Abstract  The main aspiration of this study was to analyze the status of physical facilities and students’ achievement at Public and Punjab Education Foundation (PEF) partner schools in Punjab, Pakistan. The present study was quantitative in nature and survey approach was used. Multi-stage random sampling procedure was employed to pick out the sample from Sahiwal division. The sample of the study comprised of 506 public elementary schools Head Teachers and 146 PEF schools Principals. The researcher developed a checklist for physical facilities (CLPF), validated before data collection. The result of the study showed that Public schools had more physical facilities as compared to PEF partner schools. The annual result of Punjab Examination Commission (PEC) was taken as achievement of students. The performance of Public schools is better regarding students achievement as compared to PEF partner schools. It is highly recommended that PEF schools follow the physical infrastructure as present in public schools.

Introduction

Common experience and past research shows that the private schools achieve better results. The superiority of private organizations has been portrayed in voucher and charter programs and to fulfill the requirements of No Child Left Behind act. Private schools serve more advantaged populations, public schools perform remarkably well on the other hand, private and charter schools often outscore (Lubienski, 2006). According to Samuel & Rong (2017) government invested heavily in public schools, well-staffed. The public-school teachers are paid better as compared to private schools. The private schools have very grim environmental conditions, small rooms and inadequate recreational facilities. Despite all these variations, private schools perform better as compared to public schools regarding academic achievement. The results of the public and private schools are similar regarding mean score value (Braun, Jenkins & Gigg, 2006).

Teaching is any act to tell something formally or informally by a teacher to a student. It is basically an attempt to transfer knowledge or some specific behavior by any individual who is called teacher to the individuals of the society called students. This attempt may be tried by formal way, where everything is pre decided or informally where everything will be decided on the spot. Teaching is the method of

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* SST Science, School Education Department, Govt. Fazilka Islamia Model High School Pakpattan, Punjab, Pakistan. Email: marshadzakki@gmail.com
† Assistant Professor, Department of Educational Development, Karakoram International University, Gilgit Baltistan, Pakistan.
‡ Assistant Professor, Department of Educational Development, Ghizer Campus, Karakoram International University, Gilgit Baltistan, Pakistan.
instruction in which students participate actively. Where teacher’s role is as passive and as guide? Teacher must be present in the activity area (class room), having a close eye, but will be remain passive and only to guide the students where they feel difficulty. The ways to which teachers guide the student must not be authoritative. They only gave guide line and ask the students to perform it according to their convenience. Educational games help the teachers to develop interactive skills among students; brain storming technique helps teachers to generate useful ideas among students; problem solving technique helps the students for better learning and develops competitive ability among students; discovery methods enable the students to solve the problems; project method helps the teachers to produce creativity among students; fieldwork studies help the students to collect the data for problem solving; class room experiments help the students to work in groups to solve their queries; activity based teaching helps the students for lifelong learning skills; the teachers emphasize their teaching by letting the students to learn by doing. The discussion method develops confidence among the students; playing method enhances students’ realistic approaches, problem solving technique is effective for better learning and debates develop competitive ability among the students.

The School Education Department (SED) is “responsible for the planning, organization, administration, control, direction and coordination of all educational programmes and activities carried out through various bodies and institutions in the province of Punjab” The Punjab Education Foundation was established under the Punjab Education Foundation Act of 1991 as “an autonomous statutory body to encourage and promote education in the private sector operating on non-commercial and non-profit basis” (Punjab Education Foundation, 2015), (Punjab Education Foundation, 2016). The vision of Punjab Education foundation is "to promote an educated society in partnership with the private sector to get access to the basic right of education in Punjab" The mission of Punjab Education Foundation is the “Promotion of quality education through Public Private Partnership, encouraging and supporting the efforts of private sector through technical and financial assistance, innovating and developing new instruments to champion wider educational opportunities to the underprivileged children at affordable cost” (Govt. of Punjab, 2004), (Govt. of Punjab, 2005).

In this era of competition, everyone desires a high level of structure, process, achievement, as the mark of one’s performance. The overall system of education is centered on students' achievement which indicates the performance of the school. The effective learning of the students takes place only when an appropriate and amicable environment is provided in the school. Since different types of schools impart education in the Punjab province. The two types of schools Public and Punjab Education Foundation partner schools run side by side. Public schools are governed by the government and Punjab Education Foundation partner schools work under the umbrella of Punjab Education Foundation through public private partnerships. This research was also an addition to the existing body of knowledge on organizational structure and organizational outcomes of the educational institution. This study can be more effective and helpful for researchers, stake holders, administrators and policy makers to improve and update their current knowledge, skills, competencies and practices and also other core areas of Public and Punjab Education Foundation partner schools. In the public private partnership staff, curriculum and physical facilities are supported to play a dominant role, realities are ground necessitates the study on status of physical facilities, students’ achievement at Public and Punjab Education Foundation partner schools in Punjab, Pakistan.

Objectives of the Study

1. To identify the availability of physical facilities at Public and PEF partner schools.
2. To compare the physical facilities at Public and PEF partner schools.
3. To compare the achievement of the students at Public and PEF partner schools.
Research Questions

1. What are the facilities the same made available at Public and PEF partner schools?
2. What is the difference in the provision of physical facilities at Public and PEF partner schools?
3. How is the achievement level of the students same at Public and PEF partner schools?

Method and Procedure of the Study

The study was quantitative in nature and the survey approach was employed to collect the data. All the head teachers of the government elementary schools and the principals PEF located in Punjab province were the population of the study. Study was delimited to the Punjab province of Pakistan. Punjab comprised of nine divisions. The researcher selected Sahiwal division due to easy approach. Multi-staged random sampling procedure was applied for the selection of sample. The sample of the study comprised of 506 public elementary schools Head Teachers and 146 PEF schools Principals (Gay, Mills & Airasian, 2009).

A self-developed check list for physical facilities (CLPF) was used to compare the physical facilities of Public and PEF partner schools in this study. According to Shukla (2014), Checklist is the competency based (skills) assessment instrument. The check list for physical facilities (CLPF) was a relevant and appropriate instrument for data collection in this study. The school physical facilities are closely related to variable learning performances of students. Generally, there are two countenances of physical facilities like infrastructure and support facilities of the school. The instrument checklist for physical facilities namely Check List for Physical Facilities (CLPF) developed by the researcher comprising of 28 items. The checklist comprised of two main options: i.e. available and not available. The expert opinion was taken and the check list for physical facilities (CLPF) was piloted before actual data collection. Head Teachers/Principals were the most suitable individuals to answer about the status of physical facilities of school.

To determine students’ academic achievement, percentage was assessed from the gazette notification of PEC for grade 8th (Gazette of Annual Examination Grade 8, 2017).

Review of Related Literature

The quality of education revolves around the school environment which is beneficial, ventilated, protective, gender sensitive, and provides suitable resources and physical facilities (UNICEF, 2000). The school develops a charismatic physical learning climate where the needs to be changed in attitude, considered to planning and promoting problems solutions. The change may not take place without collective input from the teachers and the students. The main school consumers are the students and teachers (OECD, 2011).

According to the strength of students, every school must have adequate teaching learning material for the relevant classes. The schools have an appropriate play area and library which plays contribute to learning outcomes (The minimum standards for quality education in Pakistan, 2017). According to Malik (2010) the students living in the remote and slums area of Punjab enrolled in the Punjab Education Foundation (PEF) partner schools have shown great progress and better academic achievement.

The physical features of schools such as boundary wall, water and sanitation facilities and qualified and trained teachers also attract out of school children (Country report of Pakistan, 2013). Afework and Asfaw (2014) studied the available school facilities and their effects on the quality of education. The school facilities have a direct effect on students’ achievement and teacher effectiveness (Schneider, 2003), (Olufemii, Olayinka, 2017), (Limon, 2016).

The physical infrastructural facilities like school buildings and spacious class rooms are the essential part of any academic institution. The basic physical facilities of school have positive impact on student’s academic performance (Naz, et. al, 2013), (Andrabi, Das & Khwaja, 2017). Schneider (2002) classified
facilities into six main headings like “indoor air quality, ventilation and thermal comfort, lighting, acoustics, building age and quality, school size and class size” (Akhtar & Tariq, 2015), (Pandya, 2011).

The Punjab Education Foundation schools; have an excellent organizational structure, better students’ outcomes, enhanced enrollment, and quality education (Arshad & Qamar, 2018). School support facilities like tablet, I.T Lab, ventilation, first aid medical box, gas, store room, ECE/kids room, staff room and library contributed about 15.8% towards academic achievement at Punjab Education Foundation partner schools significantly (Arshad, Ahmed & Tayyab, 2019). Arshad, Qamar & Gulzar (2018) showed that physical facilities put 15.4% influences on academic achievement (Odigwe & Eluwa, 2013).

Farooqi, et al. (2015) compared quantitatively the provision of physical facilities at government and private secondary schools in Punjab. The physical facilities checklist (PFC) has been developed for survey and data collection. The government sector secondary schools provide better physical facilities than private sector secondary schools. The provision of infrastructure, technology and support facilities are better in public secondary schools as compared to private secondary schools. It was recommended that government should confine the private sector secondary schools to give better physical facilities to the students in their schools (Koroye, 2016), (Khurshid & Khan, 2012).

According to Iqbal (2012) that public school has good infrastructure, standardized buildings, spacious classrooms and better physical facilities than private schools. Physical school facilities, academic facilities and classroom facilities play an important role in teaching and learning process (Mahmood & Gondal, 2017), (Omae, Siocha, Onderi & Benard, 2017).

The provision and maintenance of physical facilities are ensured by the high ups for the smooth functioning of the school (Nehru, 2013). Schools have physical infrastructure consisting of extra ordinary buildings and spacious rooms for students. The school physical resources include technology to facilitate the smooth running of school (Glatter, 2012), (Kekare, 2015), (Kaushal, 2016).

Public Private Partnership (PPP) improves a process of financing and implementing development projects. It promotes the private sector and gives an opportunity to contribute to a structural transformation of the economy. PPP acts as a driving force for growth and provides public services and goods by involvement of private sector. The adoption of PPP as a general policy instrument in general, and in particularly, for the PNDES implementation (National Plan for Economic and Social Development, 2016).

Presentation and Analysis of Results

| Sr. No | Measures of School Facilities | Public Schools | PEF Partner Schools |
|--------|------------------------------|----------------|-------------------|
|        |                              | Available     | Percentage       | Available | Percentage |
| 1      | Office                       | 506           | 100%             | 146       | 100%       |
| 2      | Class Rooms                  | 506           | 100%             | 146       | 100%       |
| 3      | Wash Rooms                   | 506           | 100%             | 146       | 100%       |
| 4      | Boundary Wall                | 506           | 100%             | 146       | 100%       |
| 5      | Electricity                  | 506           | 100%             | 146       | 100%       |
| 6      | Water                        | 506           | 100%             | 146       | 100%       |
| 7      | Furniture                    | 506           | 100%             | 146       | 100%       |
| 8      | Telephone/Mobile             | 506           | 100%             | 146       | 100%       |
| 9      | White Boards                 | 506           | 100%             | 146       | 100%       |

The above table indicates all the Public and PEF Partner Schools had physical facilities like office, class rooms, wash rooms, boundary wall, electricity, water, furniture, telephone/mobile and white boards. These physical facilities are the necessary requirements of the schools.
Table 2: Non-Availability of Physical Facilities at Public and PEF Partner Schools

| Sr. No | Measures of School Facilities | Public Schools | PEF Partner Schools |
|--------|-------------------------------|----------------|---------------------|
|        | Not Available | Percentage | Not Available | Percentage |
| 1      | Laboratory     | 506 100% | 146 100% |
| 2      | Lifts          | 506 100% | 146 100% |
| 3      | Mosque         | 506 100% | 146 100% |
| 4      | Transport      | 506 100% | 146 100% |
| 5      | Air Conditioning| 506 100% | 146 100% |

The above table shows that all the Public and PEF Partner Schools had non-availability of such physical facilities like laboratory, lifts, mosque, transport and air conditioning. Laboratory was not available in both types of schools which are used for practical lessons of different topics of science subject. The facility of lifts is absent in schools for disabled students. The facility of air conditioning was not available in schools for hot seasons. The facility of transport was also not found for carrying students from far and near to schools.

Table 3: Physical Facilities at Public and PEF Partner Schools

| Measures of Physical Facilities | Public Schools | PEF Partner Schools | \( x^2 \) | Sig. |
|---------------------------------|----------------|---------------------|---------|------|
| I.T Lab                         | Yes % No | Yes % No |         |       |
| First Aid Medical Box           | 180 35.6 326 64.4 | 102 69.9 44 30.1 | 51.96 | .000 |
| ECE/Kids Room                   | 495 97.8 11 2.2 | 90 61.6 56 38.4 | 8.321 | .004 |
| Storeroom                       | 2 0.4 504 99.6 | 10 6.8 136 93.2 | 5.918 | .015 |
| LCD/LED                         | 415 82 91 18 26 17.8 120 82.2 | 8.713 | .003 |
| Library                         | 2 0.4 504 99.6 | 7 4.8 139 95.2 | .102 | .749 |
| Ventilation                     | 503 99.4 3 0.6 | 132 90.4 14 9.6 | .325 | .569 |
| Plants                          | 473 93.5 33 6.5 | 57 39 89 61 | .128 | .720 |
| Sports Items                    | 238 47 268 53 | 25 17 121 82.9 | 1.522 | .217 |
| Staff Room                      | 13 2.6 493 97.4 | 59 40.4 87 59.6 | .551 | .458 |
| Play Ground                     | 221 43.7 285 56.3 | 19 13 127 87 | .695 | .404 |

The majority of PEF partner schools had facility of I.T lab as compared to Public schools. The statistics indicated that Public schools had more ECE/Kids room facility as compared to PEF partner schools. The statistics presented that PEF partner schools had more store room facility as compared to the Public schools. The majority of the Public schools had better facility of LCD/LED for nursery classes as compared to PEF partner schools. It was concluded that the Public schools had more physical facilities as compared to PEF partner schools. The majority of the Public and PEF partner schools had not the facility of library and sports items. The majority of Public and PEF partner schools had proper ventilations in rooms for keeping these airy and maintenance of pleasant environment and plants for up keeping school landscape. The majority of PEF partner schools had staff room facility for sitting of teachers as compared to Public schools. The majority of the Public schools had play grounds for playing games and facility of first aid medical box as compared to PEF partner schools.

Table 4 Missing Facilities at Public and PEF Partner Schools

| Measures of Physical Facilities | Public Schools | PEF Partner Schools |
|---------------------------------|----------------|---------------------|
|                                 | Yes % No | Yes % No |         |       |
| Gas                             | - - 506 100% | 10 6.8% 136 93.2% |
| Canteen                         | 506 100% 156 100% | - - |
All PEF partner schools had canteen facility for refreshment and break. All Public schools had tablets for grade three (03) while 17.8% PEF partner schools had the tablet facility. The students of grade three perform LND (Literacy and Numeracy Drive) test on tablet which may also be used for LND practice.

### Table 5 Comparison of Student’s Achievement of Public Schools and PEF Partner Schools

| Measures of Performance | School Type     | N    | Mean     | Standard Deviation | t-test | Sig. |
|-------------------------|----------------|------|----------|--------------------|--------|------|
| Student’s Achievement   | Public         | 506  | 316.462  | 36.43              | 5.684  | .000 |
|                         | PEF Partner    | 146  | 316.254  | 36.86              |        |      |

The table 5 reveals that there was statistically a significant difference between two types of Public and Punjab Education Foundation partner schools regarding the students achievement, t=5.684, p<.05. The mean score values (316.462& 316.254) indicated that the performance of Public schools better than Punjab Education Foundation partner schools regarding students achievement.

**Conclusion**

1. All Public schools and PEF partner schools had physical facilities i.e. office, class rooms, wash rooms, boundary wall, electricity, water, furniture, telephone/mobile and white boards. The physical facilities like laboratory, lifts, mosque, transport and air conditioning were not available at all Public schools and PEF partner schools. All Public schools and PEF partner schools had physical facilities i.e. office, class rooms, wash rooms, boundary wall, electricity, water, furniture, telephone/mobile and white boards. The majority of the Public and PEF partner schools had not the facility of library and sports items. The majority of the Public and PEF partner schools had ventilations in rooms for keeping airy and pleasant environment and plants for keeping pleasant environment. The majority of PEF partner schools had staff room facility for sitting of teachers as compared to the Public schools. The majority of Public schools had play grounds for playing games and facility of first aid medical box as compared to PEF partner schools. The majority of PEF partner schools had the facility of I.T lab as compared to the Public schools. The statistics indicated that the Public schools had more ECE/Kids room facility as compared to Punjab Education Foundation partner schools. The statistics presented that PEF partner schools had more store room facility as compared to Public schools. The majority of the Public schools had better facility of LCD/LED for nursery classes as compared to PEF partner schools. All the Public schools had not the facility of gas and canteen. All PEF partner schools had canteen facility for refreshment and break. All Public schools had tablets for grade three (03) while 17.8% Punjab Education Foundation partner schools had the tablet facility. It was concluded that Public schools had more physical facilities as compared to PEF partner schools.

2. The physical facilities like laboratory (for practical lesson of science subject), lifts (for disabled students), mosque (for saying prayer), transport (carry students from far and near to school) and air conditioning (for hot season) are not available at Public and PEF partner schools.

3. Students’ academic achievement is better at Public schools than the Punjab Education Foundation partner schools; the gap is more marked in case of urban and rural schools working under the umbrella of Punjab Education Foundation.
Recommendations

1. Public schools have more physical facilities than the Punjab Education Foundation partner schools; the same may be followed by the Punjab Education Foundation partner schools.

2. Both types of schools are found lacking in the physical facilities like laboratory (for practical lesson of science subject), lifts (for disabled students), mosque (for offering prayer), transport (carry students from near sides) and air conditioning (for hot season); the same put these schools under obligations to provide the earlier said facilities.

3. Academics seems better at Public schools and the PEF partner schools are recommended to follow make endeavours to lesser the gap in case of urban and rural schools working under the umbrella of Punjab Education Foundation.
Reference

Afework, T. H., & Asfaw, M. B. (2014). The availability of school facilities and their effects on the quality of education in government primary schools of Harari regional state and east Hararaghe zone, Ethiopia. *Middle Eastern & Africanian Journal of Educational Research*, Issue No. 11.

Akhtar, S., & Tariq, R. (2015). Status of infrastructure, facilities and level of achievements of the students at secondary school level. *Pakistan Journal of Social Sciences*, 35(1).

Andrabi, T., Das, J., & Khwaja, A. J. (2017). Report cards: The impact of providing school and child test scores on educational markets. *American Economic Review*, 107(6).

Arshad, M., & Qamar, A. Z. (2018). Punjab Education Foundation schools: A public private partnership paradigm, its effects and repercussion. *Case Studies Journal*, 7(12), pp. 16-25.

Arshad, M., Ahmed, G., & Tayyab, M. (2019). Assessing the effects of school support facilities on academic achievement at Punjab Education Foundation partner schools. *European Online Journal of Nature and Social Sciences*, 8(2s), pp. 214-222.

Arshad, M., Qamar, A. Z., & Gulzar, H. F. (2018). Effect of school physical facilities at public schools on students’ achievement in Punjab, Pakistan. *Global Social Sciences Review*, 3(4), pp. 102-113. http://dx.doi.org/10.31703/gssr.2018(III-IV).07.

Braun, H., Jenkins, F., & Gigg, W. (2006). *Comparing Private Schools and Public Schools Using Hierarchical Linear Modeling* (NCES 2006-461). Department of Education, National Centre for Education Statistics, Institute of Education Sciences. Washington, DC: U.S. Government Printing Office.

Farooqi, et. al. (2015). Provision of physical facilities: Comparison of public and private secondary schools in Punjab, Pakistan. *AYER*. Vol. 4. ISSN:1134-2277.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2009). *Educational Research: Competencies for analysis and applications* (9th ed.). Columbus, Ohio: Pearson Merrill.

Gazette of Annual Examination Grade 8, (2017). Notification No. 645 dated March 31, 2017. Lahore: Punjab Examination Commission.

Glatter, P. (2012). *Strategic Leadership and Educational Improvement*. New Delhi: Wise Sage Publication.

Government of Pakistan (2009). *National Education Policy*, 2009. Islamabad: Ministry of Education.

Government of Pakistan (2017). *Minimum Standards for Quality Education in Pakistan: Attaining standards for improved learning outcomes and school effectiveness*. Islamabad: Policy and Planning Wing, Ministry of Education.

Govt. of Punjab, (2004). *The Punjab Education Foundation Act of 2004*. Lahore: Punjab Gazette, June 9, 2004, pp. 1455-1458.

Govt. of Punjab, (2005). *The Punjab Education Foundation (Conduct of Business) Rules*, 2005. No.SO.(SVII)-33/2004. Lahore: Education Department.

Iqbal, M. (2012). Public versus private secondary schools: A qualitative comparison. *Journal of Research and Reflections in Education*, 6(1), Assessed from: www.ue.edu.pk/journal.asp.

Kaushal, S. K. (2016). Effect of school environment on academic achievement of students of secondary school of Haryana. *International Journal of Advanced Research and Development*, 1(4), 131-134.

Kekare, H. S. (2015). Classroom physical environment and academic achievement of students. *The International Journal of Indian Psychology*, 2(3). 116-120.

Khurshid, F., & Khan, S. (2012). Teachers’ perception of school facilities and its impact on the academic achievement of the secondary school learners. *Elixir Leadership Management*, 48, 9253-9258.

Koroye, T. (2016). The influence of school physical environment on secondary school students’ academic performance in Bayelsa state. *Asian Journal of Educational Research*, 4(2).

Limon, R. M. (2016). The Effect of the Adequacy of School Facilities on Students’ Performance and Achievement in Technology and Livelihood Education. Mark Raguindin Limon, *International Journal of Academic Research in Progressive Education and Development*, 5(1), 45-58. URL: http://dx.doi.org/10.6007/IJARPED/V-5-II/2058.
Lubienski, C., & Lubienski, S. T. (2006). Charter, Private, Public Schools and Academic Achievement: New evidence from NAEP mathematics data. New York: Columbia University.

Mahmood, T., & Gondal, M. B. (2017). Effect of school environment on students achievement: Cross comparison of Urdu and English medium classes in Punjab province. Pakistan Journal of Education, 34(1).

Malik, A. B. (2010). Public Private Partnership in Education: Lessons Learned from the Punjab Education foundation. Philippines: Asian Development Bank. Retrieved from www.adb.org.

National Plan for Economic and Social Development, 2016. Public Private Partnership in Burkina Faso. Burkina Faso: Ministry of Economy, Finance and development.

Naz, A., & et.al. (2013). Assessing the consequential role of infrastructural facilities in academic performance of students in Pakistan. International Journal of Social Science & Education, 3(2).

Nehru, R.S.S. (2013). Educational Administration, Management and Planning, New Delhi: A.P.H. Publishing Corporation.

Odigwe, F. N., & Eluwa, I. O. (2013). Appraising the state of maintenance and management of available secondary school facilities on students’ academic performance in cross river state, Nigeria. Journal of Education and Practice, 4(24), 101-105.

OECD (2011). The future of the physical learning environment: School facilities that support the users. OECD Publishing.

Olufemii, S., Olayinka, A. A. (2017). School size and facilities utilization as correlates of secondary school students’ academic performance in Ekiti state, Nigeria. European Journal of Alternative Education Studies. 2(1), 69-82. doi: 10.5281/zenodo.495179.

Omae., Siocha, N., Onderi, H., & Benard, M. (2017). Quality implications of learning infrastructure on performance in secondary education: A small scale study of a county in Kenya. European Journal of Education Studies, 3(4), 97-123. doi: 10.5281/zenodo.344956. www.oapub.org/edu.

Pandya, S. R. (2011). School Effectiveness. New Delhi: A.P.H. Publishing Corporation.

Punjab Education Foundation, (2015). Punjab Education Foundation, Annual Report 2015. Assessed from www.pef.edu.pk.

Punjab Education Foundation, (2016). Punjab Education Foundation, Annual Report 2016. Assessed from www.pef.edu.pk.

Samuel, K., & Rong, Uno. (2017). A comparison of academic performance between public and private secondary schools in Wareng district, Kenya. British Journal of Education, 5(11).

Schneider, M. (2002). Do school facilities affect academic outcomes? USA: Educational Resources Information Centre.

Schneider, M. (2003). Linking school facility conditions to teacher satisfaction and success. USA: Educational Resources Information Centre.

Shukla, R. (2014). Dictionary of Education. New Delhi: A.P.H. Publishing Corporation.

UNICEF (2000). Defining Quality in Education. USA: Working Paper Series, Education Section, Program Division, New York.