall findings confirm that the Service Learning-based educational program effectively enhances teachers' awareness, skills, and readiness in detecting child growth and development. The integration of education, practice, and reflection provides a comprehensive and impactful learning experience.

Discussion

The findings of this study demonstrate that the integration of educational activities and guided practice within a Service Learning framework significantly

enhances early childhood teachers' awareness and competence in detecting child growth and development. The consistent increase in pre-test and post-test scores indicates that combining conceptual knowledge with practical application leads to more effective learning outcomes. This aligns with previous community-based educational studies showing that experiential and participatory learning approaches contribute to deeper understanding and retention of knowledge (Felten & Clayton, 2020; Celio et al., 2021; Salam et al., 2020; Ash & Clayton, 2021; Eyler & Giles, 2020). In PKM contexts, such approaches allow participants to directly relate learning content to real-life challenges, thereby strengthening both cognitive and contextual understanding. The results suggest that the Service Learning model is particularly effective in bridging the gap between theoretical knowledge and classroom practice. This confirms that learning becomes more meaningful when participants actively engage in real-world problem-solving activities.

The significant improvement in participants' practical skills, particularly in using observation tools and identifying developmental indicators, highlights the importance of practice-based learning in teacher development programs. Previous PKM studies emphasize that skill acquisition is more effective when training is supported by hands-on activities and continuous guidance (Kezar & Holcombe, 2020; Brownell et al., 2021; Zeichner et al., 2021; Grossman et al., 2021; Darling-Hammond et al., 2021). The findings of this study show that participants were able to move beyond passive understanding toward active implementation. This transformation reflects a shift from knowledge acquisition to competency development. In community service programs, such transformation is essential to ensure that learning outcomes have practical relevance. Therefore, the integration of guided practice is a key factor in improving teachers' professional competence.

The role of reflection and evaluation in this program also contributes significantly to the observed outcomes. Reflection activities enabled participants to critically examine their learning experiences and identify areas for improvement. This finding is consistent with previous research indicating that reflective practice enhances learning depth and promotes continuous professional development (Schön, 2020; Rodgers, 2021; Moon, 2020; Boud et al., 2021; Mezirow, 2021). In PKM-based programs, reflection serves as a mechanism for transforming experience into meaningful learning. The results show that participants not only improved their knowledge and skills but also developed a stronger awareness of the importance of early detection. This indicates that the program successfully influenced both cognitive and affective domains of learning. Such multidimensional impact is essential in educational interventions.

Furthermore, the findings reveal that community-based collaboration and contextual learning environments play a crucial role in enhancing program effectiveness. The involvement of university students and collaboration between institutions created a supportive learning ecosystem. Previous PKM studies highlight that collaborative and community-engaged approaches enhance program

sustainability and impact (Bringle et al., 2020; Jacoby, 2021; Furco, 2021; Saltmarsh et al., 2020; Butin, 2020). This study demonstrates that such collaboration not only supports implementation but also enriches the learning experience of participants. The results confirm that community service programs are more effective when they involve multiple stakeholders and emphasize contextual relevance. Overall, the findings affirm that the objectives of the program have been successfully achieved, particularly in improving teachers' awareness, skills, and readiness in detecting child growth and development.

Community Service Contribution

This program contributes to strengthening early childhood education practices by enhancing teachers' awareness and competence in detecting child growth and development through a Service Learning-based educational approach. The program not only improves participants' cognitive understanding but also develops practical skills and professional awareness in implementing early detection practices. The integration of educational sessions, guided practice, and reflection provides an innovative and replicable model of community service that goes beyond conventional training. At the institutional level, the program supports the improvement of teaching practices and documentation systems related to child development monitoring. In addition, the involvement of university students fosters collaborative learning and strengthens the linkage between higher education and community needs. These contributions demonstrate that the program provides both practical impact and added value in improving the quality of early childhood education.

Limitations and Suggestions

The implementation was conducted within a limited time frame, which restricted the depth of practice and follow-up activities. Variations in participants' initial competencies also influenced the level of achievement, while the limited availability of mentors affected the intensity of guidance during practice sessions. In addition, the program was implemented in a specific context, which may limit the generalizability of the findings. Therefore, future programs are recommended to extend the duration of implementation, provide more intensive mentoring, and involve a larger and more diverse group of participants. Strengthening collaboration with health professionals is also suggested to support more comprehensive developmental detection practices. Further studies are needed to examine the long-term impact of similar programs on teachers' professional performance.

CONCLUSION

This community service program demonstrates that a Service Learning-based educational approach effectively enhances early childhood teachers' awareness and

competence in detecting child growth and development. The integration of education, guided practice, and reflection enables participants to develop both conceptual understanding and practical skills. The program also strengthens teachers' readiness to apply early detection practices in real classroom settings. These findings indicate that community-based educational interventions can play a significant role in improving the quality of early childhood education. It is recommended that future programs adopt similar approaches with more structured implementation and sustained mentoring to maximize impact.

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AUTHOR CONTRIBUTION STATEMENT

AKD, AD, AH, F, PA contributed to the conceptualization, design, and implementation of the community service program. AKD was responsible for coordinating the activities and leading the manuscript preparation. AD, AH, F, and PA contributed to data collection, field assistance, and documentation during the implementation. All authors were involved in data analysis, reviewing, and revising the manuscript, and have approved the final version for publication.

AI DISCLOSURE STATEMENT

The authors utilized ChatGPT as a supporting tool in organizing and refining the academic writing of this manuscript. All outputs were critically reviewed, revised, and validated by the authors to ensure accuracy, originality, and academic integrity. The authors take full responsibility for the final content of this publication.

CONFLICTS OF INTERES

The authors declare that there are no financial, institutional, or personal conflicts of interest that could have influenced the implementation of this program or the preparation of this manuscript.

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