

Effectiveness of Educational Program regarding Children Mental and Personal Developmental Stages of Kindergarten Teachers Knowledge

Mohammed Hassan Aloda¹ and Sahar Adham Ali²

Educational Program regarding Children Mental and Personal Developmental

ABSTRACT

Objective: To evaluate kindergarten teachers' knowledge toward early childhood developmental stages, and to evaluate the effectiveness of a prepared educational program in improving their knowledge

Study Design: Quasi-experimental study

Place and Duration of Study: This study was conducted at the College of Nursing, University of Babylon, Iraq, from 12th June 2025 to 31st July 2025.

Methods: 50 kindergarten teachers in nine kindergartens in holy city of Karbala. The data collected consist of twenty multiple choices items related to developmental stages of kindergarten children's age group.

Results: Majority of kindergarten teachers were between 35 and 44 years old and mean age was 36.82 ± 7.5 years, had a bachelor's degree or higher, and at least five years of experience. Most had attended one or two training courses related to child growth and development. Pre-test results indicated that teachers' knowledge of both developmental stages was fair. The educational program demonstrated statistically significant effectiveness in improving knowledge. Teachers' knowledge of developmental stages was strongly associated with education level, years of experience, and training participation, but not with age, child responsibility, or type of kindergarten.

Conclusion: Kindergarten teachers' basic knowledge related to child of developmental stages was insufficient in their pre-test, but the designed educational program effectively enhanced their knowledge through posttest. Educational level, professional experience, and previous training were critical factors in determining knowledge, highlighting the importance of structured professional development.

Key Words: Effectiveness, Educational Program, Personal Developmental Stages, Kindergarten Teachers Knowledge.

Citation of article: Aloda MH, Ali SA. Effectiveness of Educational Program regarding Children Mental and Personal Developmental Stages of Kindergarten Teachers Knowledge. Med Forum 2026;37(9):105-110. doi:10.60110/medforum.370920.

INTRODUCTION

Early childhood is a critical period for social and emotional development, typically lasting from the ages of one to seven. During this period, children learn to recognize the emotions of others, understand their own feelings, and form bonds with friends and caregivers. A child's personality, sense of self, and ability to build

stable attachments are influenced by these stages. Emotional stability and social skills depend on caregiver attention and enjoyable early experiences¹.

According to Erikson's theory of psychosocial development, there are eight stages that occur throughout life, with the early stages being crucial for social interaction and identity construction. The "Initiative vs. Guilt" stage of early childhood (ages 3-6) highlights the importance of fostering children's exploration and independence through play and social interaction. Educators who are aware of this developmental stage can create environments that encourage self-confidence, independence, and emotional stability. This knowledge is essential to the success of educational initiatives for young children because it aligns teaching methods with psychological demands².

Cognitive development in early childhood is a critical area that influences a child's future social and learning abilities. Piaget's stages of cognitive development, particularly the preoperational stage (from two to seven years old), highlight the rapid development of symbolic thinking, creativity, and memory, and the need for

¹. Academic Nurse, Department of Pediatric Nursing, College of Nursing, University of Babylon, Iraq.

². Professor, Department of Adult Nursing, College of Nursing, University of Babylon, Iraq.

Correspondence: Mohammed Hassan Aloda, Academic Nurse, Department of Pediatric Nursing, College of Nursing, University of Babylon, Iraq.

Contact No: 9647732421757

Email: mohammedalawda@gmail.com

Received: May, 2026

Reviewed: June-July, 2026

Accepted: August, 2026

teachers to carefully foster these skills¹. Teachers who are aware of these developmental stages can design classrooms that complement children's cognitive abilities, promoting successful learning and skill development³.

Kindergarten teachers' understanding of child developmental has significantly improved as a result of incorporating developmental stages theories into early childhood education programs. Teachers can better enhance learning outcomes by aligning their teaching methods with their students' mental, psychological, functional, and emotional developmental stages. Professional development programs that focus on these developmental stages have been shown to enhance teachers' understanding of educational topics, leading to more successful teaching strategies⁴.

The kindergarten teachers' knowledge and approaches are significantly improved through educational programs based on developmental stages and environmental contexts. The training programs that incorporate role-playing, practical activities, and stage-appropriate learning techniques have been shown to enhance teachers' ability to identify children's cognitive developmental stages and help them achieve them⁵. Teachers who have received training in these techniques are usually better able to modify their lessons to meet the needs of both individuals and groups⁶.

METHODS

A quasi-experimental study was conducted at College of Nursing, University of Babylon, Iraq from 12th June 2025 to 31st July 2025 vide letter No. 76 dated 24th March 2025 and 50 kindergarten teachers in nine kindergartens in holy city of Karbala. A special questionnaire was prepared, and a structured educational program related to childhood growth and developmental stages was developed based on a comprehensive review.

Demographic and employment characteristics of the kindergartens teachers who participate in the present study consist of (age, educational, years of experience in kindergarten, responsibility on child at home, participated in training courses related to factors affecting child growth and development). The developmental stages questionnaire was consist from 20 items with multiple choices answers and the coding in dichotomous (Correct = 2, and Incorrect = 1) and the response options range from 20 to 40, with higher scores indicating good knowledge. The questionnaires assessed by who have over ten years of experience in the specialty field. Content validity was statistical calculator, the results was 0.97 which is acceptable, ethical issues and considerations to ensure participants' privacy and autonomy. Participant (teachers) was voluntary engaged; they take place informed that their data would be confidentially used.

Self-report method selected to complete the prepared questionnaire. The data collection started on 12th June 2025 by carried out pre-test the results indicated that all the participants showed unsatisfied level of knowledge related to prepare developmental stages. The presentation of educational sessions started from 22th to 30th June 2025 through small groups, after completing the session the first post-test carried out, the second post- test obtained. Data collection completes in 23th July 2025 which take about 40 days. The data was analyzed through SPSS-25.

RESULTS

The largest proportion of kindergarten teachers (46.0%) were aged 35-44 years, followed by those aged 25-34 years (30.0%). The mean age was 36.82 ± 8.76 years, with an age range of 18-54 years. Regarding educational qualification, more than half of the participants (52%) held a bachelor's degree or higher, while 30.0% held a diploma and 18.0% had completed secondary school (Table 1).

Table No. 1: Distribution of the participant's sociodemographic and employment characteristics (n=50)

Variable	No.	%
Age group		
Young adults (18-24 years)	4	8.0
Adult (25-34 years)	15	30.0
Middle age adult (35-44 years)	23	46.0
Early middle aged (45-54 years)	8	16.0
Level of qualification		
Secondary School	9	18.0
Diploma degree	15	30.0
Bachelor's degree or above	26	52.0

The largest proportion of teachers (58.0%) had five years or less of experience, followed by those with 6-10 years of experience (20%). Teachers with 11-15 years of experience represented 12% of the sample, while 6% had 16-20 years of experience and 4% had 21 years or more (Fig. 1). Majority of participants (72%) reported having children at home for whom they were responsible for care, whereas 28% did not report such responsibility (Fig. 2). Figure 3 showed that 40% having attended one or two training courses. Nearly equal proportions of governmental and private kindergarten are teachers (Fig. 4).

Table 2 presents the changes in kindergarten teachers' knowledge scores across the pretest, posttest 1, and posttest 2. The overall mean knowledge score increased from 1.41 ± 0.159 in the pretest to 1.83 ± 0.174 in posttest 1 and remained high at 1.80 ± 0.180 in posttest 2. The Friedman test demonstrated a statistically significant difference across the three assessments ($\chi^2=91.9$, $df=2$, $p<0.001$), with a Kendall's W of 0.919, indicating a very strong effect/degree of concordance across the repeated assessments.

Table 3 showed the distribution of kindergarten teachers according to their overall level of knowledge across the three assessments. In the pretest, 30% of teachers had poor knowledge and 70% had fair knowledge. The educational program, all participants demonstrated either fair or good knowledge in posttest 1, with 80.0% classified as having good knowledge. In posttest 2, the proportion with good knowledge remained high at 74%, while 26% had fair knowledge and none had poor knowledge.

Table 4 presents the relationship between kindergarten teachers' knowledge of early childhood developmental stages and their demographic and employment characteristics. Knowledge was significantly associated with educational qualification ($p=0.037$), years of experience ($p<0.001$), and participation in training courses related to growth and development ($p=0.012$). In contrast, no statistically significant associations were found with age ($p=0.294$), responsibility for children at home ($p=0.836$), or type of kindergarten ($p=0.595$).

Table No. 2: Determine the effectiveness of prepared educational program toward early childhood developmental stages on teachers knowledge (posttest)

Pre-test			Post-test			Post-test 2			Friedman Test			
Mean	SD	Assessment	Mean	SD	Assessment	Mean	SD	Assessment	CS	W	df	Sig.
1.48	.505	F	1.78	.418	G	1.76	.431	G	91.9	.919	2	.000
1.42	.499	F	1.82	.388	G	1.82	.388	G				
1.36	.485	F	1.80	.404	G	1.74	.443	G				
1.36	.485	F	1.90	.303	G	1.90	.303	G				
1.36	.485	F	1.86	.351	G	1.76	.431	G				
1.44	.501	F	1.86	.351	G	1.84	.370	G				
1.34	.479	F	1.78	.418	G	1.78	.418	G				
1.28	.454	P	1.74	.443	G	1.76	.431	G				
1.32	.471	P	1.84	.370	G	1.78	.418	G				
1.44	.501	F	1.82	.388	G	1.82	.388	G				
1.42	.499	F	1.82	.388	G	1.82	.388	G				
1.44	.501	F	1.82	.388	G	1.80	.404	G				
1.40	.495	F	1.80	.404	G	1.82	.388	G				
1.44	.501	F	1.84	.370	G	1.82	.388	G				
1.42	.499	F	1.86	.351	G	1.82	.388	G				
1.42	.499	F	1.82	.388	G	1.78	.418	G				
1.36	.485	F	1.80	.404	G	1.70	.463	G				
1.44	.501	F	1.90	.303	G	1.90	.303	G				
1.56	.501	F	1.92	.274	G	1.86	.351	G				
1.46	.503	F	1.82	.388	G	1.80	.404	G				

CS = Chi-square, W = Kendall's W

Table No. 3: Level for kindergarten teacher's knowledge toward early childhood developmental stages through three tests

Level	Pre-test			Post-test			Post-test 2		
	No.	%	Mean±SD	No.	%	Mean±SD	No.	%	Mean±SD
Poor	15	30.0	28.16±3.18	-	-	36.60±3.47	-	-	36.08±3.60
Fair	35	70.0		10	20.0		13	26.0	
Good	-	-		40	80.0		37	74.0	

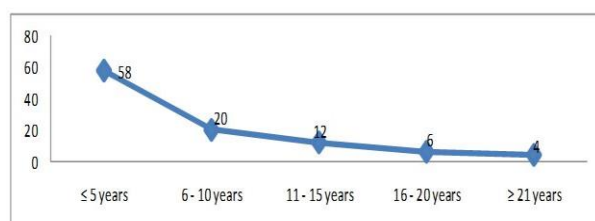


Figure No. 1: Distribution of kindergarten teachers according to their years of experience

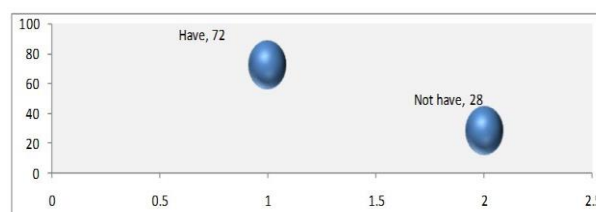


Figure No. 2: distribution of kindergarten teachers according to their responsibility for caring for children at home



Figure No. 3: Distribution of participants according to their participation in training courses related to factors affecting child growth and development

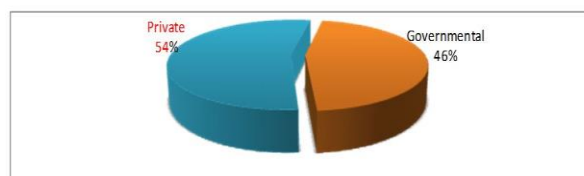


Figure No. 4: Presents the distribution of participants according to the type of kindergarten in which they worked

Table No. 4: The relationship between kindergarten teacher's knowledge about early of childhood developmental stages with their demographic and employment variables

Data	Subgroup	Knowledge		
		Mean Rank	Analysis	P. value
Age (years)	18 – 24	13.88	.152	.294 ^a
	25 – 34	25.93		
	35 – 44	27.22		
	45 – 54	25.56		
Level of qualification	Secondary School	16.22	6.587	.037 ^c
	Diploma degree	23.30		
	Bachelor's degree or above	29.98		
Years of experience (years)	≤ 5	19.69	.562	.000 ^a
	6 – 10	33.30		
	11 – 15	30.67		
	16 – 20	35.83		
	≥ 21	39.75		
Have children at home that you are taking care	Yes	25.76	-.208-	.836 ^b
	No	24.82		
Participated in training courses related to growth and development	Not participate	20.29	.351	.012 ^a
	1 - 2	23.40		
	3 or more	32.69		
Type of kindergarten	Governmental	26.67	-.531	.595 ^b
	Private	24.50		

a=P. value was calculated by Spearman's correlation coefficient b=P. value was calculated by Mann-Whitney U
c=P. value was calculated by Kruskal-Wallis H

DISCUSSION

This study showed that majority falling between 35 and 44 years, and a mean age of 36.82 years, with a standard deviation of 7.5 years. Most had a bachelor's degree or above and most had less than five years. The kindergarten teachers have responsibilities to maintain care for their children at home and most participants were related to training courses that were presented in the study sample attended one or two training courses related to factors affecting child growth and development. The level of kindergarten teachers' knowledge (pretest) toward early childhood developmental stages was fair, and most have fair knowledge. These findings are consistent with a studies by Keung and Fung⁷ and Ball et al⁸ which sought to investigate kindergarten teachers' pedagogical knowledge of content in play-based learning progression and found that teachers often lack a comprehensive understanding of developmental stages, especially in relation to play-based learning.

The majority of kindergarten teachers have adequate knowledge of early life developmental stages. These findings are consistent with research that seeks to assess teachers' competence in developmentally appropriate practices (DAP). For example, a study conducted in Jordan sought to determine kindergarten teachers' knowledge of developmentally appropriate practices and found that their understanding was "average" in some areas (such as curriculum development and integration), but "high" in others. This implies partial consistency: compared to the current study, some knowledge may be strong, while other areas are merely "acceptable" or "average"^{9,10}. In another study, using a recently created scale called the China Kindergarten Teachers' Learning and Development Scale (CKTLDS), another related study sought to determine the learning and development levels of kindergarten teachers in China. It found that the learning and development of Chinese kindergarten teachers was below average^{11,12}. In the present study, there was significant statistical effectiveness of prepared educational program toward

early childhood developmental stages on kindergarten teacher's knowledge. Keung and Fung⁷ reported that their confidence and ability to plan age-appropriate activities and their overall development were all improved through professional development. To assess the effectiveness of an in-service teacher training program in promoting early childhood education in both rural and urban areas, Quaid-e-Azam Academy for Educational Development conducted a study in Punjab, Pakistan, titled "Evaluation of an In-Service Early Childhood Teacher Training Program." The teachers' views on the value and use of early childhood education technologies were improved. Although the details of developmental stage knowledge vary, the current findings that the training improved teachers' competency are consistent with this study¹³.

This study showed that there was significant statistical differences between effect kindergarten teacher's knowledge about early childhood developmental stages with their level of education. There were significant statistical positive correlation between effect kindergarten teacher's knowledge about early childhood developmental stages with their years of experience, and number of participated in training courses related to growth and development. While, there were non-significant statistical relationship between kindergarten teachers knowledge about early of childhood developmental stages with their age, responsibility for children, and type of kindergarten. The results of Koc and Koc¹⁴ and Yusoff¹⁵, which sought to evaluate the impact of teaching experience on the implementation of spatial orientation programs in early education, do not fully align with the current study's findings that the majority of teachers have less than five years of experience, a deeper understanding and consistent integration of developmental knowledge. Furthermore, teachers' knowledge of developmental stages was positively correlated with their years of experience, education level, and participation in training courses, although age and family commitments had a small effect. Overall, the study emphasizes the importance of professional preparation and ongoing training in improving early childhood teachers' knowledge base, which directly impacts their ability to support children's holistic growth and development.

CONCLUSION

The valuable information about kindergarten teachers' understanding of early childhood developmental stages and most of them had at least a bachelor's degree, was in their mid-thirties, and had limited teaching experience. The importance of structured, evidence-based training interventions were confirmed and implementation of the developed educational program which achieved notable success in increasing teachers' knowledge.

RECOMMENDATION

Establishing training and continuous educational programs regarding the developmental stages of kindergarten children is necessary to assess their physical, intellectual, and emotional development. These programs contribute to maintaining normal cognitive and physical activity performance. Furthermore, such educational sessions enable teachers, who are in direct contact with children, to recognize abnormal growth features and participate in the early detection of health abnormalities.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Mohammed Hassan Aloda, Sahar Adham Ali
Drafting or Revising Critically:	Mohammed Hassan Aloda, Sahar Adham Ali
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

Conflict of Interest: The study has no conflict of interest to declare by any author.

Source of Funding: None

Ethical Approval: No.76 Dated 24,03.2025

REFERENCES

1. Berk LE. Development through the lifespan. Sage Publications 2020; 48.
2. McLeod S. Erik Erikson's stages of psychosocial development. Simply Psychol 2018; 3(2): 1-3.
3. McDevitt TM, Ormrod JE. Child development and education. Prentice Hall 2010; 65-76.
4. Al-Harbi SS. Theories to guide children development and their impact on early childhood education. J Ecohumanism 2024; 3(3): 1517-29.
5. Martin AJ. Motivation and engagement across the academic lifespan: A developmental construct validity study of elementary school, high school, and university/college students. Educ Psychol Measurement 2019; 69: 794-824
6. Pyle A, DeLuca C, Danniels E. A scoping review of research on play-based pedagogies in kindergarten education. Rev Educ 2017; 5(3): 311-51.
7. Keung CPC, Fung CKH. Exploring kindergarten teachers' pedagogical content knowledge in the development of play-based learning. J Educ Teaching 2020; 46(2): 244-7.
8. Ball DL, Thames MH, Phelps G. Content knowledge for teaching: what makes it special?" J Teacher Educ 2008; 59 (5): 389-407.
9. Jumiaan I, Alelaimat A, Ihmeideh F. Kindergarten teachers' knowledge level of developmentally

- appropriate practice in Jordan. *Education* 2020; 48(8): 1000-11.
10. Al-Khawaldeh M, Alelaimat A, Al-Zyoudeh N, Al-Masa'deh M, Mu'tasem M. The effectiveness of three types of kindergarten curricula in promoting national consciousness among the Jordanian kindergarten children. *Int J Humanities Social Sci* 2018; 8(11): 65-74.
 11. Duan Q, Jiang Y, Wang Y, Zheng C, Liu J, Liu X. Development and validation of Chinese Kindergarten teachers' learning and development scale. *Sustainability* 2023; 15(3): 1992.
 12. Egert F, Dederer V, Fukkink RG. The impact of in-service professional development on the quality of teacher- child interactions in early education and care: a meta-analysis. *Educ Res Rev* 2020; 29: 100309.
 13. Malik S, Khalid L. Evaluation of the training program for in-service teachers of early childhood education conducted by QAED in Punjab. *J Early Childhood Care Educ* 2023; 7(2).
 14. Koc Y, Koç K. Kindergarten teachers' experiences in a spatial orientation skills professional development program. *SAGE Open* 2023; 13(2).
 15. Yusoff MSB. ABC of content validation and content validity index calculation. *Educ Med J* 2019; 11(2): 49-54.