Utility of Early Childhood Education Resource Rooms in Pakistani Public Schools: Analysis of Teachers' Perspectives

ᵃ Arzam Hussain, ᵇ Muhammad Akram Malik, ᶜ Hakim Ali

ᵃ Research Scholar, Department of Education, Institute of Southern Punjab, Multan, Pakistan
  Email: arzamhussain3139@gmail.com
ᵇ HOD, Department of Education, Institute of Southern Punjab Multan, Pakistan
  Email: hodeducation@isp.edu.pk
ᶜ Faculty Member, Department of Education, Institute of Southern Punjab Multan, Pakistan
  Email: hakimaliwhisl@gmail.com

ARTICLE DETAILS	ABSTRACT
History: *Accepted 14 May 2022* *Available Online June 2022* **Keywords:** *Early Childhood Education, ECE Resource Rooms, Teachers' Perception, Literacy and Numeracy Drive* **JEL Classification:** *P36, I21* *DOI:* 10.47067/real.v5i2.225	*Early years of child's life are acknowledged as vital stage for his/her all-inclusive intellectual, physical, emotional and linguistic development. Previous literature suggests that Early Childhood Education (ECE) provides solid basis for optimal development of life-long skills and consequent learning. Keeping in view the importance of ECE in international scenario, Pakistan National Education Policy (2009) made commitment to allocate additional budget for establishment of ECE resource rooms in all the public schools to provide at least one year of pre-primary education to children along with specialized training for teachers. This study, therefore, mainly focused to analyze teachers' views about utility of ECE resource rooms in Pakistani public schools and to highlight opportunities, gaps and challenges. To achieve the objective, researchers used quantitative survey design and collected views of 308 (150 male and 158 female) randomly selected ECE teachers in district Muzaffargarh. A self-developed questionnaire comprising two factors having 45 close-ended items was used to collect data. Researchers applied both the descriptive and inferential statistical techniques to analyze the quantitative data. Overall, results suggested that majority of sample teachers showed positive perception about ECE setup as well as its utility but with some reservations. Findings further revealed that teachers' perceived utility of ECE resource rooms differed significantly in terms of their gender but not for school location. This study finally recommends that governments should increase allocation of budget to further promote ECE in public sector schools, specifically to construct purpose-build resource rooms and to train teachers.*

Corresponding author's email address: hakimaliwhisl@gmail.com

1. Introduction

The influence of globalization of education systems from Early Childhood Education (ECE) to Higher Education has been under enormous pressure to reform. Kekesi et al. (2019) highlighted that a number of countries experiencing educational reforms have pointed to international research trends and findings to create new pedagogy to come across those trends. In this context, the term ECE refers to childhood education from birth to 8 years (Grotewell & Burton, 2008) and is acknowledged as a dynamic stage for children's all-inclusive intellectual, physical, emotional and linguistic development. ECE provides solid basis for child's optimal development of life-long skills (Frimpong, 2021) and sets the stage for his/her future success (Evans et al., 2000; UNICEF, 2020). Likewise, Gardon and Browne (2000) defined ECE as pre-school, kindergarten, primary and Montessori education for children aged two to eight.

Writing in the same vein, Essa (2005) described early childhood education as an area of research that provides students with appropriate education in their early childhood, supporting children aged from birth to 8 years. Similarly, Frimpong (2021) asserts that ECE includes developmentally appropriate programs to help children in early age and focuses learning through play-way method (Essa, 2005). Generally, young people trained during the early years of their life are most likely to achieve higher aspiration and social work in their future i.e., intellectual experience, language, perception, socio-passionate and cognitive development (Akinrotimi & Olowe, 2016). This stage may provide a positive base for future life or may have a detrimental effect on child's life (UNESCO, 2010). Extensive evidence shows that quality schooling and care during early childhood provides a solid ground for the child's future life (Dahlberg & Moss, 2005). Moreover, ECE offers disadvantaged children chances to avoid hardship and create a safer world by optimizing their potential (OECD, 2006).

Early childhood education, with an emphasis on learning and technical skills and on traditional and adult instructional approaches, has increasingly become a concern in recent years (Rehman, 2006). The early years of human life give social and cognitive investment a unique opportunity, but this is at the same time the most vulnerable period for all forms of development stunts, when the overall development does not improve (Brownson, 2010). Many countries of world adopt play based learning for Kachi class and give it name of ECE. ECE has very important role in the development of young generation of any nation (Ahmad et al., 2019). The school learning in the form of ECE and home environment for learning can be helpful to make a student successful not only during his studies but in his future life as well (Murtaza, 2011).

Furthermore, Pyle and Deluca (2017) proclaimed that early years of child's life are decisive for growth of his/her cognitive and mental capabilities with development of interest and curiosity among students (Weiland & Yoshikawa, 2013) for future learning. Likewise, Ghazi et al. (2018) asserted that ECE setup provides children appropriate educational atmosphere for various educational activities. Similarly, a number of other previous studies found that ECE is useful to improve students' communication skills (Cremin et al., 2018; Sundin et al., 2018), increase interest in seeking new things (O'Byrne et al., 2018), develop motor skills (Zomer & Kay, 2014), enhance language achievement (Lucarevschi, 2016; explain science concepts (Mah et al., 2021; Preradovic et al., 2016; Walan, 2019), support children to learn efficiently (Cremin et al., 2018), and to motivate children to be regular in classes (Nicolopoulou et al., 2015).

In the context of international scenario, Government of Pakistan also showed its commitment to enroll 100% of school children in primary and secondary schools. In Pakistan in the 1970s, ECE was properly arranged. Primary schools run by the government organized Kachi courses for kids between

the age of 3 and 6, despite official delays in this practice in the 1980s. Likewise, Pakistan National Education Policy 1992 formally recognized the Kachi course but adequate education facilities and services were not provided except textbooks and no relevant learning materials and resources were developed. Consequently, not more than 10% of children aged 3-5 could be enrolled in any organized program of education (Government of Pakistan, 1999). The ECE was also listed as one of the major areas to work on by the National Action Plan (Government of Pakistan, 2005). The goal was to make early childhood education better available, retainable and give children opportunity to live successfully and prosper in their future life. Furthermore, Pakistan National Education Policy (2009) made commitment to allocate additional budget for establishment of ECE resource rooms in all public schools for providing at least one year of pre-primary education along with specialized training for teachers.

Accordingly, Government of the Punjab established ECE resource rooms in 300 schools of Toba Take Singh in first phase in 2015. Then 575 ECE resource rooms were established in 2nd phase in December 2016 in Jhang, Rahim Yar Khan, Lahore and Rawalpindi with the support of UNICEF. After experimental/pilot studies, Government of the Punjab decided to extend the scope of ECE resource rooms. The major purpose of the project was to increase the enrollment and retention rate of students and to enhance the quality education for pupils. To achieve this objective, the ECE rooms were decorated by colorful paintings and learning material was provided in accordance with National Curriculum of 2007. Specialized training facility for head of the institutions, teachers, school council members and caregivers was also provided before the implementation of the program in the schools selected for establishment of the ECE resource rooms in the 1st phase of the program. They were also trained on the working well use of low price and no price material for learning and doing activities. Proper attention and funds were spent on ECE program by Government of Punjab for betterment of students.

Keeping in view the importance of ECE in international scenario and ground realities within country, this study, mainly focused to measure teachers' perception regarding utility of ECE resource rooms in Pakistan and to highlight opportunities, gaps and challenges. This study specifically analyzed teachers' views about role of ECE resource rooms on students' academic and personality development in 45 core areas. The study findings may be valuable for policy makers. They may be able to know about the opinion and perception of teachers about utility of ECE resource rooms in public schools. They may also be able to know the utility of ECE rooms for students' academic and personality development. The findings of this study may further be useful for administrative personnel to know about the progress of ECE resource rooms in public schools. Findings will also provide a guideline for future researchers interested in analyzing early childhood education system in Pakistan.

2. Research Questions

To achieve the main objective, researchers formulated following four specific research questions.

1. How do participating teachers perceive the utility of ECE resource rooms for students' academic development?
2. How do participating teachers perceive the utility of ECE resource rooms for students' personality development?
3. Are there any gender-based differences in teachers' views about utility of ECE resource rooms in public schools?
4. Are there any school location-based differences in teachers' views about utility of ECE resource rooms in public schools?

3. Research Methodology

3.1   Design and Participants

This survey design quantitative study analyzed teachers' perception about utility of ECE resource rooms in Pakistani public schools. All the 1539 male and female teachers involved in teaching ECE classes in district Muzaffargarh were taken as population in this study. To select the representative sample, proportionate stratified random sampling technique was used. The sample size was decided with the help of a formula established by Krejcie and Morgan (1970) for determining sample size. As a result, total 308 teachers including 150 (48.7%) male teachers and 158 (51.3%) female teachers were selected as a sample in this study.

3.2   Instrument

This study used a self-developed 45-item questionnaire comprising three sections to examine ECE teachers' views about utility of ECE rooms in students' academic and personality development. First section comprising three items required the sample participants to provide their personal and job related information i.e., school name, gender and school location. Second section with 24 items measured sample teachers' views about the utility of ECE resource rooms in terms of students' academic development while third and final section with 21 items analyzed teachers' views about the utility of ECE resource rooms in terms of students' personality development. Items/statements were selected and finalized after extensive review of literature in Pakistani educational and cultural context as well as teachers' sample. Sample participants were required to respond on five response options from strongly disagree=1 to strongly agree = 5. All the items in both the factors were scored positively.

For validation of the questionnaire, a panel of experts in the field of education was consulted. Questionnaire was finalized based on their feedback and expert opinion for pilot testing. For further improvement, a small scale pilot study was conducted involving a group of 27 male and female teachers who were working/teaching in primary schools having ECE setup in Muzaffargarh city. Suitability and adequacy of every item in both the factors of the questionnaire was discussed with participants of pilot study. Their valuable opinions were noted. In the light of their views and valuable suggestions, the questionnaire was finalized to administer to the sample participants. Cronbach Alpha coefficient value for the whole scale was 0.79 which is in line with Cronbach (1951) who indicated that reliability coefficients above 0.6 are desirable.

3.3   Data Collection, Response Rate and Analysis

After obtaining permission from the respective Chief Executive Officers [CEOs], relevant district officials and the concerned head teachers, final research instrument was administered to the respondents personally by one of the members of the research team. Finally, all the 308 (100%) sample teachers returned the questionnaire. Specifically, among all the 308 valid responses, 51.3% were female (158) and 48.7% were male (150). Similarly, 44.2 % teachers were from rural schools (136) and 55.8% teachers were from Urban schools (172). The collected data was tabulated, interpreted and analyzed by using appropriate descriptive and inferential statistical techniques i.e., frequency, mean, standard deviation and independent samples t-test.

4. Results

The data were analyzed and results were presented and interpreted in the following four subsections.

4.1   Utility of ECE Resource Rooms in terms of Students' Academic Development

This subsection depicts the analysis of teachers' views about utility of ECE resource rooms in terms of students' academic development. Frequency count, mean and standard deviations were calculated to analyze teachers' views. Table 1 displays the results.

Table 1: Teachers' views about utility of resource rooms for academic development

Sr. no.	Statements	A	N	DA	M	SD
1	Improves cognitive/intellectual skills of students.	179	57	72	3.55	1.24
2	Useful for the retention of students.	229	8	71	4.15	1.39
3	Source of information for ECE students.	131	54	123	3.16	1.21
4	Helpful for increasing enrollment of students.	178	61	69	3.55	1.22
5	Useful for students to understand the subject.	224	52	32	4.11	1.05
6	Useful to develop scientific and discovery ability of pupils.	153	67	88	3.16	1.08
7	Provides students' knowledge about modern technologies.	154	69	85	3.28	1.25
8	Provides quality education to the students in backward areas.	224	52	32	4.11	1.05
9	Helpful to achieve EFA (Education For All) goals.	222	54	32	4.08	1.05
10	Useful in reducing the absence ratio of students.	152	74	82	3.39	1.22
11	Helpful to learn counting and basic alphabets conceptually.	224	52	32	4.11	1.05
12	Helpful to achieve goals of LND.	221	54	33	4.06	1.05
13	Helpful to improve student's writing skills.	153	71	84	3.28	1.24
14	Helpful to fulfill educational need of Kachi class students.	224	52	32	4.11	1.05
15	Helpful to learn and understand Urdu and English alphabets.	201	62	45	3.84	1.44
16	Helpful to develop reading ability of students.	224	52	32	4.10	1.05
17	Helpful to improve pronunciation ability of students.	179	57	72	3.55	1.24
18	Useful to develop students learning language skills.	229	55	24	4.19	1.01
19	Useful to develop question answering ability.	156	65	87	3.28	1.23
20	Helpful for students to be attentive.	196	56	56	3.72	1.17
21	Develops students' interest in class activities.	179	57	72	3.55	1.24
22	Helpful for future learning of students.	224	52	32	4.11	1.05
23	Helpful to develop education seeking skills among students.	151	73	84	3.37	1.23
24	Useful to develop critical thinking in students.	224	52	32	4.10	1.04
	Overall perception				**3.75**	**1.16**

Note: Mean value less than 3.00 = Low, 3.00 to 4.00 = Moderate and 4.00 to 5.00 = High

Table 1 depicts that participating teacher rated eleven statements related to academic utility of ECE rooms as highly positive, thirteen as moderately positive and none was perceived as negative. Table 1 also displays that participating teacher believe that ECE rooms were highly supportive in retention of students, understanding subject, quality of education, achieving educational goals, learning basic mathematical concepts, achieving LND goals, satisfying students' educational needs, development of reading ability, language learning, students' future learning and critical thinking of students (Mean = 4.01 to 5.00).

Analysis in Table 1 further shows that teachers believed that ECE rooms were useful in students' cognitive development, source of information, increasing enrollment, discovery ability, knowledge about technology, decreasing absence ratio, improving writing skills, learning Urdu

and English alphabets, pronunciation ability, question answering ability, attentiveness during class, creating interest during class activities and developing education seeking skills among students (Mean = 3.00 to 4.00). Overall perception of participating teachers was positive (Mean score = 3.75 and SD 1.16) about usefulness of ECE resource rooms for students' academic development in public schools.

4.2   Utility of ECE Resource Rooms in terms of Students' Personality Development

This subsection depicts the analysis of teachers' views about utility of ECE resource rooms in terms of students' academic development. Frequency count, mean and standard deviations were calculated to analyze teachers' views. Table 1 displays the results.

Table 2: Utility of resource rooms and students' personality development

Sr. no.	Statements	A	N	DA	M	SD
1	Students spend whole time in happy mood.	179	57	72	3.55	1.24
2	Students' confidence level is increased	221	54	33	4.06	1.05
3	Useful for development of creative arts among children.	153	71	84	3.28	1.25
4	Develops social skills in children.	156	65	87	3.28	1.25
5	Develops discipline sense in pupils.	179	57	72	3.55	1.24
6	Develops communication skills among children.	234	30	44	3.83	1.10
7	Motivates students to participate in healthy activities.	151	66	91	3.25	1.27
8	Develops sensory and perception skills of pupils.	155	65	88	3.29	1.26
9	Improves emotional development.	151	66	91	3.25	1.27
10	Helpful for holistic development of students.	234	30	44	3.83	1.10
11	Provides students' interactive and simulative environment.	167	59	82	3.33	1.23
12	Helpful for moral development.	224	52	32	4.11	1.05
13	Develops problem-solving skills in students.	222	54	32	4.07	1.04
14	Improves students' listening skills.	216	55	37	4.06	1.08
15	Parents are satisfied with ECE setup.	137	76	95	3.22	1.20
16	Develops positive self-image and self-reliance in students.	228	53	27	4.16	1.02
17	Develop pupil's motor skills.	251	39	18	4.28	0.91
18	Promotes good habits in pupils.	160	69	79	3.37	1.20
19	Useful for character-building of students.	185	68	55	3.65	1.16
20	Develops sense of responsibility among pupils.	251	39	18	4.30	0.91
21	Develops self-control ability among students.	160	69	79	3.37	1.20
	Overall perception				**3.67**	**1.15**

Note: Mean value less than 3.00 = Low, 3.00 to 4.00 = Moderate and 4.00 to 5.00 = High

Table 2 exhibits that participating teachers rated seven statements related to utility of ECE rooms for personality development as highly positive, fourteen as moderately positive and none was perceived as negative. Table 2 also indicates that participating teachers believe that ECE rooms were highly supportive to create student friendly environment, moral development, improve listening skills, creating positive self-image/self-reliance, developing motor skills and sense of responsibility among students (Mean= 4.01 to 5.00).

Table 2 further reveals that teachers believed that ECE rooms were useful in creating enjoyable environment for students, developing their artistic abilities, developing social skills, creating sense of discipline, developing communication skills, motivating students to participate in healthy activities, developing sensory skills, improving them emotionally, holistic development, providing simulative environment, moral development, parents' satisfaction, promoting good habits, students character building, sense of responsibility and developing self-control ability among students. Overall perception of participant teachers was also positive (Mean score 3.67 and S.D 1.15) about usefulness of ECE resource rooms for students' personality development in public schools.

4.3   Teachers' Overall Perceived Utility of Resource Rooms
This subsection presents the analysis of teachers' overall perceived utility of ECE resource rooms in graphic form based on mean values. Figure 1 displays the results.

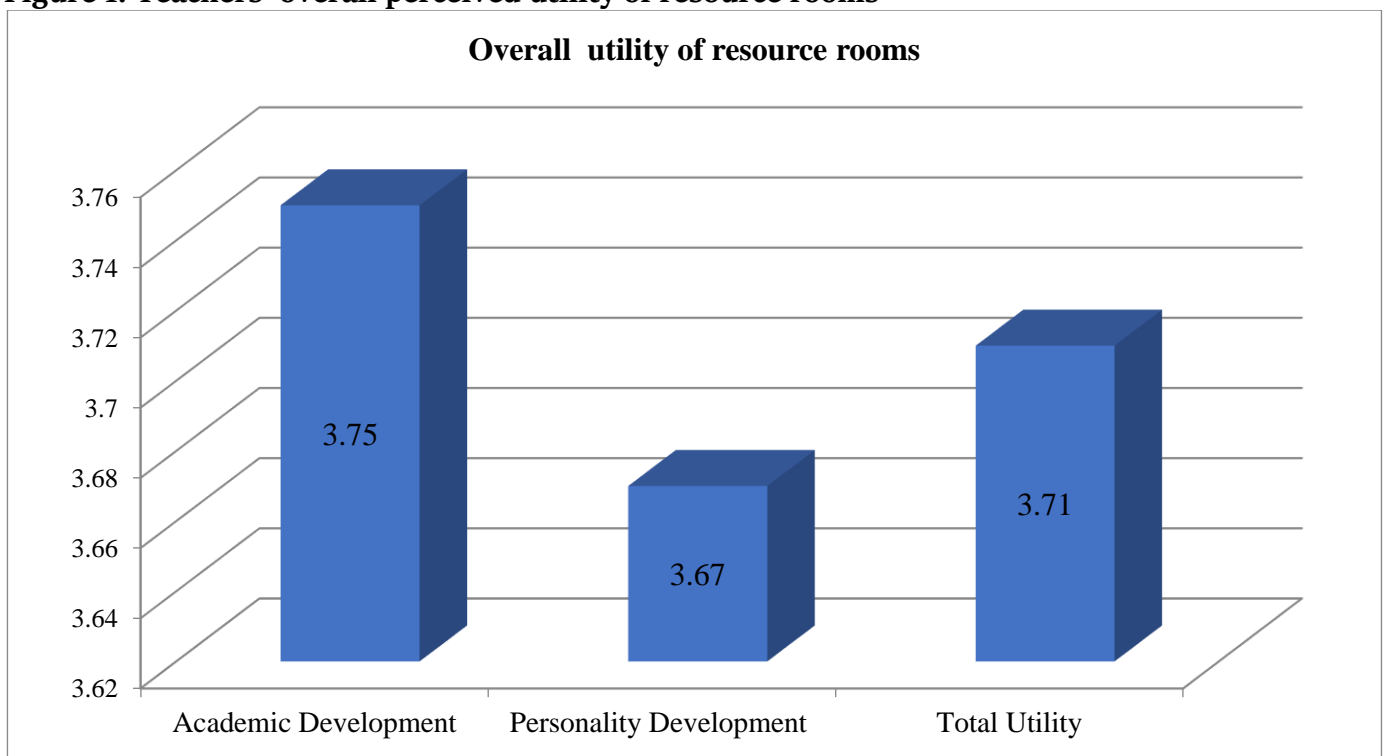**Figure 1: Teachers' overall perceived utility of resource rooms**

Figure 1 demonstrates the results of descriptive analysis performed to compare teachers' views about overall utility of ECE resource rooms along with utility of resource rooms in terms of students' academic development and personality development. The results of data analysis depict that mean values on all the three dimensions of utility of ECE resource rooms were above mid-point 3.00. It can, therefore, be concluded that participating teachers' perception was moderately positive regarding utility of ECE resource rooms for students' academic development and personality development. Overall mean value on total utility scale (i.e., 3.71) also confirms this result.

4.4   Gender-based and School Location-based Differences in Teachers' Views
To analyze gender-based and school location-based differences in teachers' views, researchers performed independent-samples t-test. Table 3 and Table 4 reveal the results followed by their interpretation.

Table 3: Gender-based Differences in Teachers' Perception

Variable	category	N	Mean	SD	df	t-value	p-value
Gender	Male	150	165.82	12.79	306	2.037	.042
	Female	158	168.87	13.46			

Table 3 shows the analysis of respondents' perception score on the basis of their gender. Table 3 further depicts that an independent samples t-test was applied to compare the teachers' perception about ECE set up and its utility for different aspects of students' achievement. There were statistically significant differences in the perception of male teachers (M = 165.82, SD = 12.79) and female teachers (M = 168.87, SD = 13.46) about ECE set up and its utility for different aspects of students achievement with df = 306, t = 2.037, p = 0.042 at significance level of 0.05. It was, thus, inferred that teachers' perception based on their gender was not the same about utility of ECE set up. There were differences in male and female teachers' perception as the p-value was 0.04 < 0.05.

Table 4: School location-based Differences in Teachers' Perception

Variable	category	N	Mean	SD	df	t-value	p-value
Location	Rural	136	166.38	13.63	306	1.312	.190
	Urban	172	168.35	12.76			

Table 4 presents teachers' perception on the basis of their school location. Table 4 further displays that an independent samples t-test was applied to compare the teachers' perception about ECE set up and utility for different aspects of students' achievement in schools situated in urban and rural areas. There were no statistically significant differences in the perception of rural teachers (M = 166.38, SD = 13.63) and rural teachers (M = 168.35, SD = 12.76) about ECE set up and its usefulness for different aspects of students' achievement with df (306), t = 1.312, p = 0.19 at significance level of 0.05. It was, therefore, inferred that teachers' perception based on their school location was almost same about utility of ECE set up in public schools. There were no significant differences in teachers' school-location based perception about ECE setup as the p-value was 0.19>0.05.

5. Discussion

This quantitative survey design study was conducted to analyze teachers' perception about utility of ECE resource rooms in Pakistani public schools. The findings of this research showed that teachers were in favour of ECE setup in terms of its usefulness for students' life-long academic and personality development. These findings confirm the results previous studies (i.e. Shore, 1997; Mustard & McCain, 1999) which concluded that rich and dynamic learning environment is thought to be helpful in enhancing brain development, social development and physical development. Likewise, a number of other studies (i.e., Ahmad et al., 2019; WHO, 2004 & Murtaza, 2011) also support findings of this research study. Findings of their research showed that ECE can play important role in the development of a child.

This study also showed significant differences between male and female teachers' perception about ECE setup. These findings are aligned well with research findings of Barnett et al. (2005). Their study also found that female teachers are more in favour of ECE setup than that of male teachers. This study results are important for policy makers, federal and provincial governments along with all the

other stakeholders desiring to improve services for early childhood education to enhance children development. Induction of more qualified and especially trained teachers for early childhood education may lead to substantial improvements (Manning et al., 2017) for children's academic and personality development contributing towards life-long outcomes and overall benefit of society.

6. Conclusion and Recommendations

This research study was mainly conducted to analyze teachers' perception about the utilization of ECE rooms in Pakistani public schools. Overall, this research study concluded that teachers were in favour of establishment of ECE rooms in public schools. They believed that academic development and personality development among ECE students can be improved with the help of ECE resource rooms. This study further concluded that there were statistically significant differences in the perception of male and female teachers about the utilization of ECE resource rooms and its impact on different aspects of students' academic as well as personality development. It was finally inferred that male and female teachers do not have the same perception about the utilization and benefits of ECE resource rooms in schools. On the other hand, male and female teachers teaching in urban and rural areas have the same perception and it was concluded that both the groups of teachers were equally in favor of ECE setup. This study finally recommends that government should allocate additional budget to further promote ECE in public sector schools, specifically to construct purpose-build resource rooms and to train teachers for imparting knowledge at this particular level of schooling.

References

Ahmad, M., Jatoi, H., & Riaz, S. (2019). Proposed strategies for the effective implementation of early childhood education programme in Punjab. Global Regional Review, 4, 1-13.

Akinrotimi, A. A., Olowe, P. K. (2016). Challenges in implementation of early childhood education in Nigeria: The way forward. Journal of Education and Practice, 7(7), 71-85.

Barnett, S., Lamy, C., & Jung, K. (2005). The effects of state pre- kindergarten programs on young children's school readiness in five states. The National Institute for Early Education Research, Rutgers University.

Brownson, R. C. (2010). Translating epidemiology into policy to prevent childhood obesity: The case for promoting physical activity in school settings. Annuals of Epidemiology, 20(6), 436-444.

Cremin, T., Flewitt, R., Swann, J., Faulkner, D., & Kucirkova, N. (2018). Storytelling and story acting: Co-construction in action. Journal of Early Childhood Research, 16(1), 3–17.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334.

Dahlberg, G., & Moss, P. (2005). Ethics and Politics in Early Childhood Education. London: Routledge Falmer.

Essa, L. E. (2005). Introduction to Early Childhood Education. New York: Delmar Learning.

Evans, J. L., Myers, R. G., & Ilfeld, E. M. (2000). Early childhood counts: A programming guide on early childhood care for development. Washington: The World Bank.

Frimpong, S. O. (2021). The influence of perception on the provision of early childhood education in the Kumasi Metropolis of Ghana. African Educational Research Journal 9(1), 179-188.

Gardon, A. M., & Browne, K. (2000). Beginnings and beyond: Foundation in early childhood education. NY: Thomson Learning Delmar

Ghazi, S. R., Ajmal, M. & Saeed, A. (2018). Effectiveness of early childhood education: A case study from remote district of central Punjab. Journal of Early Childhood Care and Education, 2, 75–86.

Government of Pakistan. (1999). Education for All: the year 2000 assessment. Pakistan Country Report.

http://www2.unesco.org/wef/countryreports/pakistan/contents.html Retrieved on 21-08-2018.

Government of Pakistan. (2005). National Education Census 2005 Pakistan. Available at http://www.statpak.gov.pk/fbs/content/national-education-census-2005-pakistan. Retrieved on 24-08-2018.

Government of Pakistan. (2009). National Education Policy 2009. Islamabad: Government   of Pakistan, Ministry of Education. Available:
http://itacec.org/document/2015/7/National_Education_Policy_2009.pdf

Grotewell, P. G., & Burton, Y. R. (2008). Early childhood education: Issues and developments. USA: New York.

Kekesi, D. K, Donkor, S. K., & Torkonyo, M. (2019). Early childhood education teachers' perceptions on the use of play as a teaching technique in Afadjato South District of the Volta Region, Ghana. Education Quarterly Reviews, 2(3), 504-516.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and psychological measurement, 30 (3), 607-610.

Lucarevschi, C. R. (2016). The role of storytelling on language learning: A literature review. Working Papers of the Linguistics Circle of the University of Victoria, 26(1), 24.

Mah, H. G., Hu, X., & Yang, W. (2021). Digital technology use and early reading abilities among bilingual children in Singapore. Policy Futures in Education, 19(2), 242–258.

Manning M, Garvis S, Fleming C, Wong T. W. G. The relationship between teacher qualification and the quality of the early childhood care and learning environment. Campbell Systematic Reviews, 1, 1-82. DOI: 10.4073/csr.2017.1

Murtaza, K. F. (2011). Developing child friendly environment in early childhood education classrooms in Pakistan. International Journal of Academic Research in Business and Social Sciences, 1(3), 408-418.

Mustard, F. & MacCain, M. (1999). The early years study: Reversing the real brain drain. Toronto, Founders Network.

Nicolopoulou, A., Cortina, K. S., Ilgaz, H., Cates, C. B., & de Sá, A. B. (2015). Using a narrative and play-based activity to promote low-income preschoolers' oral language, emergent literacy, and social competence. Early Childhood Research Quarterly, 31(2), 147–162.

OECD. (2006). Starting strong II: Early childhood education and care. Paris: Organization for Economic Co-operation and Development.

O'Byrne, W. I., Houser, K., Stone, R., & White, M. (2018). Digital storytelling in early childhood: Student illustrations   shaping   social   interactions.   Frontiers   in   Psychology.   9,   1-14. https://doi.org/10.3389/fpsyg.2018.01800

Preradovic, N. M., Lesin, G., & Boras, D. (2016). Introduction of digital storytelling in preschool education: A case study from Croatia. Digital Education Review, 30, 94-105

Pyle, A. & DeLuca, C. (2017). Assessment in play-based kindergarten classrooms: An empirical study of teacher perspectives and practices. The Journal of Educational Research, 110(5), 457–466. https://doi.org/10.1080/00220671.2015.1118005.

Rehman, A. (2006). A comparative study of development tasks of 3 years old children in Ad Private School of the City. Unpublished M.A.Thesis, IER, Lahore: Punjab University.

Shore, R. (1997). Rethinking the brain: New insights into early development. New York, Families and Work Institute.

Sundin, A., Andersson, K., & Watt, R. (2018). Rethinking communication: Integrating storytelling for increased stake-holder engagement in environmental evidence synthesis. Environmental Evidence, 7(1), 6.

UNICEF (2020). Early Childhood Education. Retrieved from https://www.unicef.org/education/early-childhood-education.

UNESCO. (2010). EFA Global Monitoring Report: Reaching the Marginalized. Paris: UNESCO.

Walan, S. (2019). Teaching children science through storytelling combined with hands-on activities a successful instructional strategy? Education, 47(1), 34–46.

Weiland, C., & Yoshikawa, H. (2013). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. Child Development, 84(6), 2112-2130.

World Health Organization (WHO). (2004).The importance of caregiver-child interaction of the survival and healthy development of young children: A review. Department of Child and Adolescent Heath and Development.

Zomer, R. N., & Kay, R. K. (2014). Technology use in early childhood education: A review of the literature. Journal of Educational Informatics, 1, 1–25.