

## Original Article

# The Impact of Co-Curricular Activities on Enrollment and Academic Performance at Primary Level

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## Abstract

Over time, the literacy rate enrollment rates and learning outcomes in Sindh have remained static, and despite efforts and pouring a lot of domestic and foreign funds, no visible improvement either in the state of schools has been observed, or any improvements in the enrollment or learning outcomes have been noticed. One key element that is mostly ignored is to make teaching-learning interesting and child-centred in an informal way by introducing co-curricular activities. Co-curricular activities are physical activities and programs that are informal ways of learning and help create a healthy and active learning process at school. This paper highlights the importance of co-curricular activities on child development and its effects on adulthood. Holistic child development is the best way to develop healthy, economically sound nations. Studies have shown that healthy and economically strong countries have strong early childhood education systems. This independent study has examined the impact of co-curricular activities on the increase in enrollment and learning outcomes at primary schools in the Layari district of Karachi by identifying schools with playgrounds. These include physical and mental activities like outdoor and indoor plays, mental activities, and exercises.

**Keywords:** Child development, co-curricular activities, extra-curricular activities, physical education, academic performance, social skills

## 1. INTRODUCTION

Various research studies have shown that physical activities are essential for holistic development of children; these activities help children live healthy lives, play a key role in academic activities and enhance children's learning outcomes. In Pakistan, though these physical activities are part of the education system, their importance has not been recognised, and they are generally called extra-curricular activities. According to Emmer (2010), co-curricular activities, out-of-classroom activities and extra-curricular activities are almost the same, and these refer to participate in to have the same meaning referring to participation in musical activities, drama competitions, debate completions, etc. According to Cumberland School, co-curricular activities are those that improve and add value to formal curriculum activities in classrooms or schools; on the other hand, extra-curricular activities are a broad spectrum of activities considered beyond classroom or school activities. Though these are generally considered the same, they are different in nature. Co-curricular activities are considered to be those activities which complement the curriculum and classroom activities, like debate completion and essay competitions, drawing competitions, and mathematic completions based on the curriculum of a particular stage or class. In contrast, extracurricular activities are physical activities that may or may not relate to the curriculum, like sports activities, cricket, football, volleyball tournaments, and social and cultural exhibitions. Siddiky, (2019). in his case study of a Bangladesh University, he developed a table comparing co-curricular and



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extracurricular activities. Dacombe (2014) has almost the same view and defines the activities beyond the students' normal school curriculum.

In Pakistan, earlier co-curricular activities were known as extra-curricular activities outside the curriculum and in addition to academic activities. However, these have been renamed co-curricular activities due to their importance and role in educational development. Mostly, these activities are considered to be performed in schools or educational institutions in an informal manner but outside of the classroom, a formal teaching-learning process. In Pakistan, school extra-curricular activities are also known as Physical Education. According to Davis et al. (1999), physical education at the primary level is the footing of life-long mental and physical well-being, emotional intelligence and social skills.

It has been noticed that the overall learning outcomes of students in Pakistan, especially in Sindh, are not encouraging, and independent studies show that students in grade 5 cannot even read and comprehend the paragraphs in their native language. One of the major reasons for low learning levels is unattractive schools and the lack of co-curricular activities in institutions. This independent study will focus on the impact of co-curricular activities on learning outcomes as determined by SAT. This study aims to highlight the importance of co-curricular activities in student learning outcomes and social skills. One of the key purposes of this study is to realise the importance of extracurricular activities in children's holistic development and get the attention of educational managers and educators to provide a fair share of time for extracurricular activities in the overall academic year.

### Research Question

This independent study will focus on the following research questions, which will be explored through a literature review and other related material.

- Do co-curricular activities have any impact on school enrollment?
- Do co-curricular activities impact learning outcomes and SAT scores?
- Do basic school facilities impact the enhancement of enrollment?
- Do basic school facilities impact students' learning outcomes and SAT scores?

### Hypotheses

Based on the above research questions following hypotheses were formulated.

H1: No significant impact of schools with co-curricular activities or playgrounds on enrollment exists.

H2: There is no significant impact of schools with co-curricular activities on learning outcomes (SAT result)

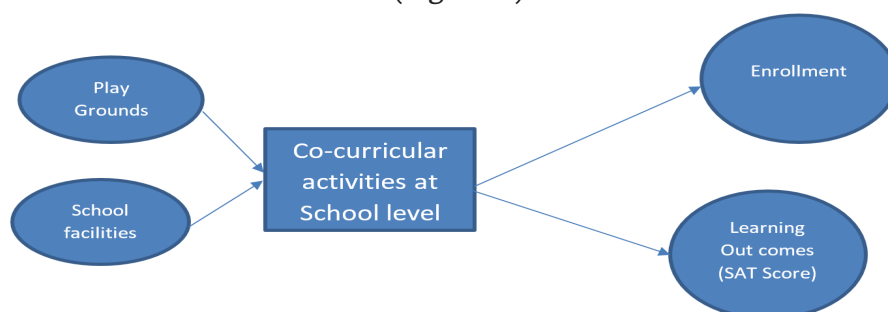
H3: There is no significant difference of overall school facilities on enrollment rates

H4: There is no significant difference in overall school facilities on learning outcomes (SAT result)

### Research / Conceptual Framework for co-curricular activities

The conceptual framework is the pictorial relationship of different variables.

The conceptual framework is shown as under (Figure 1).



## 2. LITERATURE REVIEW

Physical and mental health are key factors in children's learning, especially at a young age. The research has shown that these extra/co-curricular activities have a major impact not only on the child's physical health but also on the social and interpersonal skills of the child. These activities also help to improve the academic performance of the students. Massoni (2011), highlighted the useful results of extracurricular activities like positive attitude, improved learning, better understanding and communication in social

life. It has also been noticed that extra-curricular activities help to reduce academic and educational stress, and as a result, this helps to improve learning levels. Generally, these activities, which may be carried out in the classroom, school boundaries or some other places like sports grounds or auditoriums, are interrelated and have the same purpose: to enhance physical and academic performance.

According to Mehmood et al. (2012), co-curricular activities are the series of events and actions associated with school activities and programs; these activities are helpful in the holistic development of children beyond the boundaries of the scheduled formative assessments. The research has also discovered that these extra-curricular activities have life-long impact on the young children. According to Holland & Andre (1987), engaging young children in extra-curricular activities is one of the easiest ways to bring positive changes. Gardner, Roth, & Brooks-Gunn (2008) feel that the level of participation, engagement and intensity in these extra-curricular activities are also very important. According to Everson & Millsap (2005), the level of engagement in these activities is the best investment any school can provide to its disadvantaged and low-income students to enhance their social and academic performances.

Kariyana, Maphosa, and Mapuranga (2017) found in their research study based on private and public schools in South Africa that 92.5% of teachers feel that involvement in co-curricular activities benefits students in many ways, including improvements in academic outcomes. Adeyemo, in his study, concludes that “the importance of extra-curricular activities should be more focused” and that these activities have an impact on learner’s grades” (Adeyemo, 2010, p.1). According to Cosinger (2011), students who highly participate in extracurricular activities achieve better. On the other hand, the students who do not participate in extra-curricular activities have lower learning outcomes. In his study, Ahren (2009) highlighted that participation in extracurricular activities, e.g., physical activities, further reduced absenteeism rates. Students’ involvement in extracurricular activities could be the way to integrate the learning process and simultaneously optimise academic achievement.

In their study, Massoni and Erub (2011) found that the students who engage in extracurricular activities have fewer behavioural issues than those who do not participate in these activities. They further discovered that participation students are better disciplined and follow time schedules. Brown (2010), in his study, found that students who participate in extra-curricular activities improve morale, self-esteem, and confidence levels because of praise and motivation. Ivaniushina and Zapletina (2015) highlighted that extra-curricular activities have a constructive effect on character development and improve interpersonal skills. They also discovered that the extra-curricular activities improved many Russian students’ personal and social skills. Dhanmeher (2014) revealed that extra-curricular activities have a stronger relationship with improvements in individual qualities, which include responsibility, adaptability, confidence, and morality. Singh and Mishra (2015) highlighted that extracurricular activities, especially physical activities like yoga, dance, outdoor sports, and horse riding, have a substantial relationship with the students’ performance.

### 3. METHODOLOGY

#### Research Design

According to Creswell (2009), the research method or research design contains data collection, analysis, and conclusions for the study. According to Kothari (2004), the research design is an organisation of different situations for data collection and data analysis in a way that aims to integrate the research objective’s relevance with the cost-effective procedure. In other words, secondary data is all that dataset not collected or obtained by the researcher or writer document or “the analysis of data gathered by someone else” (Boslaugh, 2007:IX). Secondary data may consist of already collected data that can be considered for a new research question (Vartanian, 2010). This independent study will use a secondary source of data collected by SEMIS and SAT. This research is designed with the purpose of determining the significance of co-curricular activities on enrollment learning outcomes in public sector schools in rural areas of Sindh.

#### Population

According to Omari (2011), a population is the entirety of any relevant group of elements and items (units) which have one or more common features and attributes. A population is a collection of individuals or objects known to have similar characteristics and can be large; as such, a sample is drawn as representative of that population to collect and analyse information conveniently. To find out the impact of any issue of the problem and provide suitable solutions for the problem under discussion, the

researcher needs to gather data and other related information from the target group applicable to the research at hand.

For this study, the official Annual School Census 2016-17, conducted by the Sindh Education Management Information System (SEMIS) wing of the Reform Support Unit, School Education Department, is used. The target population is schools of Layari town, a semi-rural area of Karachi. According to the SEMIS 2016-17 report in Sindh, the total number of primary schools is 38,132, out of which 5,309 are boys' schools, 4,303 are girls' schools, and 28,520 are co-education primary schools. Total enrollment at Primary schools is 2,735,156 (boys are 1,686,546, and girls are 1,048,610). Furthermore, there are 91,092 teachers at the primary level (67,695 are male teachers, 23,397 are female teachers).

### Sample Size and Sampling Technique

According to Omari (2011), a sample is a small proportion of a selected population used for a particular purpose. Literature shows different sample size selection criteria for different population sizes and variables, so there is no consent on sample size. According to Sekaran (2010), the minimum requirement for multivariate analysis is a sample size of 30 for each variable.

This study focuses on Layari town. Based on Sindh Education Profile 2016-17, published by Reform Support Unit, Sindh Education and Literacy Department, Government of Sindh, the Layari town is selected on the following grounds:

- Schools located in the most semi-remote areas of Sindh (based on geographical locations) as located in the mega city/metropolitan i.e. Karachi
- Learning outcomes are low
- High potential of physical activities

In the present study, Systematic Random Sampling is used. This can be useful to a list of items, also known as the Kth rule, where K refers to the sampling interval (Zhang, 2008). In other words, it is important to define the population (based on the characteristics constituted by the population of interest) in Systematic Random Sampling before taking the sample. In the present study, the following three characteristics of the interested population have been considered:

- Primary School Students
- Students belong to the remotest areas of Sindh

**Table 1**

The details of Layari town are as under:

No of Primary Schools			Enrollment in Primary Schools	Primary School Teachers
Total	With Sports Equipment	With Playground		
94	15	20	10,216	503

\*Source: Sindh Education Information System (SEMIS) 2016-17

**Table 2**

Class wise Enrollment Layari town

For better understanding class wise enrollment (in all type of public schools) is reported as under:

Katchi	Class-I	Class-II	Class-III	Class-IV	Class-V
4247	3887	3639	3736	3141	2774

The above enrollment shows that enrollment drastically dropped in the fifth grade.

It is very interesting to note that most of these areas are considered to be slum areas, low-income households, and uneducated. The dominant system in these areas is quite strong. Community awareness and feudalism are major reasons for low literacy and high dropout rates.

Since systematic sampling (SS) is executed by sampling every kth item in the given list of sample population subsequent to the random selection of the first item from the first k items, in the present study, it is executed as follows:



**Table 3**

Systematic Sampling

Talukas / Tehsils	N	n (15%)	N/n=kth item	Enrollment	Schools selected
Lyari town, Karachi South	94	14.1	9	10,216	10

**Research Instruments**

According to Brown (2001), the written instruments containing related questions or statements or selecting from presented options are called questionnaires, and the usage of specific tools is not only cost-effective but also saves time for data collection activity. A questionnaire was suitable because it is cost-effective and can ensure secrecy (Nardi, 2003 Punch, 1998). The instruments based on the above hypothesis and research questions have been adopted from an open resource.

- Hypothesis 1 refers to the impact of having a playground in school on enrollment. The enrollment data for the academic year 2017-18, generally called 2017 data, was collected from school attendance registered as a primary data source.
- The hypothesis-2 refers to the impact of having a playground in school on learning outcomes. The Standardized Achievement Test (SAT) data is used for this hypothesis. SAT is conducted by the Institute of Business Administration (IBA) Sukkur.
- Hypothesis 3 is to validate the difference between school facilities on school enrollment. The data of school facilities was collected by using the questionnaire adopted from questionnaire used by Sindh Education Management Information System (SEMIS) for Annual School Census (ASC) 2016-2017 data collection (Annexure-C).
- Hypothesis 4 is to determine the impact of school facilities on learning outcomes.

**Data Collection**

The primary and secondary data collection technique was employed. The selected schools were surveyed using questionnaires after seeking permission from the concerned head teacher or in charge of the school. The survey research methodology was selected because it helps to measure many indicators and variables and also can be used to test multiple hypotheses, and is, therefore, suitable in terms of economy and time (Neuman, 2000). There were some issues and challenges to collecting data due to the COVID-19 closure. However, most of the teachers are local residents of the same village where the school is located, so after little effort, the teachers were accessible. During data collection, the focus was limited to the primary data collection of official records of students' and teachers' qualifications. There was no formal interview included in the data collection exercise.

**Data Analysis**

Data analysis is the mechanism of making logic from raw data. This process includes examining the collected data or information and making interpretations (Kombo & Tromp, 2006). Descriptive and Inferential statistical procedures were used to analyse the gathered data, and finally, the results were tabulated and transcribed to generate results using SPSS to analyze the hypotheses. It is also necessary that the researcher is well-versed with the data statistical concepts and data analytical methods.

**Ethical Considerations**

All ethical and moral values will be addressed during the research process. All research papers and resources will be properly quoted, and in case of permission, all codal and formal procedures will be adopted.

**Limitations**

Due to time and financial limitations, this independent study has used open sources of secondary data, information materials, and low-priced resources.

**4. RESEARCH FINDINGS****Frequencies**

According to Macmillan and Schumacher (2001:304), basic data features explored in a study are

defined in terms of distribution, frequency and occurrence. The frequencies are an important concept of descriptive statistics, which shows the number of observations, frequency or count of the occurrences of values within a particular group or interval of data under study. The following tables provide information regarding the frequencies of different variables in the data.

**Table 4**

Frequencies of Enrollment

		Enrollment	Percent	Valid Percent	Cumulative Percent
Valid	Playground	20	50.0	50.0	50.0
	Basic Facilities	20	50.0	50.0	100.0
	Total	40	100.0	100.0	

Table 5 represents the frequencies and number of observations of enrollment. There are a total of 20 observations on enrollment, the impact of ten schools having playgrounds on enrollment and ten schools having basic facilities on enrollment.

**Table 5**

Frequencies of learning outcomes

		Learning outcomes	Percent	Valid Percent	Cumulative Percent
Valid	Playground	20	50.0	50.0	50.0
	Basic Facilities	20	50.0	50.0	100.0
	Total	40	100.0	100.0	

Table 5 represents the frequencies and number of observations of learning outcomes. There are a total of 20 observations on dependent variable learning outcomes, the impact of 10 schools having playgrounds on learning outcomes and 10 schools having basic facilities on learning outcomes.

## Descriptive Statistics

Descriptive statistics describes the basic properties and features of the data in a research study. This provides synopses and summaries of the sample data.

**Table 6**

Descriptive Statistics of Observations

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Playground	40	.460602	.3155579	-.425	.128	-1.105	.254
School_Facility	40	.696721	.3240838	-.873	.128	-.451	.254
Valid N (listwise)	40						

Table 6 explains the basic properties of two independent variables, playground and school facilities, including mean, standard deviation, skewness, and kurtosis. Playground (Mean=.460602, SD=.460602). School Facilities (Mean= .696721, SD=.696721) shows the lowest Skewness (-.873), The Kurtosis for both items is negative. Playground has the highest Kurtosis (-.451). The validity of this hypothesis is determined by conducting the Independent Samples Test. This has been done by comparing the difference in mean enrollment of children who are enrolled in schools that have Playgrounds and schools that do not have playgrounds. The Independent Samples t-test provides two pieces of information: (A) Levene's Test for Equality of Variances, which assumes that variance may be considered to accept the argument and (B) the t-test for Equality of Means.

**Table 7**

Group Statistics of Background

		Playground Avail	N	Mean	Std. Deviation	Std. Error Mean
Enrollment	Playground		10	.447804	.3431281	.0253648
	No Playground		10	.473399	.2857175	.0211208

Table 7 shows the basic statistics of the availability of playground (is this available or not) data, containing 20 observations. This is to determine the significance of enrollment of children who have access to the playgrounds and who do not have playgrounds in their schools. Students who enrolled in schools that have playgrounds and children enrolled in schools that do not have playgrounds are two independent variables. To measure the significance of the difference between these two variables on the dependent variable 'enrollment' independent samples t-test is conducted, and results are shown as under:

**Table 8**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Enrollment	Equal variances assumed								-0.091	0.039
	Equal variances not assumed			-.78	352.443	.439	-0.026	0.033	-0.091	0.039

Dependent variable: Enrollment

Table 8 reveals the result of the Independent samples test of students who were enrolled in schools having playgrounds ( $M=.447804$ ,  $SD=.3431281$ ) and those who enrolled in schools that did not have facility of playgrounds ( $M=.473399$ ,  $SD=.2857175$ ) conditions;  $t(352.443) = -.775$ ,  $p = .439$ . Thus, the value of  $p > 0.05$  suggests no significant difference in enrollment rate between the children admitted to schools having playgrounds and those who enrolled in schools without playgrounds. Thus,  $H_1$  is accepted. The role of co-curricular activities is critical in providing quality education; without these activities, the teaching-learning process becomes more rote. The second hypothesis refers to the significance of the playground on learning outcomes. The learning level data has been obtained from schools due to the test conducted by the Institute of Business Administration (IBA) Sukkur. The test was conducted at grade 4 in Maths, Science and Language. This data was compiled and compared with two sets of schools treatment set of 10 schools having playgrounds and control set of 10 schools having no playgrounds To determine the significance of playgrounds on learning achievements, the analysis of variance test was conducted, and the results are as under:

**Table 9**

ANOVA Student's achievements by schools having a playground and without a playground

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12081.240	7	1980.225	1.205	.306
Within Groups	309514.959	154	1809.744		
Total	321596.199	161			

Table 9 shows the results of the One Way ANOVA Test. The values  $F(7, 154) = 1.205$ ,  $p = .306$ , indicate no significant difference in learning level between students enrolled in schools with playgrounds and schools without playgrounds. Therefore, the hypothesis regarding the learning levels of children with access to the playground and without playgrounds  $H_2$  cannot be rejected.

School facilities, in particular, and school environment, in general, have an impact on the teaching-learning process, which may also have a significant difference in the increase in enrollment in public schools. The third hypothesis is based on the model that the school facilities impact enrollment. Looking at the public schools and different reform agendas, four basic facilities have been considered in this research, i.e., electricity, toilet, boundary wall and drinking water. To determine the significant difference between school facilities on student enrollment, ANOVA and Post Hoc tests were conducted. The results are as under:

**Table 10**

Analysis of Variance School Facilities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.325	4	.056	.555	.695
Within Groups	36.123	361	.100		
Total	36.448	365			

Dependent variable: Enrollment

Table 10 shows the analysis of variance (ANOVA) results conducted on the effect of school facilities on enrollment. The values  $F(4,361) = .555$ ,  $p = .695$  inform there is no strong relationship between school facilities and school enrollment, and the sig value is greater than .05. Therefore, the assumed model cannot be rejected: "There is no significant difference of school basic facilities on the students' enhancement of enrollment". In this case, the post-hoc test is not required.

The role of co-curricular activities is critical in providing quality education; without these activities, the teaching-learning process becomes more rote. The second hypothesis refers to the significance of the playground on learning outcomes. The learning level data has been obtained from schools due to the test conducted by the Institute of Business Administration (IBA) Sukkur. The test was conducted at grade 4 in Maths, Science and Language. This data was compiled and compared with two sets of schools treatment set of 10 schools having playgrounds and a control set of 10 schools having no playgrounds To determine the significance of playgrounds on learning achievements, the analysis of variance test was conducted, and the results are as under:

**Table 11**

ANOVA Student's achievements by schools having a playground and without a playground

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13081.240	6	1980.225	1.205	.356
Within Groups	319514.959	155	1809.744		
Total	332596.199	161			

Table 11 shows the results of the One Way ANOVA Test. The values  $F(6, 155) = 1.205$ ,  $p = .356$ , indicate no significant difference in learning level between students enrolled in schools with playgrounds and schools without playgrounds. Therefore, the hypothesis regarding the learning levels of children with access to a playground and without playgrounds, H2, cannot be rejected.

**Table 12**

Summary of Hypotheses

No.	Hypotheses	Sig	Status
1	There is no significant difference in the average enrollment of children and students enrolled in schools with or without playgrounds.	.439	Failed to reject
2	There is no significant difference in learning outcomes for students enrolled in schools with or without playgrounds.	.306	Failed to reject
2	There is no impact of school facilities on enrollment rates	.695	Failed to reject
3	There is no impact on school facilities and learning outcomes	.395	Failed to reject

## Discussions

This research study aimed to determine the impact of the playground and school facilities in most sports-loved areas of rural government schools of Layari on the enhancement of enrollment and learning outcomes. A sample of twenty schools was drawn from the Lyari area of the metropolitan city of Karachi. The enrollment data of public schools was collected from schools to evaluate the enrollment rate of children who get access to playgrounds and those who do not. The study also determines the impact of school facilities on enhancing enrollment and the school facilities on learning outcomes, for this hypothesis was developed and tested. The results of overall investigations postulate that there is no major impact of government initiatives to improve the quality of education. The independent-sample t-test shows that  $t(352.443) = -.775$ ,  $p = .439$ . This suggests that just having a mere playground in schools has no effect on the enrollment rate of students at the primary level. According to Bana (2014), parents have no faith in government schools; even most poor communities feel the importance of education and



enrol their children on low-cost private schools. This research verifies the argument that the children enrolled in schools with playgrounds have the same enrollment rate as those without. This hypothesis leads to a new dimension of the problem: there is a structural issue in the provision of quality education. Most of these children are age five and need special care and attention in a better school environment.

The results also negate the assumption that children with sports facilities in their schools have a greater chance of continuing further education and a lesser chance of leaving school before completing primary education. The results postulate that other factors lead to the lower enrollment enhancement rate from the primary classes in Sind generally and in the selected Lyari town specifically, which need to be further investigated. These factors may include absenteeism of teachers (ghost teachers) and degrees from unauthenticated institutions. Deal and Celotti (1980) reported that nearly half of children leave school early because they are uninterested, unmotivated and disconnected due to poor teaching methods. High-quality education may include better classrooms, child-friendly furniture, well-qualified teachers, better books and child-centred education. This also generates an argument that there is a need for further investigation and research to determine the causes of high dropouts or that the current reforms by the government are not producing results. According to Bhar and Ganihar (2006) and Carnoy (1999), teachers have numerous qualities that demonstrate them to be real teachers. These qualities encompass the skill to encourage the students towards high academic achievement, the ability to manage classroom management, generate positive learning conditions, assess the curriculum, manage self-regulation and enhance the student's abilities.

The hypothesis, H2 of the impact of the playground on student learning outcomes is also insignificant as the ANOVA test shows values  $F(7, 154) = 1.205$ ,  $p = .306$ , the value of  $p \geq 0.005$ , shows that there is no impact of the playground on the students' dropout rate. This predicts that just having a playground without proper facilities and physical education teachers at the primary level has failed to impact the enhancement of enrollment. This result has also raised the question of holistic development and physical health of students who either have no sports facility or have failed to contribute to the child's physical health. This also identifies the policy gaps in the provision of school facilities and pays more attention to the holistic development of the children. This result has a major impact on the policy-making of teacher recruitment and teacher training. As the results indicate that teachers' experience does not affect the primary class retention rate, the government policy should have a greater focus on induction training and continuous professional development courses and interventions for teachers. The government should also consider the workload on experienced teachers.

The third hypothesis, H3, is regarding the impact of school facilities on the enhancement of enrollment, again this shows an insignificant impact,  $F(4, 361) = .555$ ,  $p = .695$ , showing  $p \geq .005$ , so there is no impact of school facilities on students enrollment rate at the primary level. The result of this hypothesis may indicate that the teaching-learning process is more important than school facilities; if the teachers have failed to teach properly, mere school facilities are unable to attract children, and simply putting resources in school buildings may not produce good results in terms of enrollment. The results also show that there is no difference in whether one or all four facilities are missing. The result reveals that providing just basic facilities in public schools is not enough; improving the overall environment is also essential. Bana (2007) assumes that schools are similar to children; they have mysterious potentials to negotiate and grow.

## 5. CONCLUSION

This research study was conducted with the aim of determining the reasons for low enrollment in urban slum areas with low-income groups and having higher determination for sports and co-curricular activities to find out whether the current available co-curricular activities like available playgrounds in schools can be helpful to enhance the enrollment and learning outcomes. The study included 20 schools in Lyari town in the metropolitan city of Karachi. After detailed analysis and statistical tests, the following conclusions were reached: first, there is no difference in enrollment of children enrolled in schools with playgrounds and schools without playgrounds. It suggests that most of these playgrounds are not being properly used for co-curricular activities or co-curricular activities are not designed to contribute to curricular activities. The second finding shows that having a playground or access to co-curricular activities also does not contribute to learning outcomes. In Sindh, most schools have no playground or play facilities, and schools are single-teachers. The third result reveals that the provision of four basic school facilities, like electricity, boundary walls, drinking water, and toilets, makes no difference in

enhancing enrollment at the primary level of education.

Overall, the results show that most of the current reforms based on traditional procedures, including one-room or two-room school construction, teacher recruitment, and training, have failed to produce results. So, there is a need to think out of the box solutions to bigger and better schools with more facilities, modern techniques, and content like health and hygiene. Child psychology needs to be included in teacher training. There is also a need to develop a holistic plan that includes all the necessary ingredients of good quality education to improve the quality of education in Sindh province.

### Limitation and Future Research

There are several limitations to this study, which are as follows:

- The record of co-curricular activities is not maintained, so this may have affected the results.
- The samples used in this study are public schools in remote areas and communities living in extreme poverty. The generalizability of the findings is restricted to other similar conditions.
- Longitudinal data should be developed to assess the uniformity and strength of the relationships.
- The results need to be extended and validated to include multiple variables like teachers' affective commitment and normative commitment and tested concurrently using Structural Equation Modeling (SEM).
- Future research must incorporate additional variables relevant to the school environment, such as the motivational level of teachers, teamwork, creativity, and performance.

### Competing Interests

The authors did not declare any competing interest.

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