

## Learning Environment Facilitations in Public and Private Universities for Science Students in Khyberpakhtunkhwa, Pakistan.

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### ABSTRACT

It is observed that majority of the universities in Khyberpaktunkhwa, Pakistan were deficit in the provision of facilities for science students at post graduate levels. Most of the universities in private sector were even not meeting the minimum criteria made for universities recognition and accreditation by the Higher Education Commission of Pakistan. This study was carried out by using a checklist as a tool of research. The population was 26 universities in Khyberpakhtunkhwa and sample of 8 universities were selected conveniently included 4 from public and 4 from private sectors. The collected data was analyzed by using percentile method. The study revealed that public universities were lacking in research journals and other research related facilities while majority of the private sector universities were facing shortages of playground, waiting rooms, libraries, laboratories, IT facilities; inadequate building, shortage of classrooms; Computers, lighting system, drinking water, printing facilities, research journals and washrooms facilities. The study concluded that there is a dire need for private universities improvement in terms of providing all basic physical facilities to meet the actual needs of the students and teachers. The study recommended that there should public private partnership for providing all possible facilities and healthy learning environment to science students.

**KEY WORDS:** Science Students, Physical facilities, comparison, Private & public universities, Pakistan.

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### INTRODUCTION

Science Education is the main source of human development and prosperity. The progress and success of every society is directly linked to the standard and type of its science education. Science education is the main source which can improve the living of the members of a community. It is a wonderful tool for earnings and provisions of welfare for personal and societal needs in a specific locality. Quality education can make a person intellectual, skillful and an active individual for a society. In Pakistan education is the responsibility of the concerned provincial governments but major educational plans is made by the federal government. However, it is provincial government to implement these policies and promote education in the province. Education is a strong source and tool to provide opportunities to individuals in the fields of intelligence, skills development, creativity and social as well as economical development, it also important for the values education promotion to make them ready for life and to equipped them with the needed abilities for their future lives and enrich them with necessary skills for successful life.

Higher education level started after completing the higher secondary level and corresponds to sixteen plus to twenty two plus years' age cohort of the learners. Higher education is split into undergraduate and postgraduate programmes. University is characterized as an instructive organization intended for giving direction, conduct examination, or both, of understudies in numerous branches of cutting edge learning, giving degrees to the learners in different fields. As per present day idea of instruction, a university is a city of the globe which is principally sanctioned for examination and data for the people and for the general public. In this setting, it remains a store of information and knowledge. In the current age, the fundamental capacity of a university incorporates the advancement of human resources and the nature of human improvement which is primarily chartered for research and information for the individuals and for the society. The study revealed that the availability of physical facilities in a institute had a significance impact on students' performance. Enough facilities, environment in which the students learn is very crucial and without the suitable environment effective learning cannot take Place [1]. The learning environment as the third teacher for students but it is only significant to the degree that it assists in providing a suitable climate for learning. He further investigated that environment should provide a rich range of resources which is always available to learners. The room should be on the ground floor and has no hidden areas so

that it can be easily supervised. Moreover, the furniture in the classroom should be movable, durable, comfortable, attractive, learner-sized, and storable [2].

### **Objectives of the Study**

- 1- To know about the existing facilities for Science students in Public and Private Universities.
- 2- To know about the missing physical facilities for science students in Public and Private Universities.
- 3- To provide recommendations for the improvement in physical facilities at university level.

### **Objectives of the Study**

- 1- What is the status of current facilities in Public and Private Universities for Science students?
- 2- What are the missing facilities in Public and Private Universities?
- 3- What recommendations can be made for the learning environment improvement in university level?

## **LITERATURE REVIEW**

In Pakistan the focus is always on quantity and not on quality of higher education reason being that we are lagging behind the world in the field of quality science education. One of the big problems is the problem of outdated curriculum, which affects our education system and cannot produced scholars to do compete the developed nations and to build the power of reasoning and scientific knowledge in them [3]. In Pakistan, there are 69 private sector universities and of those ten 10 are in Khyber Pakhtunkhwa province. Private universities are independent in managing its funds and also enjoy broader independence both in administrative and financial matters. However, they may have less independence from business corporations depending on the source of their finances. Their academic programmes are monitored by the HEC [4].

Universities have made resources comprised of partners who may not be associates and who can't assess the work and the guarantee of one another in light of the fact that they need experience or preparing in the work to be assessed. They contended that universities must discover courses for personnel with differed obligations and preparing to go about as companions in all parts of workforce work. There should be all facilities for science students because it is the main output of these DAIs [5].

The US Department of Education in its report on US Strategic Educational Plan 2002-2007, characterizes the nature of instruction by its satisfaction of the national instructive objectives and goals. These goals might extensively be ordered in 3 major classis: 1-Social Excellence 2- National Excellence and 3- Academic Excellence and all these can be achieved when proper physical facilities and human resources availability is ensured in learning institutions, particularly about science students [6].

An ideal learning institute must be equipped with all the physical facilities which influence the learning environment. There were carried out many studies and researches to ascertain the effect of the physical environment on education outcomes. Some studies have been statewide in scope; others have focused on only one or two universities. Some have looked at the condition of school buildings, while others have focused more on individual classrooms. These studies conclude that adequate student capacity and appropriate acoustical conditions are important factors for a good learning environment [7], [8]. There is a direct relationship between physical facilities and science learning. Those science learners who had all the needed facilities in their access were found good academically as compare to those who were shortage in all such facilities utilization at university level mainly because science education is difficult and need good learning facilities and healthy climate [9]. The ranking model made by HEC included the following items: Resources: the weight age of the resources including all curricular and co curricular resources and its use in university, its weight age marks is assigned = 15%). Budget: the budget of a university for its programmes smooth running (its weight age assigned marks is = 15%). Research Activity: all the work related to students guidance, supervisions and publication in journals etc (its assigned weight age marks is = 26%). Admissions: the number of the admitted students at bachelors, master and MPhil and PhD levels (its weightage marks is assigned = 17%). Faculty: the strengths of faculty in a university including both full time and part time and PhD staff (its total assigned marks is = 27%). Where the importance is give to better learning climate which would be fully equipped with all scientific and computational facilities [10]. Facilities are directly related to the science learner's academic achievement at university level because a good facilitative university may be a good learning place for science learners' of all ages and grades. Studies also found the relationships between spacious, safe building, science labs and the academic achievements of university graduates. Study also identified that it is fact that non-availability of the basic physical facilities including: theatres, classrooms, offices, laboratories, experimental labs, workshops, sport facilities and library negatively impacted learners' academic achievement at university system [12].

It is reported in a research that 26% of Chicago teachers and more than 30% of Washington, D.C., teachers were reported health related problems caused by the poor school facility. Most of these problems were related to poor indoor air quality, with teachers reporting that asthma and other respiratory problems were the main adverse health effect. It also found that human comfort, indoor fresh air quality, lighting system and laboratories have direct impact on student achievement. The concept of the learning environment makes it essential that all physical facilities, equipment, and materials are considered carefully in their relationship to the total learning situation and those they are selected and used in accordance with the basic principles of child growth [13].

**Methodology of the Study**

This was a survey type study. The tool used for data collection was a checklist designed by the researcher for the observation and validation of the data through personal and participant observation.

**Population & Sample of the study**

All public and private universities of Khyberpaktunkhwa were selected as population of the study. The sample was selected randomly and 60 MPhil/PhD Science Scholars and 20 Science Academicians were included in which 30 science research scholars and 10 science teachers from each sector universities were included. The sample scholars and teachers of both sectors universities were given the checklist which was filled and returned to the researcher in a week time after checking all the given physical facilities in their concerned universities.

**Data Analysis**

**Table: 1 Checklist about physical facilities**

No	Item	Public Universities		Private Universities	
		YES %	NO %	YES %	NO %
1	Boundary wall	90	10	60	40
2	Science labs	80	20	50	50
	Science equipments	90	10	60	40
	Security equipments	70	30	60	40
3	Waiting Rooms	80	20	40	60
4	Halls	75	25	40	60
5	Multimedia	50	50	30	70
6	Flannel board	20	80	12	88
7	Guide books	45	55	60	40
8	Computers/Internet facility	70	30	50	50
9	Play Grounds	73	27	24	76
10	Washrooms	74	26	61	39
11	Common room	74	26	71	29
12	Drinking water	80	20	67	33
13	Cafeteria	87	13	60	40
14	Dispensary	39	61	20	80
15	Furniture	86	14	72	28
16	Library	77	23	61	39
17	Teacher Dice	90	10	65	35
18	Dustbins	92	8	81	19
19	Mosque	93	7	40	60
20	Lighting system	72	28	50	50
21	Laboratories	66	34	55	45
22	Transport facility	72	28	45	55
23	Parking	88	12	80	20
24	Hostel	89	11	67	33
25	Offices	100	00	46	54
26	Print /Photocopy facility	90	10	50	50
27	Study Trips	50	50	20	80
28	Research Journals	35	65	20	80
29	Guidance centre	10	90	10	90
30	Seminars/Workshop	25	75	15	85

## DISCUSSION

Table data showed that the availability of physical facilities in both sectors universities were not in the same status and usage. Item 1 shows that 90% of the public sector universities having sound boundary walls while only 10% has not. In private universities 60% universities having boundary walls and 40% have not. Science labs ratio was good in public universities by 80% and were 50% in private sector only. It means that science lab and science equipments provisions were better in government universities as compared to private universities for science learners. Security equipments ratio in public universities was found 70% while in private sector universities security equipments was 60%. 80% respondents were agreed that waiting rooms facilities existed in public universities and 20% public universities has no waiting rooms facility on the other hand 40% respondents were agreed about the availability of waiting rooms in private sector and 60% were not agreed as majority private universities having no waiting rooms for students and visitors. Availability of halls was satisfactory in public universities by 75%, while 40% private sector universities having examination halls and 60% having no proper Halls. 50% respondents agreed and 50% students were disagreed about the availability of multimedia facility in public universities and 30% scholars agreed and 70% disagreed about the multimedia facility availability in private sector universities. Respondents shows agreement about the availability of flannel boards was only 20% and 80% were disagreed, similarly 12% scholars were agreed that flannel boards display in private sector universities and 88% were not having flannel boards facility in private universities. The question about guide books availability in public universities got 45% responses in Yes and 55% in No, in contrast of the same item in private universities got 60% responses in Yes and 40% in No. So far as Computers/Internet facility is concerned 70% responses stated yes and 30% stated No and the responses of the private sector universities were 50% agreed and 50% were disagreed about net facility availability. 73% scholars from public sector universities and 24% from private sector institutions were agreed about the existence of play ground and 27% people from public and 76% from private sectors were not agreed. Item 10 and 11 shows 74% agree and 26% disagree replies about washroom and common rooms facilities in public universities and 61% private universities having washrooms and 71% common rooms facilities. 80% responses reveal that public universities have the facility of drinking water while 20% were not, while 33% private universities had no drinking water facility. The replies of 87% was yes and 13% was no from public and 60% was yes and 40% was no from private sector about the availability of cafeteria. 39% yes and 61% stated no about dispensary from public universities and 80% private universities has no such facility. The availability of furniture, library, teacher's dice, dustbins and mosques facilities were 86%, 77%, 90%, 92% and 93% respectively in government universities and in private institutions its availability were 72%, 61% 65% 81% and 40% respectively. In 72% public universities proper lighting system were good and in 50% private universities it was ok. Public universities were equipped with laboratories 66%, Transport 72%, Parking 88%, Hostel 89%, offices 100% and photocopy facility 90% while private sector having laboratories 55%, Transport 45%, Parking 80%, Hostel 67%, offices 46% and photocopy facility 60%. 50% public universities arranged study tours and only 20% private organizations arranged study trips for scholars. The given data indicates that 35% government universities has research journals and in case of private universities only 20% universities had research journals. 10% public and 10% private universities have Guidance centers. Seminars / workshops arranged by public universities were 25% and private sector arranged only 15%.

## Conclusions

It is concluded from the above data result that the basic physical facilities are very much necessary at university level. If some of the basic facilities are missing at university level then how we can teach and learn world class science education. From the above table data it is concluded that public sector universities were good in the provision of physical facilities like science labs, science equipments, Waiting Rooms, security staff, playgrounds, washrooms, waiting rooms, teachers' dice, Halls, Offices, classrooms, drinking water, photo state, transport facility, lighting system, furniture, Parking, waiting rooms, hostel facility, internet and computer facilities and availability of well equipped libraries. On the hand private sector universities were providing satisfactory physical facilities to staff and students which including security staff, washrooms, drinking water. Parking facility, cafeteria, furniture and dustbins. Public universities were facing shortages about research journals, seminars, dispensary, guidance centre and flannel boards and private universities were poor in the provision of workshops, research journals, study trips, Halls, classrooms, offices, transport, guidance centre and playgrounds. To compare public and private universities in the provision of physical facilities, public sector universities were enjoying more facilities as compare to private sector universities. Physical facilities have always been considered as a major factor to quality education. The importance to teaching and learning process the provision of adequate instructional facilities cannot be over-

emphasized. Learning can occur through one's interaction with one's environment, environment here refers to facilities that are available to facilitate students learning outcome.

### **Recommendations**

On the basis of the results from the above data the following recommendations were made:

1. The universities should provide all needed facilities including science labs, science experimentation centers and practical workplaces for the students.
2. The government and private universities should provide research journals and internet facilities to science students and teachers for getting and sharing updated science knowledge.
3. Government should provide flannel boards, multimedia and computer facilities to its universities for improving the quality of science education at university level.
4. The teacher should encourage the students to use facilities with care and according to their course contents and syllabus.
5. The private universities provide playgrounds, waiting rooms and Halls facilities to the scholars because it is very necessary for higher learners.
6. There should be proper cafeteria, waiting rooms, common rooms and print facilities for the students in private sector universities to facilitate learners.
7. Computer facility should be provided in labs and classrooms because it is not only the demand of the modern world but also a tool and source of access to education and information.
8. Accreditation and university affiliation should be made more transparent because most of the universities are getting their programmes approval without fulfilling the standard criteria made by the Commission for physical facilities.
9. Higher Education Commission should examine the facilities at universities level in both public and private sectors to maintain healthy competition in teaching learning process.

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