

Impact of Effectiveness of Early Childhood Education on Students Learning Outcomes in Pakistan

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Abstract: *Learning occurs faster in the early years of life. Early Childhood Education (ECE) programs generally entail an acquisition of concepts, skills, and attitudes that lay the foundation for school readiness. This study aimed to examine the effectiveness of ECE on students learning outcomes and highlight problems related to the implementation of ECE program in District Faisalabad of Punjab province, Pakistan. All the teachers managing these ECE centres in Government schools of District Faisalabad were the population for the study. There were 313 ECE schools, and a sample of 173 ECE teachers was selected randomly (one teacher from each school). A well-structured questionnaire was used for data collection. The collected data was analysed through SPSS, and the results were interpreted. It was concluded that a lot of challenges existed. These include untrained ECE teacher, lack of financial resources, lack of learning and physical facilities, continuous mentoring and evaluation, and lack of awareness of the significance of ECE among people. These also have a significant influence on the effectiveness of the ECE program. In consequence, the effectiveness of ECE programme has a significantly positive impact on students learning outcomes. It was recommended that emphasis should be placed to improve*

the provision of ECE and to address the problems related to its implementation. And That government should introduce a proper system for effective monitoring and evaluation to maintain a conducive environment for learning and for complete mainstreaming of the ECE program.

Keywords: Early Childhood Education, Effectiveness, Problems, Implementation, Students learning outcomes, Government's ECE Schools.

1. Introduction

Education is the process of overall individual development in a natural setting. It acts as a medium for an individual to solve the problems faced in society. Education is the procedure through which a society pursue and transmit its norms, values, customs, skills, culture and traditions to the new generation (Malik, 2010). Early childhood education encompasses the child's initial years of life, and it manages the child's early education from the ages of five to eight years. It was considered an integral part of a child's early development by providing an efficient educational setting that includes all types of plays and other crucial activities for the child's growth (Adnan *et al.*, 2016). Early experiences of child's life could profoundly affect their educational achievements. This is a critical time in a child's life that brings changes in social, psychological, biological, and emotional growth and development. Different educational strategies and programs were designed to target children of ages from three to five years to develop child development (Bibi and Ali, 2012). ECE educator ought to advance in social communication and distributed learning in the study hall to figure out how to cooperate and rely upon one another. This help in addressing segregation and show improvement in classroom performance and develop the habits of sharing ideas, experience and problems (Woldehanna, 2011). In Pakistan focus was given to achieve primary objectives Education for All (EFA) and for this purpose advancement in the arena of early childhood education is necessary. Pakistan has equipped, affirmed and propelled National Action Plan (2011-15) for EFA. This plan was visualised to set up 42,500 novels ECE centres and designate 51000 new instructors only for ECE (Ministry of Education, 2007).

In Pakistan, there is no ECE-related research that has been performed yet because generally, most developing countries like Pakistan seem to have no or little idea about the significance of ECE. Even administrators also show more concern for primary education than to give priority to the

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ECE. After realisation of the significance and role of ECE, specifically its effects on students learning outcomes, the NEP (1998-2010) formulated for the reintroduction of 'Katchi' as a regular class in primary schools, thus increasing the number of years of primary education. Expectations here could be early childhood care and development (Shonkoff *et al.*, 2012). It is necessary to understand children's basic needs and desire by teachers, caregivers, parents, and administrations at every stage of the development in their early lives to make progress in progressive years of their lives (Mishra, 2005). Play is an enjoyable and pleasurable activity for kids, and it is an integral part of the development of a child from infancy to onward (Berkhout *et al.*, 2012). According to research, well-resourced and well-organised water and sand play improve different mathematics and science concepts such as shape, measurement, space and size, volume and area (Priest *et al.*, 2008). A child learned in an environment intentionally and deliberately designed to promote development and learning, together with adults and other children. Therefore, early childhood education quality smooth out disparities due to the children's home environment and thereby gives all the children the ability to grow according to their own skill (Eshetu, 2015).

1.1 Significance of the study

The research aimed to analyse the effectiveness of the Early Childhood Education (ECE) program on students learning outcomes. ECE program for young children laid the foundation of the concepts and skills on which basis subsequent learning and operations were built. So, it was essential to know about the significance of an effective ECE program and how the effectiveness of ECE program influenced students learning. Then explored the problems that tend to hinder appropriate preschool education and care for all children, such as lack of teacher training, financial resources and conducive classroom learning environment. This was an important study that enabled the teachers to get a good sense of early childhood education and better serve better by getting awareness regarding early childhood education.

1.2 Objectives

- To analyse the perceptions of respondents regarding the effectiveness of ECE program.
- To probe out the problems related to the implementation of ECE programs.
- To check the impact of the effectiveness of ECE on students learning outcomes.
- To formulate recommendations for addressing the problems related to the implementation of ECE programs.

1.3 Delimitations of the Study

- This study was limited to the government ECE schools of district Faisalabad.
- The generalisation of the study was confined to the limited sample size of 173 due to the constrained resources and time period.
- This study was confined to certain aspects of early childhood education.

2. Review of Literature

Childs early years of life are the significant time for the parents, teachers, caregivers, and administration to provide a meaningful interaction that greatly impacts the lateral life of the child (Gordon and Browne, 2016). Similarly, Aladekomo (2004) perceived pre-primary education as the education provided to children 3-5 years of age in an educational institution and before reaching primary schools. Osakwe (2009) determined that education is a natural cycle through which constructive objectives were accomplished, a concept learned, and formed meaning from experience and knowledge mediated by the learners' individual experiences, feelings, and thoughts. The desire for curiosity in any child is inherent and could be produced to gain maximum results by offering him early education. Rehman (2006) believed that the early period in child's life is most important in describing the lateral life experience of an individual. In-depth analysis and long-term attitudes have been laid out in this time period to provide a foundation for a child's future is a skilful, challenging and task of responsibility. Barnett (2008) underlined the significance of preschool instruction as well planned and organised. Pre-school Education plans yield long-lasting up-gradation in school achievements, including higher test scores, fewer chances of class

failure, and maximum academic completion and graduation; decreased crime in adolescence and juvenile delinquency.

NCERT (2005) reported that Early Childhood Education determined creativity, discovery, participation, opportunity, challenge, encouragement, support, sharing, cooperation and so on as the varieties of interactions being developed in children at this phase. Feeney *et al.* (2019) analysed that early childhood education is an advantage of considerable importance in a child's later academic success and far more latterly in life. This early exposure introduces the child to many areas that make him more likely to succeed at the primary level, as the trust in his academic abilities that he gained from the nursery school was taken to the primary level. This ultimately improves his learning and encourages it. The purpose of early childhood institutions is the affective and cognitive development of a child at the early stages of life.

Pardhan (2012) analysed the learning and teaching practices in Pakistan. He supports the early years of learning in Pakistan in an educational context by considering classroom practices and child's learning perception. Pakistan's education system is undergoing Early Childhood Education (ECE) reforms through government policy and direction. Almon (2007) determined that the modern trend in kindergarten and preschool focused on academisation and emphasis on learning numbers, letters, and other skills related to academics but in the daily schedule of children play being removed. There was a lack of playful activities in classrooms. Ayub *et al.* (2006) analysed that the present education system in Pakistan is a continuation of the colonial pre-independence regime, and it is not suited to our ideology. It was commonly noted that ECE in Pakistan was not accomplishing the policy-makers' attention. Rationalisation was required to become the ECE program consistent as it takes place on hazardous and diverse lines in Pakistan without any cooperation between providers.

Hussain and Sultan (2010) identified the issues and problems which were going on during ECE practices in Pakistan. Literacy of parents was critical; if parents were well educated and economically stable were more persuaded toward ECE education. Some other influencing factors were trained teacher and appropriate physical facilities for children at school. It was observed that lack of physical facilities and untrained teachers were the major ECE problems in Pakistan. Kostelink (2019) pointed out that type of different activities that were related to development engage students and encourage them to discuss the subject matter from different viewpoints and perspectives. They also emphasised that a preschool thematic program gives children opportunities for independent study, divergent thinking, choice, problem-solving and risk-taking.

Sang (2013) characterised ECE teacher as competent, supportive, and stimulating a healthy environment that is good for the growth of children and creates sustainable learning conditions for the youngsters. Piaget (2010) explored that there were various environmental effects on the growth of child's mental structures, which promote learning. He revealed that the environment promotes learning and cognitive domain development, which holds the key to learning in the early years. Murtaza (2011) observed that the learning environment must be friendly. Children's cognitive abilities could be enhanced by becoming active participants to develop their own intellect by designing child-friendly surroundings that were developmentally appropriate for childcare conditions. Adnan *et al.* (2016) expressed that most of the preschool teachers were not provided with proper training opportunities to teach the preschool classes, although they were very committed to their job to teach. The preschool teachers mainly focus on records keeping and supervision of the material – Mentoring and coaching given less emphasis. So, there is a need to give importance to the learning environment and to fulfil the gaps in providing physical facilities in a preschool setting. Juma (2004) analysed that teachers' training is an important part of the ECE program, training teachers to develop their understanding. The formal classrooms with child-oriented setting emphasised on encouragement of learning. Consequently, the status of early childhood education and development would be improved in Pakistan.

Dilshad (2010) studied that the ECE program particularly has a significant impact on the children's learning achievements. It is significant for the comprehensive development of youngsters. Such projects could improve physical prosperity and motor development, emotional and social

development, essential cognitive skills and language development. Mustard (2008) stated that early childhood development has a significant effect on the child's brain development. Suppose the development is slow or improper in the early stages of life. In that case, it has a longer impact on child development and the development of the brain, which ultimately affects the cognitive skills of the child, like creativity, logical reasoning, and problem-solving skills. Young (2002) explained that early childhood education (ECE) programs were intended to address the socioemotional, intellectual and physical needs of children that subsequently promote an individual's creativity and become a more competent member of society. If such developmental programs were provided to the deprived and poor children in turn, their lives could be rehabilitated.

3. Research Methodology

Descriptive research was conducted in District Faisalabad to examine Early Childhood Education (ECE) effectiveness on students' learning outcomes. All the teachers managing these ECE centres in Govt schools of District Faisalabad were the population of the study. There were 313 ECE schools and 173 schools randomly selected by the application called *randomizer*. A sample of 173 respondents was selected from these randomly selected schools (one teacher from each school). The sample size was determined by using online available software, i.e., *surveysystem*. The questionnaire was constructed for data collection. The collected data was analysed through Statistical Package for Social Sciences (SPSS), and the results were being tabulated and interpreted.

4. Results and Discussions

Hypothesis 1: There will be a significant relationship between lack of financial resources and the effectiveness of ECE Program.

Table 1: Relationship between lack of financial resources and effectiveness of ECE program

Lack of Financial Resources	Effectiveness of ECE Program					Total
	Effective	Highly Effective	Average	Non-Effective	Highly Non-Effective	
Agreed	2 3.7%	5 9.3%	5 9.3%	20 37.0%	22 40.7%	54 100.0%
Strongly Agreed	2 2.8%	8 11.1%	8 11.1%	23 31.9%	31 43.1%	72 100.0%
Undecided	3 16.7%	1 5.6%	2 11.1%	5 27.8%	7 38.9%	18 100.0%
Disagreed	3 18.8%	3 18.8%	5 31.3%	2 12.5%	3 18.8%	16 100.0%
Strongly Disagreed	6 46.2%	1 7.7%	2 15.4%	3 23.1%	1 7.7%	13 100.0%
Total	16 9.2%	18 10.4%	22 12.7%	53 30.6%	64 37.0%	173 100.0%

Chi-square = 41.754 d.f. =16 P-value = .000* Gamma = .001 *Significant

The gamma Value (0.001) indicates a positive correlation between lack of financial resources and the effectiveness of the ECE program. The chi-square value (41.754) indicates a significant relationship between lack of financial resources and the effectiveness of ECE program. The first null hypothesis of the present study was that there was a significant relationship between lack of financial resources and the effectiveness of ECE program. Results show that the ECE program in Pakistan was not as effective as supposed to be; there was a need to deal with confronted challenges. The administration should take effective steps to overcome the challenges of untrained teachers, lack of financial resources, inconsistent educational policies, and lack of awareness among people (Arshad and Zamir, 2018).

Hypothesis 2: There will be a significant relationship between lack of teaching-learning material and activities and effectiveness of ECE program.

Table 2: Relationship between lack of learning and physical facilities and effectiveness of ECE program

Lack of learning and Physical Facilities	Effectiveness of ECE Program					Total
	Effective	Highly Effective	Average	Non-Effective	Highly Non-Effective	
Agreed	2 2.8%	6 8.3%	6 8.3%	29 40.3%	29 40.3%	72 100.0%
Strongly Agreed	1 2.0%	6 11.8%	8 15.7%	13 25.5%	23 45.1%	51 100.0%
Undecided	3 17.6%	1 5.9%	1 5.9%	5 29.4%	7 41.2%	17 100.0%
Disagreed	4 20.0%	4 20.0%	5 25.0%	3 15.0%	4 20.0%	20 100.0%
Strongly Disagreed	6 46.2%	1 7.7%	2 15.4%	3 23.1%	1 7.7%	13 100.0%
Total	16 9.2%	18 10.4%	22 12.7%	53 30.6%	64 37.0%	173 100.0%

Chi-square = 35.329 d.f. =16 P-value = .004* Gamma = .000 ** Significant

The gamma Value (.000) shows a positive correlation between lack of learning and physical facilities and the effectiveness of the ECE program. The chi-square value (35.329) shows a significant relationship between lack of learning and physical facilities and the effectiveness of the ECE program. The second null hypothesis of the present study was that there was a significant relationship between lack learning physical facilities and the effectiveness of ECE program. It was observed that lack of physical facilities and untrained teacher for children at school were the major problems in ECE in Pakistan with the findings of Hussain and Sultan (2010). There was insufficient availability of learning material and physical facilities to deliver quality education and build teacher capacity in early childhood education analysed by Pardhan (2011).

Hypothesis 3: There will be a significant relationship between lack of continuous monitoring and evaluation and ECE program effectiveness.

Table 3: Relationship between lack of continuous monitoring, evaluation and effectiveness of ECE

Lack of continuous monitoring and evaluation	Effectiveness of ECE Program					Total
	Effective	Highly Effective	Average	Non-Effective	Highly Non-Effective	
Agreed	1 1.8%	5 8.9%	5 8.9%	22 39.3%	23 41.1%	56 100.0%
Strongly Agreed	2 3.2%	6 9.5%	9 14.3%	19 30.2%	27 42.9%	63 100.0%
Undecided	4 17.4%	3 13.0%	5 21.7%	3 13.0%	8 34.8%	23 100.0%
Disagreed	5 27.8%	2 11.1%	2 11.1%	4 22.2%	5 27.8%	18 100.0%
Strongly Disagreed	4 30.8%	2 15.4%	1 7.7%	5 38.5%	1 7.7%	13 100.0%
Total	16 9.2%	18 10.4%	22 12.7%	53 30.6%	64 37.0%	173 100.0%

Chi-square = 32.553 d.f. =16 P-value = .008* Gamma = .001 * Significant

The gamma Value (0.001) shows a positive correlation between lack of continuous monitoring and evaluation and effectiveness of ECE program. The chi-square value (32.553) shows a significant relationship between continuous monitoring and evaluation and the effectiveness of ECE program.

The third null hypothesis of the present study was that there was a significant relationship between continuous monitoring and evaluation and the effectiveness of ECE program. Monitoring of the personal, institutional support, the willingness of teachers to learn to enhance the learning of pupils, previous ECE learning practices and knowledge of pedagogical material significantly perform the role to engage teachers in the improvement of their teaching practices and novel ways of thinking. They have a particularly significant role in designing development programs discovered by Murtaza (2011).

Hypothesis 4: There will be a significant relationship between the Effectiveness of ECE Program and Student’s relative level of learning outcomes.

Table 4: Relationship between Effectiveness of ECE Program and Student’s relative level of learning outcomes

Effectiveness of ECE Program	Student’s relative level of learning outcomes					Total
	Bad	Poor	Fair	Good	Excellent	
Effective	2 12.5%	0 0.0%	1 6.3%	2 12.5%	11 68.8%	16 100.0%
Highly Effective	3 16.7%	2 11.1%	2 11.1%	6 33.3%	5 27.8%	18 100.0%
Average	3 13.6%	2 9.1%	2 9.1%	7 31.8%	8 36.4%	22 100.0%
Non-Effective	8 15.1%	17 32.1%	3 5.7%	14 26.4%	11 20.8%	53 100.0%
Highly Non-Effective	10 15.6%	14 21.9%	7 10.9%	23 35.9%	10 15.6%	64 100.0%
Total	26 15.0%	35 20.2%	15 8.7%	52 30.1%	45 26.0%	173 100.0%

Chi-square = 30.806 d.f. =16 P-value = .02* Gamma = 0.005 * Significant

The Gamma Value (0.005) shows positive correlation effectiveness of ECE program and Student’s relative level of learning outcomes. The chi-square value (30.806) shows a significant relationship between the effectiveness of ECE program and Student’s relative level of learning outcomes. The fourth null hypothesis of the present study was that there was a significant relationship between ECE program effectiveness and student’s relative level of learning outcomes. Early childhood development had a significant effect on the child's brain development and the development of brain, which ultimately affect the cognitive skills of the child like creativity, logical reasoning, and problem-solving skills (Mustard, 2008). Pre-school Education plans produced long-lasting up-gradation in school achievements, including higher accomplishment in test scores, lower chances of class repetition, and higher educational fulfilment (Barnett, 2008).

5. Conclusion and Recommendations

In this study, perceptions of respondents regarding the effectiveness of ECE program and its impact on students learning outcomes were analysed. It was concluded that the current status of ECE was not up to par. There were some difficulties related to implementing the ECE program at local ground, for example, teachers were not trained, lack of financial resources, learning and physical facilities and continued monitoring and evaluation, etc., and they have a significant influence on the effectiveness of ECE program. It was also realised that there were different reasons like a single primary school teacher, lack of departmental financial resources and their department not paying considerable attention in providing ECE training. Moreover, government funds were

not provided properly for the improvement of ECE programs because this ECE classrooms did not have all the necessary teaching-learning aids according to the needs of the children in schools. It was also observed that continuous monitoring and evaluation practices are essential for the ECE programme's fruitful results. In Consequence, the effectiveness of the ECE program has a significantly positive impact on students learning outcomes. Based on the conclusion, the following recommendations were made:

- Government needs to work on both short-term and long-term action plan to achieve the objective of ECE program. Emphasis should be given to improving the provision of ECE and addressing the problems related to its implementation.
- In order to facilitate ECE in the public sector, there is a need for infrastructure development for the improvement of the ECE program, and Special provisions should be made for the allocation of funds to build separate ECE classes equipped with appropriate learning and physical facilities.
- To promote ECE education in Pakistan, governments should set up a separate cadre of ECE teachers with appropriate ECE qualifications and training. Additionally, the government should regularly conduct pre-service and in-service training to provide a productive learning environment. Further, refresher courses based on advanced teaching methods and techniques should be introduced to keep the teachers updated with ECE program.
- Government should introduce a proper system for effective monitoring and evaluation to maintain a conducive environment for learning and complete mainstreaming of the ECE program. A monitoring cell can be formed to track the implementation and development process of the ECE program in Pakistan.
- Awareness-raising campaigns should be organised by the government, NGO's and private sector educational institutes to inform the public about the significance of ECE in Pakistan. All stakeholders should be aware of the need and importance of Early Childhood Education in Pakistan. Seminars, conferences, forums and mass media should be used to raise consciousness related to ECE that need to be promoted.

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