

Structural Dimensions of Classroom Quality at the Early Childhood Education

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Abstract

The structural dimensions of classroom quality are essential for producing fruitful outcomes in early classes. This research aimed to examine the difference between various demographic variables of classroom quality in early childhood education. The quality of the classroom structural dimensions (classroom quality like the size of the class, academic quality, physical quality, teacher-child ratio, etc.) was compared and examined. Schools from both, public and private sectors in the province of the Punjab were examined. All these factors were examined with the help of a causal-comparative approach. One hundred public and hundred private schools were selected by the researchers with the help of convenient sampling from the Province of Punjab for collecting quantitative data. A survey method was used to collect the information with the help of a self-developed questionnaire. For data analysis, SPSS 25.0 version was used. The researchers analyzed the quantitative data with the help of descriptive and inferential statistics (t-test, & ANOVA) for examining the difference between public and private institutes according to structural dimensions of classroom quality.

Keywords: ECE, Public schools, Private Schools, Structural Classroom Quality.

Introduction

Students' success at every education level depends on the standard of classroom quality; especially structural dimensions of classroom quality are essential for better achievement. In structural dimensions of classroom quality, many factors including structural quality of classes like the size of class, academic quality, physical quality, teacher-child ratio, etc. (Murdoch et al., 2019). Early childhood education is very crucial. Early childhood education (ECE) encompasses students' internal and external development. It is not enough to provide a safe environment, nutritious food and medical but a child also required opportunities for social contact and affection, stimulation, and the freedom to explore themselves, so it is the basic right of a child to grow and learn in a healthy, nutritious, and standard way. (Cooper, 2015).

Early childhood education is where we begin our schooling. Early childhood education (ECE) has a beneficial effect on the child's mental, emotional, physical, and social growth. In depth studies on the neurological ground proved that development of the child's brain is at its peak between the ages of 3 to 5. Play activities and other forms of proper stimulation in the classroom can increase the student's brain ability at this age. For a healthy child's development classroom environment is more important. The presence of high-quality academic and classroom facilities (laboratories, libraries, computer labs, and audio-visual aids) is directly associated with the student's improvement. A child's early life is formative for their future intellectual and physical health. (Murica et al., 2019).

Early childhood education (ECE) emphasizes to formal schooling for kids under the age of eight. It can be formal or casual. (Martin, 2016). In Pakistan there are many categories of education, like early education level, middle level, high level, higher secondary level, graduate level and postgraduate level. (Ahmad et al., 2015). The achievement of students' brain development in all aspects like emotional, social, and cognitive is better at the level of early classes. (Samiou et al., 2022).

Students at early education level need clear expectations in both formative period and informative period of their lives. All research proved that proper guidelines and learning through play and activities achieved better results in early childhood education. Jean Piaget's theory proved that students learn

more effectively with audio-visual aids, learning through play, learning through games and with the help of all necessary activities, contributing to attaining excellent results at early education. At this level, teacher self-efficacy, the teacher's familiarity with the jargon, better practice in their field and beliefs associated with the early childhood education level is crucial for the student's achievement at this age and station; students follow their teachers and parents. They have just started their lives as a journey together. Positive communication between students and teachers and strong bonds are also examples of the structural quality of the classroom. (Pramling Samuelsson et al., 2020).

The quality of infrastructure is more crucial achieving and improving sustaining the quality in early education (ECE). Providing all necessary facilities and all appropriate educational infrastructure help in achieving desirable goals. Researches proved that there should be available necessary facilities as well as trained teachers who utilized these facilities according to need, for achieving the desirable results. There are some important concepts for early education (ECE) are interrelated to the development of kids. The first one is the social aspect which deals with learning with social nature. The second one is the physical aspect which emphasizes on physical growth of students. The intellectual element is the third one, which deals with the kind of sense in which they learn of the things in the social circle. These all aspects directly affect a student's moral, social, and intellectual growth, and achieving the results in all aspects is essential. (Ulferts et al., 2019).

Statement of the Problem

This research is titled “Structural Dimensions of classroom quality at early childhood education level”. This research examined how quality of classroom effects on students learning. When we compare the quality of the early childhood education classroom at both public and private institution, there are significant discrepancies. The purpose of this research was to examine the physical attributes of various types of educational setting. This study aimed to examine the contrast the physical attribute of various types of educational setting. Examining and contrast the features of the high-quality classroom. Pakistan's early childhood education system lags behind the rest of the world. Most children waste their 3 to 5 years at

home without any formal educational setting. Managed factors according to the quality of education for early learning should be functional for better results.

Objectives of the Study

- To compare the public and private school of the province Punjab based on the classroom quality's factors (teacher-child ratio, class size, academic quality, physical quality, etc.) at the Early Childhood Education level.
- To evaluate the difference between demographical variables of very structural classroom quality at early levels in the province of Punjab's private and public sector schools.

Significance of the Study

The result of this research will have a significant effect on teachers understanding about importance of classroom quality as well as factors of classroom quality. The significance of ECE and factors related classroom quality will be better understood after reading this research. Kids are at the beginning level of their lives. All children follow the timeline for maturation. Child's maturation is unique at every level of their life and they feel and understand the world around them. For better learning early childhood education very essential and encompasses both the internal development and external development of students. Early childhood education externally and internally supports the students to flourish.

If quality education provided to students in school, then we can achieve the desirable results. The kind of quality education in school focusing the students to change their behavior positively. This research will help students and teachers to promote the students on the successful way of life. The factors of classroom quality will help the students to study through discovery and exploration. This study is useful for boosting academic outcomes for results the ECE holding. This study will directly affect on achieving desirable results. This study will be helpful for rising the standard in ECE classroom. For developing better ECE educators and academic outcomes this research will also be helpful.

Research Questions

- In Pakistan, if we talk about structural quality dimensions in public and private schools at early childhood education, what level is found?
- In metropolitan cities of Punjab, Pakistan, what differences in terms of structural quality dimensions in public and private schools at early childhood education?

Review of Literature

A literature review is a critical analysis of existing research and literature on a specific topic or area of study. In the context of early childhood education, a literature review might explore the latest findings and trends related to teaching strategies, child development, classroom management, and other related topics. Investigate exploits the information which has gathered in the past an after effect of consistent human attempt. According to Frey & Osborne (2017) child's starting life is the most important part of the whole life of kids. At this stage, they are conceived from their parents and teachers because they are starting their lives. For better learning and achieving better results, research suggests that structural classroom quality plays an essential role in achieving goals at the quality of ECE.

Structural Dimensions of Classroom Quality

The Structural quality of the program consists factors including teacher-child ratio, class size, the teacher's certification and the setting of the classroom according to the physical and educational setting. (Hoy & Spero, 2005). The classroom quality in the way of structural dimensions directly effected on student's achievement. Researchers assess and indicate classroom quality at early levels.

Quality of the classroom in structural dimensions in early childhood education (ECE) is the recognition that the quality of the learning environment and instructional practices in ECE programs can significantly impact children's development and outcomes. Research has shown that high-quality ECE programs that provide a supportive and stimulating learning environment and effective instructional practices can lead to better child's cognitive, social, emotional, and behavioral outcomes. Conversely,

low-quality ECE programs that lack adequate resources and supportive environments and utilize ineffective instructional practices can negatively impact children's development and results (Younas et al., 2023).

Despite this knowledge, many ECE programs need help to provide high-quality classroom experiences for young children. Some factors contributing to this problem include more funding and resources, inadequate training and professional development for ECE teachers and staff, and inconsistent quality standards across different ECE programs. The consequences of insufficient classroom quality in ECE programs can be significant, including reduced readiness for school, lower academic achievement, and increased likelihood of social and emotional problems. In addition, the costs associated with addressing these adverse outcomes can be substantial, both for individuals and society as a whole. As a result, there is a growing recognition of the importance of focusing on the structural dimensions of classroom quality in ECE programs to support children's development and improve long-term outcomes. This has led to increased attention to quality improvement efforts, such as providing professional development and support for ECE teachers and staff, implementing evidence-based instructional practices, and establishing consistent quality standards across different ECE programs (Maldonado-Carreño et al., 2022).

Physical and Academic Classroom Quality

The physical quality of early childhood education classrooms is an essential factor that can impact children's learning and development. A high-quality physical environment can promote children's comfort, safety, and overall well-being. The physical quality of the classroom environment can be measured in terms of several structural dimensions, including classroom size, lighting, temperature, cleanliness, classroom layout, materials and equipment, and safety and security. Research has shown that physical quality is an essential aspect of the learning environment that can impact children's health, academic achievement, and social development (Barrett et al., 2019). To promote optimal physical quality in early childhood education classrooms, it is essential to consider the various structural dimensions that contribute to a high-quality physical environment. (Goss et al., 2015).

Archives of Educational Studies 3(1), January-June, 2023

Structural Classroom Quality

It is authentic that students reached on their top-level achievement with the help of quality of the classroom. Multiple studies have found that students perform better when they are in the classroom with high standards of academic and physical excellence. Researchers argue that high quality of educator strategies and activity-based learning directly effect on the student's achievement at the desirable level. Farooq (2017) says that there is a link between classroom quality and child's social, moral, and intellectual development. Khan (2018) argues that the way we teach now is at odd with our values. Our directions indicated the achievements so it is necessary to provide the good classroom quality for achieving the better result. Rehman (2018) commented that a child s first 8 years are formative in terms of their intellectual, social and moral growth. Hunzai (2018) says that the student's child development is directly effected through classroom quality.

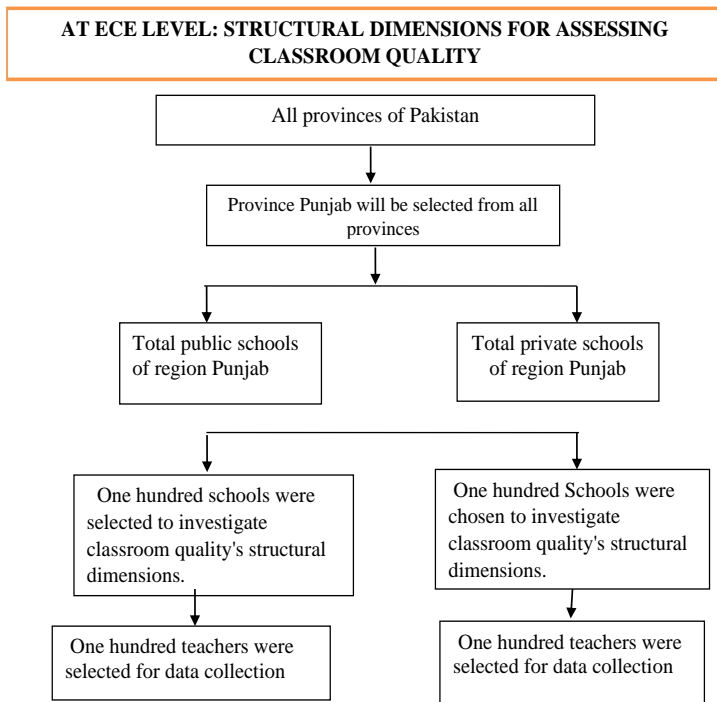
Wortham (1998) and Golm (2020) Say that child development directly effect on the child's social moral and cognitive development. Good classroom quality indicates good results and bad classroom quality indicates bad results. Carter (2020) says quality of the classroom is crucial both, public and private sectors for better achievement that the quality of the classroom according to the structure is essential in the public and private sectors regarding ECE. Abbott-Shim (2021) argues that classroom quality and facilities (physical facilities, academic facilities, better learning environment, learning through play, and activities) has an effect on the child's development as well as better achievement at early years education.

Methodology

The research method used was a causal-comparative research design and positivism approach. In quantitative paradigm it was designed as causal comparative research to compare structural quality dimensions with classroom quality. Quantitative data collection methods could also include: **Surveys:** Researcher developed surveys to collect data on classroom quality in terms of structural dimensions from a large sample of ECE classrooms.

The population consisted of this study, both private and public schools from province Punjab. From province Punjab (metropolitan cities of province Punjab) all public and private schools were the population of the study. Scholars used different sample strategies as they saw fit for their investigation. All public and private schools in the province of Punjab were included in this study. Researcher selected 200 school including 100 private and 100 public with the help of convenient sampling technique. These schools were selected for the investigation of the structural quality of the classroom.

Figure 1
Sampling Technique



The researcher used a self-developed questionnaire for investigating the all indicators of the structural quality. To ensure study tool's reliability and dependability it underwent pilot testing. The instruments validated by educationist and psychologist.

Types	Cronbach's Alpha	No of Items
Teachers	.762	57

Data Collection & Analysis

The researchers collected data with the help of self-made questionnaire for comprehensive and authentic results. The self- designed tool (questionnaire) distributed by the researcher. The administration was responsible for returning the questionnaire after completing these questionnaires. Interventional as well as descriptive statistics were used to examine the information. In inferential statistics t-test and ANOVA were used and in descriptive statistics standard deviation, frequency, mean, 1`percentage were found for comprehensive results. Tables and phrases were used to showing the results derived from SPSS 25.

Findings

Table 1

Significant difference in ECE structural quality between public and private schools where N=200

Variables	M	SD	Df	T	P
public(n=100)	23.933	2.474	198	1.397	.001
Private(n=100)	24.400	3.259			

There are statistically significant variation between public and private school structures. The P-value (0.001) shown that the results are not

statistically significant. There is no denying that private schools provided superior early childhood education to public schools.

Table 2

ANOVA Summary for ECE

ECE	Sum of squares	Df	Mean Square	F	P
Between Groups	171.85	99	85.92		
Within Groups	2636.47	99	56.09	1.53	.00
Total	2808.32	198			

The table displays the statistically significant ANOVA test results. It means teachers and parents have a considerable difference in opinion to ECE. Table shown Public and Private schools significant differences at the level of ECE where N=200.

Variables	M	SD	Df	T	P
Public(n=100)	20.720	2.732			
			198	2.934	.004
Private(n=100)	21.833	3.758			

This table indicates that the P-value (0.004) shown that the results are insignificant. Private sectors had better arrangements of facilities for students.

Table 3

A Comparative analysis structural dimensions (physical) for ECE students.

Public			Private		
Opinion	Frequency	Percent	Opinion	Frequency	Percent
Strongly Agree	44	44.0	Strongly Agree	84	84.0
Agree	19	19.0	Agree	5	05.0
UN decided	3	3.0	UN decided	1	01.0
Disagree	10	10.0	Disagree	4	04.0
Strongly Disagree	24	24.0	Strongly Disagree	6	06.0
Total	100	100.0	Total	100	100.0

Table showed that 44.0 percent from public school were strongly agreed while 19.0 percent agreed and 03.0 percent undecided and only 10.0 percent disagreed. 24.0 percent strongly disagreed that they had physical facilities for early classes. An overwhelming majority 84.0 percent of private schools were strongly agreed while 5.0 percent agreed and 1.0 percent didn't have while 4.0 percent disagreed. 06.0 percent strongly disagreed. It's sown that private schools provide superior facilities for early childhood education students.

Table 4

A comparative analysis of structural dimensions (academic) for ECE students

Public			Private		
Opinion	Frequency	Percent	Opinion	Frequency	Percent
Strongly Agree	64	64.0	Strongly Agree	84	84.0
Agree	9	9.0	Agree	11	11.0
UN decided	3	3.0	UN decided	1	1.0
Disagree	10	10.0	Disagree	2	02.0

Strongly Disagree	14	14.0	Strongly Disagree	2	02.0
Total	100	100.0	Total	100	100.0

Results showed that private schools provide superior facilities to students. From public schools As shown in table 64.0 percent of public school teachers strongly agreed that their students have much appropriate physical facilities such as ECE classrooms, computer labs, furniture, laboratories, and digital communication labs are available for ECE students, while 9.0 percent agreed and 03.0 percent undecided and only 10.0 percent disagreed. 14.0 percent strongly disagreed. An overwhelming majority 84.0 percent of private schools were strongly agreed while 11.0 percent agreed and 1.0 percent didn't have while 02.0 percent disagreed. 02.0 percent strongly disagreed. It's sown that private schools provide superior facilities for early childhood education students.

Discussion

Quality of the classroom in structural dimensions in early childhood education (ECE) is the recognition that the quality of the learning environment and instructional practices in ECE programs can significantly impact children's development and outcomes. Research has shown that high-quality ECE programs that provide a supportive and stimulating learning environment and effective instructional practices can lead to better child's cognitive, social, emotional, and behavioral outcomes. Conversely, low-quality ECE programs that lack adequate resources and supportive environments and utilize ineffective instructional practices can negatively impact children's development and results (Younas et al., 2023).

Despite this knowledge, many ECE programs need help to provide high-quality classroom experiences for young children. Some factors contributing to this problem include more funding and resources, inadequate training and professional development for ECE teachers and staff, and inconsistent quality standards across different ECE programs. The consequences of insufficient classroom quality in ECE programs can be significant, including reduced readiness for school, lower academic achievement, and increased likelihood of social and emotional problems.

In addition, the costs associated with addressing these adverse outcomes can be substantial, both for individuals and society as a whole. As a result, there is a growing recognition of the importance of focusing on the structural dimensions of classroom quality in ECE programs to support children's development and improve long-term outcomes. This has led to increased attention to quality improvement efforts, such as providing professional development and support for ECE teachers and staff, implementing evidence-based instructional practices, and establishing consistent quality standards across different ECE programs (Maldonado-Carreño et al., 2022).

Conclusion

The structural quality of classrooms found better in the private school. More teachers in the public and private sectors needed to be trained. It's shown that private school sectors had superior physical facilities, academic facilities, and infrastructure. The private school sectors had better quality procedures and facilities than public school sectors. All facilities regarding ECE found in private school sectors and found poor condition in public school sectors. Finally results shown that comparatively more resources are available to the private sector. Private school sectors had higher quality processes than the public-school sectors. The facilities at private schools are also at higher level but at poor level found in the public sector.

Early classes are our basic classes for further achievements. It is very essential to provide all facilities and equipment to students for better learning. Especially in public school Government should provide all basic facilities to students for better understanding and proper learning. All basic facilities for example labs, audio visual aids, learning facilities, trained teachers, caregivers, furniture for ECE students, and all other learning material which contribute the students for better learning should be provide in public sectors.

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