

Journal of Law & Social Studies (JLSS)

Volume 8, Issue 1, pp 96-105

www.advancelrf.org

Quality of Teacher Education: Need Assessment of Early Childhood Pre-Service Teacher Education in Pakistan

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Abstract

The environments in which children grow, both immediate and broader, are crucial to their learning and development (Hayes et al., 2022; Bronfenbrenner & Morris, 2006). Robust evidence exists that Early Childhood Education positively influences both cognitive and non-cognitive skills of young children (Behrman, 2017; Lindström et al., 2021; Behrman et al., 2013; Alfonso et al., 2023; Rao et al., 2022). According to UNESCO's (2023) definition, Early Childhood Care and Education (ECCE), envisages the period from birth to 8 years, it is significant because that particular time of human development is considered as the optimal period of growth and development. Wood-head, (2002) also emphasized that exposure to educational settings and experiences gained during this age tend to have social and economic returns far more than anything else. It is further endorsed that high-quality Early Childhood Education (ECE) and developmental experiences profit by a time of rich mental health for youngsters and, can assist them with accomplishing their maximum capacity. Schweinhart & Weikart (1981) and Sylva et.al., (2006) also proved that the provision of high-quality ECE establishes the groundwork for happy and healthy start to formal schooling leading to achievements and efficiency throughout life (Yousafzai, 2013). For this purpose, the researchers conducted a study to know the requirement of pre-service teachers' training for ECE in light of Pakistan's National Curriculum for ECE (2017) to find appropriate approaches to support ECE can benefit Pakistan's education system in particular and other parts of the world in general. The study utilized a mixed-method sequential explanatory research design. Three research instruments (a questionnaire, focus group discussion, and conceptual content analysis of the ECE curriculum) were used to achieve the objectives. Vygotsky's theory guided this research study to holistically assess the need for ECE teacher education from person to interactional units, such as parents, children, teachers, and siblings. Data from the questionnaire was analyzed using the Pearson chi-square test. Thematic analysis was used to understand the perception acquired during the focus group discussion. In addition, conceptual content analysis of the ECE curriculum was conducted to establish the main areas of learning for ECE teachers. This study's results suggest that early childhood educators in training require sound preparation on how they would deliver suitable classroom instructions as provided by the critical learning areas underlined in the ECE curriculum. A suggestion made by this research is that early child hood education (ECE) pre-service teacher training programs have to consider better child development strategies and personal developmental components and apply developmentally appropriate activities. The study concludes by informing the reader that a comprehensive ECE curriculum is vital and that teacher educators must always observe pre-service teachers during their teaching practice. Proper supervision and long stretches of teaching experience are necessary. Institutions offering pre-service ECE training can empower novice teachers by creating learning books for reading, science, home, maths, art and other subjects. Good lesson plans

should have Learning Objectives (Los), competencies, Key Learning Areas (KLAs), classroom layout as well as child-initiated activities. Resources such as child-oriented worksheets, media in print and electronic formats, and clear children's literature about rubric explanations on how to write rules and guidelines for instructions on social-emotional development among children are considered valuable materials to use in the process. To develop a strategic framework for ECE teacher education reforms as well as provide a better training model for trainee teachers more studies are needed.

Keywords: Needs Assessment, Early Childhood Education, Pre-service Teacher Education, Quality Assurance, ECE Curriculum.

Introduction

A nation's development and growth is widely acknowledged to lie in education. One advantage of giving quality education to young children is that it helps create a better-educated population (Damon et al., 2016). Consequently, it is significant that the system of education supplies a good quality which can result from having well-trained faculty with the right infrastructure and contemporary curriculum. The effectiveness as an improvement for ECE through improving the education's quality has been found by research and has become a major concern of government and educational societies (UNICEF 2022). Since teachers are responsible for implementing policy framework and also have direct contact with children, training is crucial in equipping them with the necessary skills to help children develop holistically, be able to self-regulate, achieve academic success and become life-long learners (Mishra & Koehler, 2006).

ECE is a very important stage of learning that necessitates dedicated and qualified practitioners (Kennedy, 2018). ECE educators must employ out-of-the-box, inquisitive and adaptable ways of talking with kids (Proyer, 2017; Pilgrim et al., 2022). Additionally, they have to make snap judgments as well as necessary actions on how to modify and adopt varied teaching approaches based on the needs of children (Toom & Husu, 2016; Mannikko & Husu, 2019; Kua et al., 2021). A continuous assessment process is required to comprehend policies, mechanisms, and practices to make a teacher training program effective. It is essential to glimpse all effective models and a successful program to advance ECE pre-service teachers' training is also essential (Akbar et al., 2013). Early Childhood Education (ECE) pre-service teachers must comprehensively understand education and the interrelation of reading, writing, listening, and speaking skills.

However, some researches need to be conducted with regards to this area (Kagan & Dermody, 2022). Pakistan is also faced with a severe shortage of qualified ECE teachers thereby necessitating increased education quality for children. Therefore, substantial support is needed to enhance teacher training programs (Khan et al., 2017). This study aims to underscore the necessity for precise teacher training that demands a specialized workforce (specialization in ECE) to deliver high-quality education in ECE and fills an essential gap in the current literature. To make sure that ECE teachers are well equipped for their roles and responsibilities (Forgie, Hu, & Boccalon, 2022). This study represents an attempt to identify what targeted practices or interventions for ECE pre-service teachers have been used in recent years.

This study also investigates the relevance of pre-service teacher education for early childhood education (ECE) teachers and to identify ways to improve the same. Additionally, the study seeks to analyze Pakistan's ECE National Curriculum 2007 and identify the key areas requiring teacher training. The research questions that are pertinent to these objectives have been formulated as follows:

1. What are the essential skills and competencies that ECE teachers require for effective teaching?
2. Is there a discernible difference in opinion between government and private sector teachers concerning the importance of pre-service teacher education for ECE teachers?
3. What are the possible ways to enhance pre-service teacher education for ECE teachers?

4. How can the learning outcomes and implementation ideas mentioned in the ECE Curriculum 2007 be achieved for teachers?

An integration of qualitative and quantitative data collection techniques will be used in this study. The sample will be made up of ECE teachers from government and private sectors. Data will be gathered through administering the questionnaires, conducting interviews, as well as focus group discussions. This study's results are expected to provide insight on the significance of pre-service teachers training for ECE teachers and provide suggestions on how it may be enhanced.

Literature Review

The early childhood education (ECE) literature is exhaustively examined in this paper, and the significance of pre-service teacher training. It examines ECE theories, history, child development, curriculum, and professional standards. Furthermore, it scrutinizes pre-service teacher training models and global perspectives on ECE including a situational analysis in Pakistan.

Early Childhood Education

Early Childhood Education (ECE), also abbreviated as ECE, is an important stage in a child's life that incorporates both formal and informal teaching from birth until the age of eight. This has grown tremendously in Western countries, particularly Europe, and is now one of the major public policy questions in Asia-Pacific. Pre-primary education is part of ECE which involves kids below 3 years. Formal primary school integration enables learning through introducing new skills and guiding the process of acquiring knowledge, abilities and values. Investing in ECE is critical for holistic development of children with significant returns. To convert findings into evidence-based policy requires evidence-based policy making and capacity building across different sectors. Furthermore, ECE calls for specific content areas as well as skills; children must be made to love learning and knowledge acquisition processes early enough. The concept posits that this stage is primary in human personhood; therefore it precedes any other personality development within each individual life.

History of Early Childhood Education

Early childhood is a crucial developmental stage, and the quality of ECCE programs significantly impacts children's holistic development (Bakken, Brown & Downing, 2017). Improving ECCE implementation is essential for ensuring access to quality education for all children, aligning with national and international frameworks such as the Sustainable Development Goals (SDGs), and informed policy and practice (Sind ECCE Policy, 2015), hence, it has become a burning public policy issue regarding funding of preschool and pre-k programs at local, state, and federal levels. There is continuous disagreement on the core emphasis in ECE such as striking a balance between play that is developmentally appropriate for the age group and a rigorous academic preparation curriculum in terms of reading, writing and arithmetic. Also, ECE featured globally through it having been listed under the United Nations' Sustainable Development Goal number 4. Childhood theories help us understand how children learn and develop thus informing teachers about how they can support children's learning experiences as well as parents through their everyday interactions with their kids Early Childhood Education Curriculum

There are teaching material that are very important in the training of children, aiming at meeting the needs of early development and achieving goals for everyone. Comenius, Locke, Rousseau, Pestalozzi, Froebel, Montessori, Steiner, Freud, Piaget and Erikson have influenced it. Curriculum should be designed to fit nature and character of a particular child. The confusion arising from understanding curriculum may be explained by some having different meanings on this issue as posited by scholars and practitioners. The preschool through grade 3 curriculum must broaden and deepen to reflect more advanced subject matter knowledge and skills while preserving cultural and linguistic sustainability. These curriculum goals were developed based on the national ECE curriculum of 2007 which aims at developing critical thinking among children as well as promoting tolerance for diversity; creating national pride in Pakistani identity; introducing Islamic values to

youngsters; demonstrating respect for beliefs; citizenship awareness raising; independence promotion; lifelong skills provision to kids; active learning encouragement; decision-making opportunities given.

Structure of Early Childhood Education

The environments in which children grow, both immediate and broader, are crucial to their development (Hayes et al., 2022; Bronfenbrenner & Morris, 2006). Robust evidence exists that “ECE (early childhood education)” positively influences both cognitive and non-cognitive skills, a finding consistent across developed and developing countries (Behrman, 2017; Lindström et al., 2021; Behrman et al., 2013; Alfonso et al., 2023; Rao et al., 2022). However, most rigorous evaluations of ECE’s impact have focused on high-income nations, even though, majority of children are from under privileged or low income backgrounds (Siraj-Blatchford et al., 2016).

Children in LMICs often face adversities that impede development and learning, but ECE interventions have been effective in addressing these challenges (Britto et al., 2021). This underscores the need to investigate developmental and environmental factors in these regions to identify effective interventions (Yoshikawa et al., 2018).

Research generally supports the notion that a child’s participation in ECE programs leads to better school readiness and success in long-term academic outcomes, although the long-term benefits vary over time (Snell et al., 2015). For The starting age of the preschoolers lead to more significant gains in literacy and numeracy for children from low-income families than just one year (Domitrovich et al., 2016). Similarly in Germany, preschool attendance was associated with improved school readiness, thus, not only the duration of attendance but the participation of in-class activities by children also creates a long-term impact in the foundational years in ECE classroom (Becker et al., 2018).

Theoretical Consideration

Research suggests that philosophies about child development form the basis of developmental theories. Child development theory examines and interprets the growth and behavior of children. It describes the genetic and environmental factors that impact children's growth and behaviour and how these factors interact (Diamond & McCartney, 2022). Experts in the field have developed many early education theories and practices to connect scientific early education's fundamental theories. These theories provide educators with information and guidance on how to work with children, families, and the community, as well as information on the conceptual understanding of challenging aspects (Copple & Bredekamp, 2009). Piaget and Vygotsky's cognitive development theories are pivotal in understanding child development. Piaget's theory emphasizes the importance of cognitive processes (Beilin and Pearlman, 1991; and Schattgen, 1997), while Vygotsky intended to expand his focus to include emotions. Unfortunately, his untimely death prevented him from pursuing these expansions. Montessori and Vygotsky present contrasting views on language and play. Research grounded in Vygotsky's framework highlights how culture and schooling shape memory processes, such as the primacy and recency effects (Cole and Valsiner, 2005), emphasizing the impact of formal education on cognitive abilities, including visual perception.

Vygotsky’s theory shifted from individual to interactional units, including parents, children, teachers and siblings. He advocated for alternative forms of assessment, as well as studied children in different ecological systems. Like Piaget, Montessori thought that language constituted an outcome of understanding and that it conveyed what the infant had previously observed or deduced for himself (Born, 2023). For instance, a child's vision was already taught to distinguish between colors, thus learning words to express them was an outcome.

Piaget’s cognitive development theory concentrates on the four crucial stages of child development each weaved along the correspondence and intervention of a supportive adult to facilitate throughout

each stage. Child's sense of achievement is heightened as the mastery is achieved and the child reaches the next stage of development.

Methodology

The present study undertook a mixed methods approach under an explanatory sequential research design to realize its objectives. The secondary explanatory method was adopted to buttress the quantitative results with qualitative data for more comprehension of the problem under study. As a result, qualitative data were utilized to explicate and further contextualize the findings of the quantitative data analysis (Edmonds & Kennedy, 2017).

The main purpose of this research project is to investigate the need for training programs for individuals preparing to become teachers and focused on thousands of pre-school teachers working in both state and private elementary schools within eight districts of Pakistan. Sampling process was employed whereby a certain section of people were taken from the total population under investigation. The quantitative sample consisted of 300 ECE teachers whereas the qualitative sample consisted 32 ECE experts. It seeks to establish whether these preservice teachers require more training to be able to improve their teaching skills and knowledge or not.

Province wise teachers (total population)

Table of study sample for questionnaire

<i>PROVINCES</i>	PRIVATE SCHOOLS	PRIVATE SCHOOL TEACHERS	PUBLIC SCHOOLS	PUBLIC SCHOOL TEACHERS
Punjab	20	100	20	50
KP	12	60	15	25
Sindh	8	40	10	25
Total	40	200	45	100

Findings

The following text presents the results of a survey that evaluated the knowledge and practical application of child development pedagogies among Early Childhood Education (ECE) teachers in Pakistan's both (public and private) sectors. The survey sought to highlight the need for pre-service training of ECE teachers.

The survey's findings reveal that government and private sector ECE teachers exhibit similar tendencies to use informal observation to understand children's individual development. However, a significant percentage of government (54%) and private (51%) ECE teachers admitted to being weak in by means of informal observation to comprehend children's development.

Additionally, the survey revealed that ECE teachers in both sectors need help to apply their knowledge of child development and learning to establish appropriate expectations for individual children. Furthermore, a notable proportion of government (41%) and private (47%) ECE teachers admitted to being weak in implementing developmentally appropriate activities in ECE classrooms.

The survey also found that ECE teachers in both sectors should strive to adapt activities to meet the unique needs of individual children, implement proper procedures for assessing children, and plan to maintain the individual children's development and learning by leveraging the knowledge of children's families.

A significant percentage of government (40%) and private (48%) ECE teachers accepted that they needed to be more practical in applying knowledge of children's background and culture aspect in ECE classrooms.

Overall, the survey findings suggest the potential for a gap in the quality of education provided in ECE classrooms in Pakistan, which could have long-term implications for children's learning outcomes. Therefore, training programs must be developed to improve ECE teachers' knowledge and practical application of child development pedagogies, particularly in government-run ECE schools.

Based on rigorous and comprehensive focus group discussions, the following findings are suggested to strengthen the pre-service training of ECE teachers:

The national curriculum of ECE 2007 provides a suitable base for design activities for ECE teachers' training. Extended and well-supervised teaching practice, as suggested by the focus group, could improve teachers' ability to implement the ECE curriculum effectively at the classroom level. ECE and secondary education are different fields requiring environment, routine, assessment practices, and room arrangements. During pre-service teacher training, prospective teachers must be proficient in every aspect through ECE specialization. ECE specialization courses such as key learning areas, competencies and expected outcomes in ECE, teaching phonics in ECE, administration of ECE, reflective thinking in ECE, ECE curriculum and methods, communication and language development in children, children literature, family and community in ECE, ECE psychology, ethics, calligraphy, art, and culture in ECE, policies of ECE and its history, physical education in ECE, Quranic curriculum, Islamic studies, Urdu, math, science, social studies, diversity, professional development in ECE, playful experiences for children, learning environments for children, nutrition and health, child development, children and young people's workforce, information computer technology in ECE, ECE philosophical foundations and critical thinking, developing criteria for child assessment, and record-keeping courses must also be added.

Establishing corners/goshas in ECE pre-service teacher training institutions could provide teachers with practical experience. Teachers must develop the practice of setting up their classroom corners so that students can helpfully improve their real-world abilities. During ECE pre-service teachers' training, prospective teachers must go through some effective lesson-planning procedures with the teacher educators. Lesson plans should include benchmarks and performance standards, intended learning goals, learning outcomes, and the arrangement and organization of the environment. Due to the sensitive time that the children are going through, teachers need to specialize in ECE and receive comprehensive training in all teaching areas. In ECE pre-service teachers' training, prospective teachers should be offered skill-oriented instructional objectives-based worksheets (shapes, patterns, tracing, and development of fine motor skills). By doing so, prospective teachers will better comprehend complex subjects, spot crucial learning gaps, promote active learning, and understand students' interests.

Rubrics should be introduced correctly and practically so prospective ECE teachers can focus on student learning and assess them appropriately. The ECE pre-service program should include illustrations that indicate the levels for each criterion, questions to consider, and explanations of key terms used in rubrics. Rubrics can evaluate a child's work and everyday activities, such as homework, assignments, attendance, cleanliness, and behaviour. Children's literature should be covered thoroughly during ECE pre-service teachers' training. Children's literature helps teachers comprehend students' core requirements in light of their developmental stage. Electronic and print media can help students become more aware of and have broader perspectives on global issues. These resources can be found online from many sources. During pre-service training, ECE teachers can benefit from reading newspapers, newsletters, booklets, periodicals, brochures, and other printed government publications. All printed items, including books, can help children learn. Training manuals must be

task and theme-based and part of the preparation for ECE teachers in pre-service training. Teachers must be well-prepared by using manuals about children's social and emotional development.

The ECE curriculum includes learning outcomes, implementation examples, and ideas for teaching and learning materials appropriate for the students' needs.

1. Personal and social development: Teachers must develop children's confidence, self-reliance, and appreciation for different cultures and religions. They should also help children learn different ways of working, playing, and cooperating with others.

2. Language and literacy: Teachers must guide children to participate in conversations, confidently express their ideas and interests, and value their mother tongue. They should also focus on language and literacy programs that reflect local culture and gradually introduce Urdu and English.

3. Mathematical concepts: These skills can be developed through attributes of objects, quantity, counting, basic geometrical shapes, and measurement.

4. Health hygiene and safety: Teachers must instil in children the value of safe, hygienic practices and their safety and security. They should also help children develop physical control, mobility, awareness of space, and ability to use tools safely.

5. The world around us: Teachers must encourage children to appreciate different people and places, identify local plants and animals, and develop a caring attitude toward the environment.

6. Creative arts: Teachers must encourage children to express themselves through various art forms, such as drawing, sculpture, and collage work. This competency focuses on enabling children to develop their fine motor skills and build confidence in expressing themselves using colors and various drawing tools.

7. Sound, rhythm, and action: Teachers must teach children to listen and detect rhythms, rhymes, and sound patterns. They can also arrange activities where children make distinct noises with multiple objects while using actions that express their feelings.

Recommendations

Recommendations Regarding The Need For ECE Pre-Service Teachers

Institutions can prepare ECE teachers with the necessary skills and competencies through practical activities. From the beginning of their careers, teachers should receive comprehensive instruction in all the learning areas especially the integration of most KLA in 'understanding the world around us', basic mathematical concepts, teaching and learning processes, and developmentally appropriate practices. Language and literacy skills, mutual respect, and knowledge and understanding are all crucial aspects that need to be instilled in ECE pre-service teachers. This can be achieved through specialized ECE pre-service teachers' training that covers every aspect of ECE.

Recommendations To Find Means And Ways To Strengthen ECE Pre-Service Teachers' Training

ECE level teachers may be skilled and qualified in the curriculum, 2007 and 17, during ECE pre-service teachers' training. Specialization in ECE can be encouraged for prospective ECE teachers in training institutions, and courses must be revised. Corners for learning different subjects may be provided in teachers' training institutions so that teachers can be skilled to make a perfect corners for children. ECE teachers' institutions must encourage and promote electronic and print media use to provide students with entertainment, content, and information. To make teachers aware of how to teach children effectively, theme and task-based training manuals may be included in ECE pre-service teachers' training courses. Rubrics on criteria description and performance can be included for professional development and training. Benchmarks, performance standards, outcomes, instructional

resources based lesson plans, children's literature and skills-based worksheets may be part of ECE pre-service teachers' training.

Recommendations To Find Key Learning Areas In The Light Of ECE Curriculum

Given that the ECE curriculum delineates all the key areas, these areas must be prioritized in ECE pre-service teachers' training institutions. This will enable teachers to grasp the most crucial areas and their potential applications before they enter the profession. Based on the activities of implementation (emotional and social development, literacy and language, mathematics concepts, hygiene and safety, world around us, creative arts, sound, rhythm, and action), ECE pre-service teachers can be effectively trained to facilitate children's learning in various ways, in line with the guidelines provided in the ECE curriculum, during their pre-service teachers' training.

Recommendations Regarding ECE Pre-Service Teachers' Training Model

Considering all the policy provisions regarding the ECE curriculum, 2007, a model was needed to put all theoretical perspectives into practice for ECE pre-service teachers training. For this reason, a model (SCAPE) was developed. This model provides guidelines for ECE pre-service teachers' training in curriculum selection, organizing practicum, the rules for enrolling prospective ECE teachers, and policies about evaluation and alignment of content with ECE standards. Therefore, it is suggested that this be followed during ECE teachers' training. It will help them apply their practices in their classrooms through the guidelines provided in this model. An experimental study may be conducted to verify the applicability and effectiveness of this model. A survey study may be carried out in the future to determine expert opinions about the suitability of this model.

Conclusion

The study suggests that early childhood education (ECE) pre-service teacher training programs must be revised to address better child development strategies and personal developmental components and implement developmentally appropriate activities. These revisions should focus on adapting activities to meet children's needs, implementing appropriate assessment procedures, and helping children use their knowledge of their families and cultures.

The proposed improvements in ECE pre-service teachers' training programs emphasize social development aspects. These improvements enable children in preventing problems in an effective way, using regulation strategies positively through messages and choices, and enhancing their understanding of learning and appreciation of heritage, culture, peers, and neighbours.

Additionally, the emotional development aspects of the programs need to be strengthened to help children deal with stress, change, behave respectfully, and learn appropriate practises for getting along. Health, safety, and nutrition are other areas requiring more attention, with programs focusing on planning and preparing conducive learning environments, selecting materials to ensure safety, establishing safety rules, and providing nutritious meals.

Improvements are also needed in working with families, particularly in responding to family concerns, inviting parents to open houses, discussing children's progress with families, and supporting the parenting role. The developmentally appropriate practices should also be enhanced, including interacting with children according to age, developing supportive communication, appreciating creative thoughts, and arranging various activities to facilitate learning.

Furthermore, the teaching and learning process should be improved by fostering children's social and emotional intelligence, using informational technologies, promoting children's creative skills, being flexible during implementation, and encouraging children to participate in cooperative activities. Creative arts, language, and literacy activities should be emphasized, with programs engaging children in conversation, allowing them to understand objects, events, and plants of the day, and encouraging them to create their own stories and rhymes.

Renewing respect for vision, values, human rights, tolerance, and dignity and creating a safe environment are essential. Additionally, addressing weak areas such as knowledge and understanding of child development, theories of learning, methods of teaching, shaping children's development, and social behavior among children is crucial.

The qualitative data from focus group discussions provides valuable insights for ECE pre-service teachers' training. The ECE curriculum is crucial for adequate preparation, and teacher educators must regularly observe prospective teachers during their practicum. Long periods of teaching practice and proper supervision are necessary. ECE is a crucial stage in a child's development, and teachers should specialize in ECE to better prepare them for their roles. Books and learning experiences should be incorporated into ECE specialization. ECE should be taught in various settings, meeting children's specific needs.

Institutions providing pre-service training in ECE can empower prospective teachers by establishing learning corners dedicated to reading, learning, science, home, art, and math. Comprehensive lesson plans should cover benchmarks, performance standards, intended learning outcomes, setting design, and instructional activities. Skill-oriented worksheets, print and electronic media, children's literature, clear rules for explaining rubrics, and training manuals about children's holistic development are essential resources.

The ECE curriculum covers all aspects of children's development and learning. Teachers need to understand the activities and domains of development mentioned in the curriculum to implement them in the classroom and facilitate children's learning differently.

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