

Exploring the Impact of University Type and Facilities on Students' Academic Achievement

Anila Jamshed

Lecturer,
Department of Education,
Federal Urdu University of Arts
Science & Technology, Karachi
Pakistan
dranila@fuuast.edu.pk

Muhammad Asif Khan

Assistant Professor,
Department of Textile Management
& Marketing,
Textile Institute of Pakistan,
Karachi Pakistan
muhammad.asif@tip.edu.pk

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ABSTRACT

Introduction: *The study aimed to explore the relationship between university type (public and private) and students' academic achievement, as well as the association between university facilities and academic performance. Previous literature suggested potential differences in academic achievement based on university type and highlighted the significance of university facilities in influencing student outcomes.*

Methodology: *The study examined research objectives using correlation and cross-sectional methods. All Karachi university students—152 (62 males and 90 female), 72 from public and 80 from private—were sampled.*

The data was analysed using descriptive and correlational statistics to determine how institution kinds affect academic success and how facilities affect student performance.

Results/Findings: *Different types of universities significantly affected academic accomplishment, revealing differences in*

student performance between public and private institutions. University amenities, including labs, audiovisual aids, first aid, and transportation, correlate with student achievement. Other facilities, including comfortable seats, writing boards, classroom ventilation, e-libraries, social events, and sports grounds, do not affect student performance.

Future Direction: *Future research and longitudinal investigations may be utilized to evaluate the enduring impacts of university infrastructure on students' achievements, thereby facilitating the formulation of focused strategies to bolster scholastic triumph.*

Key Words: *Type of universities, facilities at universities, academic achievement, university level.*

Introduction

Higher education is a significant level of education because in any country it provides not only manpower for the nation but also drive the country by providing insight into its future dreams, assets, issues and its answers. The future of a country relies to a great extent upon the quality of individuals being prepared in the institution of higher education. Higher education is also significant for social and economic effects in the society (Brennan & Teichler, 2008). The universities play a role of the change agent in the society (Ali, et al., 2023). According to Mutula (2001) higher education remains the most rapid growing part of the education system. Higher education, especially universities, plays a vital role in nation buildings. Universities are the best medium by providing higher education to students. Universities are considered as places of high professional learning, where

one obtains social, academic and financial advantages throughout everyday life. The universities, all over the world, are perceived as centers of higher education, which are considered as means of development in a country's advancement. Universities produce, disperse and use information. They produce researchers, engineers, experts, specialists, supervisors and men of wonderful abilities.

Awan (2011) argues that across the world including Pakistan, there are diverse educational systems containing two significant categories: public and private institution. In Pakistan, the higher education framework incorporates public and private universities all being recognized by the Higher Education Commission (HEC). According to the HEC official website, there are 192 universities in Pakistan, out of which 78 in the private sector and 114 are in the public sector cited in (Hussain, et al., 2023). The effectiveness of public and private universities and facilities available in universities have been the topic of a large number of studies in the educational phenomenon. Firstly, in many countries both types of universities are present side by side. Secondly, the role of these universities differs strongly whether this is along social, cultural or educational lines. There is, however, a need for comparative research in order to clarify the cause of this difference in effectiveness between public and private universities. Types of universities like public or private sector are believed to play an imperative role in the academic achievements of their students.

Likewise, the type of university, academic achievement is also passively or actively affected by facilities at the academic institutions i.e. universities. As the academic environment is the atmosphere in which a student attempts to learn, this boosts or helps in the learning experiences (Psychology Dictionary, 2014). Watkins (2005) stated that the quality of learning environment is critical to all students. It has incredible effect on the physical, enthusiastic, social, moral development. Academic environment assumes a significant part in general and academic development of students. There are multiple factors that affect the quality of academic performance

among university students (Waters & Marzano, 2006). Different research clarified that academic institutions 'condition affects both the teachers and students. Many recent studies were carried out to discover those aspects that impair university student 's academic performance. Availability and non-availability of different facilities i.e. suitable classroom environment, libraries, laboratories, first aid facilities and transport facilities can affect the academic achievement. If the students are satisfied, teaching and learning process would become much easier. The matter of the institutional excellence is straightforwardly linked with quality of students, teachers and also with the infrastructure educational organizations. The degree of competency of teachers, pedagogical strategies and educational programs may be serving as main causative elements that can weaken the excellence of higher education. Correspondingly, insufficient funding for student, no libraries, books, unequipped labs and less or non-qualified staff are also vital elements in the unsatisfactory and substandard education.

These phenomenon regarding the type of university (i.e. public or private sector) exhibit differences in the academic achievement of students and relationship between facilities available at universities and academic achievement have been thoroughly overlooked. Considering the importance of the current theme and existing literature gap this study was initiated and aimed to explore this unfolded aspect which will serve as an opening gate for future researchers. Beside that implications of this study will be fruitful for policy makers, parents, teachers, students and other concerns authorities.

Rational Of The Study

The world needs educated individuals. Global progress depends on it. University education gives every industry top-tier ability. Pakistani academic research has ignored this essential contributor; this study will fill the gap. Globalization and higher education had raised university quality problems. According to Tsiligiris and Hill, 2021 quality education in advanced education is a well-established debate with different methods and techniques. Hafeez,

Iqbal and Imran, (2021) also claims that good learning environments in public and private universities have enhanced higher education. Boissiere (2004) also stated that university students' performance is affected by facilities, equipment, sanitation, texts, and organization.

This study examined how variables affected students' academic performance and may fill the gap. The effects of public and private universities on university academic performance and the availability and non-availability of classroom environments, libraries, laboratories, first aid facilities, and transport facilities have been well established, but research has been ignored. The current study sought this relationship. Due to its diverse and long-term ramifications, this study would benefit stakeholders.

The current study covers this Pakistani literature gap for future researchers. This Pakistani university student study will provide national and global comparisons for future academics. We think this study may confirm 20 years of international research. This effort will address issues regarding academic success differences between public and private universities and facility availability. This research benefits students, faculty, university management, higher education, researchers, parents, and policymakers.

Literature Review

In any society institutes of higher education is considered as platform based on merit entertaining competition base ideas (Sen, 1997; Unterhalter, 2009). Higher education deals with all matters of public and private institutions. Universities especially public sector are funded mainly by governments, whereas private sector universities primarily generate their own

resources. There is indeed some similarities and dissimilarity among private universities and public universities (Middlehurst & Woodfield, 2004; Da, 2007).

Different studies, shows the disparity among public and private universities (De Fraja & Iossa, 2002). Certainly, there is peculiarity among public and private universities that have occasionally parallel distinctiveness but also different attributes. It is generally perceived that accessibility and the worth of physical inputs additionally give several signs of effectiveness and excellence of educational conditions (Imran, et al., 2023). Quality is consistently decisive factor that make an institution unique from others. The contributing elements that could influence the quality of universities regarding teaching and learning are libraries, PC and laboratories, learning circumstance like classrooms, research facilities, university buildings and social space, health facilities and transport facilities.

Educational conditions and environment play a significant role in overall academic improvement of students. Environment support in improvement of psychomotor abilities and academic achievement. In public and private Universities according to Psychology Dictionary (2014), academic circumstance plays imperative role, which can help in the knowledge experiences of students. In addition, Phulpoto, Oad and Imran, (2024) also investigated that perception about university learning environment adds to academic result.

Universities i.e. public and private generally exhibit academic differences due to available resources (Ajayi, 2002; Akomolafe, 2003 & 2005). Human resources are one of an educational input basic for the improvement of institution and proficiency of the students. Accessibility of these assets is required to excellence in the system. Studies on the connection between accessibility of human resources and academic achievement have demonstrated that human resources improve academic achievement of students (Owoeye, 2000; Ayodele, 2000; Oni 1992; George 1976; Adedeki, 1998).

Imran, et al., (2023) also sketched out a range of attribute of a world class public/ private university. These qualities comprise of a wide scope of components students, administrative staffs, number of publications, from lecturers, and number of courses taught and aspects associated with the advancement and development of the university (Rehan, et al., 2024). The analysis of teaching expenditures shows that the public universities pay out more for classrooms and libraries, whereas, private universities expend more on labs and equipment. Therefore, apparently public universities have improved classrooms and libraries, though the private universities have greater research facilities and computer labs. Therefore, students may pick one of these institutions dependent on these variables. With all these significant criteria, it is clear that excellence of public and private universities is characterized in wide range and it comprise of diversity. Furthermore, (Imran & Akhtar, 2023) characterized it as by who and how students are taught instead of by what students learn. In addition, the performance or quality of universities depends positively on the capability of their students (Ahmad, et al., 2024). There have been different researches on noteworthy differences in the academic achievement of public and private educational institutes i.e. universities. Ajayi (2000) affirmed that the public academic institutions (i.e. universities) had better academic performance than private academic institutions, while (Mohammad, et al., 2024; Imran and Akhtar (2023), affirmed that private academic institutions exhibit better academic performance. Both institutions; private and public go hand in hand and are simultaneously growing at many points (Tang, 2012).

Facilities at University and Academic Achievement

Researchers evaluate student performance using academic institution factors. Facility accessibility affects educational institutions' success, according to many research. Mohammad, et al., (2024) stated that physical facilities and plans increase teaching-learning and academic success. Other researchers like Alimi et al. (2012) and Akomolafe and Adesua (2016)

concluded that academic success depends on institutions. Institute structures, comfortable chairs, writing boards, airy class rooms, E-library-equipped laboratory, audio-visual aids, first aid and transport facility, social event and sports ground, and others were linked in several assessments. University functioning requires classrooms, books, labs, assembly halls, furniture, equipment, games, and sports fields, according to Akinwumiju and Orimoloye (1987). Asiyai (2012) said that institute or campus facilities enable teachers and students learn and instruct productively. Mokaya (2013) says good facilities boost student achievement.

Universities amenities encourage teaching-learning. According to Adeboyeje (2000), Kamaruddin et al. (2009), and Emetarom (2004), institute facilities improve learning and teaching. They should improve student satisfaction and instruction with their intellectually challenging physical environment. Every organisation, including education, plans facilities, according to Oni (1992).

Amenities at universities improve learning. Institutional physical facilities improve academic achievement, according to many studies (Farrant, 1991; Farombi, 1998; Akande, 1985; Asiabaka, 2008; Arubayi, 1987; Wilcockson, 1994 and Lawal 1995; Earthman & Lemasters, 1996; O'Neill, 2000; Phillips, 1997). Academic facilities affect student success, according to Earthman (2002). Buildings, classrooms, sports fields, libraries, labs, furniture, equipment, and teaching materials are included. Another report by Md Noor (2015) studied many student satisfaction indicators in a Malaysian higher education institution. Considerations included campus facilities.

Akomolaf and Adesua (2016) and Adeboyeje (2000) found that a lack of university facilities can demotivate students. Their academic performance suffers. Without library and classroom seating, students struggle. These facilities affect teaching and learning quality. Gameran (1992) disagreed, saying facilities have little effect on student achievement. In another study,

Aliyu (1993) referenced by Johnson (1998) found no difference between students with and without good instructional facilities.

Manzoor (2013) found that university facilities predicted Pakistani academic success. They analysed Pakistani university infrastructure and academic performance. They credited athletics and transit for their academic success. Nazet (2013) found that physical facilities improve academic performance among Pakistani students.

Class rooms are crucial to academic performance at many schools. Effective lesson planning aids teaching and learning. Fisher (2008) said classrooms are multidimensional, with students and teachers as main elements. Ryan (2013) and Lang and Hebert (1995) say students shape their destinies in class. They stated that supportive and active classrooms make students feel safe and capable.

Good classrooms revitalize instruction and create a learning environment. Classroom layout improves teaching and learning, say Suleman and Hussain (2014) and Lippman (2010). Good physical infrastructure can boost the institution's performance. They added that successful instruction requires these facilities. Lyons (2001) said poor classroom facilities impair teacher and student efficiency. It impacts student performance. Halstead, 1974; Phillips, 1992; Turano, 2005; Higgins et al., 2005 discovered a relationship between classroom temperature, ventilation, and light and student performance. Their academic performance suffers. Pakistani classrooms' inadequate environment cause fatigue, frustration, and poor academic performance (Suleman & Hussain, 2014).

Classrooms and libraries encourage learning. The Oxford advanced learners' dictionary defines a library as a location to read, borrow, and study books, tapes, and newspapers. Ola (1990) suggested library enrichment promotes learning. Fowowe (1988), Ola (1990), and Farombi (1998) think a library must be contemporary and offer older materials. Many global studies

show libraries' importance to academic performance. Schools without libraries had lower academic achievement, according to Shodimu (1998) and Ogunniyi (1983). Fuller (1985) said a well-equipped library can increase student achievement. Popoola (1989) and Fuller (1985) found libraries boost academic performance. Libraries offer a plethora of information. Edem et al. (2009) reiterated that university libraries aid learning, teaching, and research. The institution collects books, papers, and modern data like digital books, e-journals, and e-theses with its support.

Brown (2017) and Edem, et al. (2009) found that library use affects student academic performance. They indicated GPA-boosting students utilise libraries more. Chan (2008) says strong library programmes improve student performance. KUMAH (2015) and LONSDALE (2003) revealed a positive, statistically significant relationship between institutional library services and student performance. Research by Hall and Kapa (2015) indicated that academic libraries and teachers working together can best serve students, professors, and university departments. Today, libraries are academic hubs.

Classrooms, libraries, and well-equipped labs are educational facilities. Labs are crucial to scientific education, according to Oguniyi (1997). He sees the lab as theory in action. It improves pupils' conceptual understanding by applying theory to practice. Agbogun (1991) says labs boost students' performance, knowledge, and ability to analyse their learning. Hoftein and Ginetta (1992) discovered that scientific labs were immediately recognised and directly affected students' attitudes and academic performance. Okafor (2000) says well-equipped labs boost academic performance. Labs boost student achievement, say Babikian (1971), Zitoon and Al-Zaubi (1986), and Odubunmi and Balogun (1991). Shortages of lab facilities also impair student performance (Ihualam, 2008; Ifeakor, 2006; Udo, 2006). Aburime (2004) found that lab facilities considerably affected student performance.

Three types of auditory-visual intuitions exist. Media are audible, visible, audio-visual, or multisensory. Institute facilities are visual or aural aids, per Nacino-Brown et al. (1982) and Casciem and Roney (1998). Teachers use audio-visual aids to explain, establish, and coordinate specific concepts and application to make learning concrete, engaging, exciting, influential, and important. Technology improved academic learning over traditional methods. Audio-visual tools enhance learning. Studies link audio-visual aids to academic success. Audio and visual aids improve student critical thinking, retention, and conception, according to Ashaver and Igyuve (2013), De Sousa et al. (2017), Shah & Khan (2015), Gilakjani (2012), Malik & Agarwal (2012), De Sousa & Van Eeden (2009), and Ekinci Morris (2012), Capper (2018), and Lam (2000) recommended using new audio-visual technologies in the classroom. Finally, they observed that teachers' audio-visual neglect affects student achievement. Teaching tools can improve learning but not students' interest in class. Pakistan is a developing nation that struggles with education technology. Prohibiting audio-visual aids has merit. Poor quality and less instructional technology in classrooms is one issue. Teachers lack audio-visual assistance expertise (Suleman et al., 2012). The infrastructure must be developed to use audio-visual aids effectively (Suleman & Hussain, 2014).

Modern first aid facilities are linked to scholastic success. Masih et al. (2014) define first aid as treatment for injuries or unexpected illnesses before clinical help. First aid reduces pain, speeds healing, and minimizes harm. Academic institutions must provide first aid for respiratory deficiency, bleeding, fainting, allergic reactions, head trauma, burns, skin infection, poisoning, vomiting, and fracture (Imran, Sultana, & Ahmed, 2023; Erkan & Goz 2006). Academic first aid includes health education, healthy settings, physical activity programmes, counselling, social support, and nutrition. Institutions' first aid facilities should promote students' physical and mental health and academic performance. Arshad, 2019; Knopf, 2016; Engelke,

2008 concluded studies on first aid facilities and academic achievement. First aid facilities increase academic achievement (Mindell & Owens, 2003; Maughan 2003; Wyman 2005; Kristjánsson et al., 2009; Kocoglu & Emiroglu 2017).

Worldwide research shows university first aid facilities have changed. Ammirati et al. (2014) and Bollig et al. (1996) discovered that European culture demands academics to research medical aid before teaching. Institutes are typically overlooked in developing countries (Al-Samghan et al., 2015). Some Asian research revealed first aid gaps, views, and behaviours in disadvantaged institutions. Poor countries' schools must provide first aid and manage health facilities to promote student performance (Bhatia et al., 2010). Transport facilities, like first aid facilities, affect life and productivity. Transport concerns are widespread and may impact students' opportunities. Policy Group (2010) reported that Welsh Local Education Authorities mandate student transport. Thus, university travel constantly impacts student achievement.

To better comprehend the relationship between university students' academic performance and transit facility shortages, many experts investigated. According to Evertson and Harris (1992), Lgihe (2011), McKinney (2000), Lin et al. (2013), Nayat (2008), Kamaruddin (2009), and Raychaudhuri (2010), learning time is crucial to academic performance. Lack of bus fare and transportation causes many students to miss first periods, evening classes and university days. Most students hate travelling to university daily, so the university should provide transport. The institution can improve student values, comfort, and qualities by offering more services. Pakistan's Higher Education Commission regulates universities. The institution. To oversee, monitor, and improve university standards across all disciplines, HEC was created in 2002. Higher education quality and research will help Pakistan's demographics.

Research Hypotheses

After detail literature review it was hypothesized that

- 1: Type of university would exhibit difference in academic achievement of university students.
- 2: There would be a significant relationship between facilities at university and academic achievement of university students.

Methodology

The study used correlational research design. The sample of the study was 152 students consisting 62 male and 90 female students from public and private sector universities located in Karachi-Pakistan. Data was collected from public and private universities. From public sector universities 72 students were selected and from public sector universities 80 students were selected through convenience sampling technique. In further stratification 110 students were from graduation level and 42 students were from master level. Age ranged of the participants was 20 years and above. Participants belonged from different socio-economic background.

This study aimed to explore the difference in students' academic achievement at university level with reference to the type of universities (public and private) and relationship between facilities at university and academic achievement of university students. Student's academic achievement at university level was measured by their self-reported current academic result. Although student's past academic grades were also considered while calculating their academic achievement. Moreover, researcher also developed a questionnaire to evaluate the following demographic aspects of students. Demographic information was collected through variables of gender, age, qualification, year/semester and residence articles etc (Khan, Hussain & Ahmad, 2023).

For data collection participants were approach through their respective academic institute. Research objectives were explained to those authorities

and all necessary measures were provided. After getting permission from authorities of these institutes, participants were approached through their class teacher. Data was collected in a group form. Initially rapport was established by introducing researcher and research objectives. Confidentiality was assured and participants were informed that their participation would be voluntarily and they can withdraw at any stage of research (Ahmed, Ahmed & Buriro, 2023). The estimated time of the administration of the measures was also told. Those participants who agreed to participate their formal written consent were also taken. Then demographic form along with questionnaire was distributed. During administration of measures if any concern was raised from the participants, it was answered in objective way. Throughout data collection and administration phase medium of instruction was kept constant. It was assured that class room in which data was collected should be free from interruption and noise. It was also assured that no presence of academic institute authority and class teacher. Participants were also informed that they can approach researcher in case of in query or feedback. At the end of data collection participants and authorities were thanked for their cooperation. All those forms which were partially filled or unfilled were discarded. Scrutiny and scoring of all filled forms were done through pre-determined method set by the researcher. Descriptive statistics and Pearson Product Movement Correlation was applied to calculate results using SPSS (latest version).

RESULT

Table 1 Demographic Information of Students' sample

Variables	Groups	Frequency	Percentage	M	SD
Gender	Male	62	40.8		
	Female	90	59.2		
University Type	Government	72	47.4		
	Private	80	52.6		

Qualification	Graduate	110	72.4		
	Masters	42	27.6		
Semester	1 st	2	1.3		
	2 nd	35	23.0		
	3 rd	53	34.9		
	4 th	19	12.5		
	5 th	15	9.9		
	6 th	18	11.8		
	7 th	6	3.9		
	8 th	4	2.6		
Overall Age				21.98	3.29
Male Age				22.13	2.45
Female Age				21.88	4.68
Current Semester Result				70.75	11.39

Descriptive Statistics of students' data

The descriptive statistics of students' data includes frequencies and percentage (Table 2). Data about public and private universities showed that 47.4% belonged to government universities and 52.46% belonged to private universities. Data about facilities available at universities showed that 59.9% comfortable desks, 44.7% writing board, 82.9% airy class room, 70.4% suitable library, 28.9% well-equipped laboratory, 69.1% social events, 32.2% audio visual aids, 42.1% first aid, 44.7% transport facilities, 62.5% sport ground 100% canteen/ cafeteria were available at universities.

Table 2: Frequencies and percentages of variables of students' data

Variable	Response options	Frequency	Percentage
University Type	Government	72	47.4
	Private	80	52.6
Facilities at University			
a) Comfortable Desks	Yes	91	59.9
	No	61	40.1
b) Green Board	Yes	68	44.7
	No	84	55.3
c) Airy Class Rooms	Yes	126	82.9
	No	26	17.1
d) Suitable Library	Yes	107	70.4
	No	45	29.6
e) Well-Equipped Laboratory	Yes	44	28.9
	No	108	71.1
f) Social Events	Yes	105	69.1
	No	47	30.9
g) Audio Visual Aids	Yes	49	32.2
	No	103	67.8
h) First Aids	Yes	64	42.1
	No	88	57.9
i) Transport Facilities	Yes	68	44.7
	No	84	55.3
j) Sport Ground	Yes	95	62.5
	No	57	37.5
k) Canteen/Cafeteria	Yes	152	100
	No	00	00

Hypothesis 1

t-test was conducted to test out hypothesis that "Type of university would exhibit difference in academic achievement of university students". t-test shows significant difference ($p < .05$) regarding type of university on variable of academic achievement in university students.

Table 3: Summary of Analysis of Variance for Type of Universities for University Students

Variable	Groups	N	M	SD	SEM	Df	T	Sig
	Government	72	67.9	6.4	.76			

	Universities	2	9						
Type of Universities						150	-	.00	
							3.92		
	Private Universities	80	72.1	6.6	.74				
		2		4					

Hypothesis 2

Pearson Product Moment Correlation was conducted to test hypothesis that “There would be a significant relationship between facilities at university and academic achievement of university students”. Pearson Product Moment Correlation shows significant relationship ($p < .05$) between variables including equipped laboratory, audio visual aids, first aid and transport facility with academic achievement of university students. However insignificant relationship ($p > .05$) was found for other variables i.e. comfortable chairs, writing board, airy class rooms, E library, social event and sports ground with academic achievement of university students.

Table 4: Descriptive Statistics of Facilities at University for University Students

Variables		<i>N</i>	<i>SD</i>	<i>M</i>
Comfortable chairs	152		.60	.492
Writing board	152		.45	.499
Airy class rooms	152		.83	.378
E-Library	152		.70	.458
Equipped laboratory	152		.29	.455
Social events	152		.69	.464
Audio visual aids	152		.32	.469
First aid	152		.42	.495
Transport facility	152		.45	.499

Sports ground	152	.63	.486
Canteen	152	1.00	.000
Academic achievement	152	70.13	6.88

**Table 5: Summary of Correlation between Facilities at Universities
and Academic Achievement of University Students**

	CC	WB	ACR	EL	ELY	SE	AVA	FA	TF	SG	CN	A.A
CC		.22	.30	.29	.43	-.08	.22	.12	.06	.08		.17
Sig.		.00	.00	.00	.00	.30	.00	.11	.44	.28		.02
N		152	152	152	152	152	152	152	152	152		152
WB			.16	.26	.21	.14	.37	.17	.14	.06		.12
Sig.			.04	.00	.00	.07	.00	.03	.06	.40		.13
N			152	152	152	152	152	152	152	152		152
ACR				.31	.25	.15	.20	.06	.12	.189		-.04
Sig.				.00	.00	.06	.01	.39	.11	.01		.55
N				152	152	152	152	152	152	152		152
EL					.28	.22	.26	.29	.41	.24		.09
Sig.					.00	.00	.00	.00	.00	.00		.25
N					152	152	152	152	152	152		152
ELY						.17	.55	.45	.30	.28		.35
Sig.						.03	.00	.00	.00	.00		.00
N						152	152	152	152	152		152
SE							.24	.31	.34	.24		.18
Sig.							.00	.00	.00	.00		.02
N							152	152	152	152		152
AVA								.58	.39	.27		.27
Sig.								.00	.00	.00		.00
N								152	152	152		152
FA									.49	.41		.32
Sig.									.00	.00		.00
N									152	152		152
TF										.47		.35
Sig.										.00		.00
N										152		152
SG												.17
Sig.												.03
N												152
CN												
Sig.												
N												

*CC (Comfortable chairs) *WB (Writing board) *ACR (Airy class rooms) *EL (E Library) *ELY (Equipped laboratory) * SC (Social events) *AVA (Audio visual aids) *FA (First aid) * TF (Transport facility) * SG (Sports ground) * CN (Canteen) * AA (Academic achievement)

DISCUSSION

Hypothesis 1:

The statistical analysis of the data demonstrates that there is significant difference regarding type of universities (public and private) on variable of academic achievement ($p < .05$). This finding is consistent with the formulated hypothesis and supports preceding studies (e.g., Narang (2012); Halai (2013); Ollin (1996); Cottrell (2003); Hawley & Rollie (2007); Johnston (2001); Swail, et al., (2004); Race (2007)); Yorke & Longden (2004); Achinewhu-Nworgu (2009); Tresman (2002); Martinez (1997, 2002).

As the result shows that there is significant difference regarding type of universities (public and private) on variable of academic achievement. Few possible reasons can be mention. First possible reason could be that there are different academic facilities which are existing in both types of universities such as academic set of courses, infrastructure, availability of audiovisual aids, institutional academic promoting policies, class room environment, proper usage of resources, use of smart technologically and good management etc. (Zahid, et al., 2000; Majid, et al., 2000; Ahmad and Anwar 2000; Mondy & Noe 2005). These factors may be differing in both types of universities. These factors are generally creating differences in teaching and learning process. Such difference might lead to difference in academic achievement of students of both public and private universities.

Second possible reason of difference in academic achievement between both types of universities may be due to difference in teaching methodologies. Researchers highlighted that trained and qualified professors, their level of knowledge, skill of shearing of knowledge, use of audio visual aids and motivational skills are factors which significantly influence academic performance (Romer 1993; Von Rhöneck, et al., 1996; Völker, 1998). Furthermore, it is also highlighted that association of teaching methods with students' needs, considered most effecting factor for academic achievement in universities (Chang, 2010). Similarly, it is also emphasized that if the teaching approach is least practical, more theoretical and memorizing; students simply obtain information and poor academic results from the

teacher without building their engagement level irrespective of university types in which they are enrolled (Boudand, 1999; Hake, 1998; Damodharanand, 1999). These factors might turn out to be one of the contributing factors showing differences in our result pattern. Third possible reason for academic difference in public or private university student's academic achievement might be institutional environment which they encounter. Among institutional environment teacher's motivational behavior is one of the influences which have potential to exhibit differences in academic achievement of the students. Researchers underlined that teacher motivational behavior is momentous towards improving educational performance and vision of the students for their academic accomplishment (Brookoverand, 1979; Walters & Soyibo, 1998; Schneider, 2002; Karemera, 2003). Another sphere in institutional environment is teacher-student positive / effective interaction and guidance services. Such support and services provided by the institute play a vital role in displaying differences in accomplishment of university student's academic achievement (Chaudhary, 2006). Beside that other environmental influences provided among public and private universities are; information about subject, counseling services for students, sports and extra co-curricular activities, access to e-libraries etc. are generally considered instrumental factors to spectacle differences for academic achievement between public and private university student.

Hypothesis2:

"There would be a significant relationship between facilities at University and academic achievement of university students".

The statistical analysis of the data demonstrates that facilities at university (i.e. equipped laboratory, audio visual aids, first aid, and transport facility) are significantly correlated with the academic achievement at university level ($p < .05$). Finding of few studies i.e. Md Noor, 2015; Manzoor, 2013; Akomolafe and Adesua, 2016; Gbollie and Keamu, 2017; Ajayi and Ayodele, 2001; Okunola, 1985; Cash, 1993; Earthman and Lemasters, 1996;

Cotton, 2001; Schneider, 2002, are consistent with the formulated hypothesis and supports preceding studies. Whereas, facilities such as comfortable chairs, writing board, airy class rooms, equipped laboratory, social event and sports ground has insignificant correlation ($p > .05$) with academic achievement of the university students. Future studies must be conducted to fill out literature gap on inconsistent pattern of result relationship between these and academic achievement of the university students.

While discussing our result pattern first possible reason could be that academic achievement is critically related to supportive learning environment. Facilities which provided by university, enhance the learning environment which generally ultimately improve academic achievement of university students. Physical facilities are germane to effective learning and academic performance of students. In support of this, Hallak (1990); Scheerens (2003) stated that these physical facilities are the main contributing factors of academic achievement in educational system. Second possible reason may be that the satisfactory learning environment where the learner achieves their academics is closely related to academic performance. Moreover, virtuous physical facilities at university improve students' satisfaction level which may ultimately effect academic achievements of the students. Students' satisfaction creates positive feelings about university program and institution which improve academic results (Sum et al., 2010; Qui et al., 2010).

Similarly different variables of university facilities like equipped laboratory are the dynamic resources which are important in achieving effectiveness in teaching learning process. Without laboratories the science education has no meaning. Ogunniyi (1982) stated that laboratories play a key role in the teaching and learning of science. At higher level this is very essential that these laboratories have to be adequate and should be in good condition. Well-equipped laboratories generally make learning process

productive. Researchers like Muratha (2013), Maphosa and Shumba (2010) also stated that physical facilities provided by the educational institutions have significant impact on students' performance. Likewise, audio visual aids now a day are also considered imperative tool in teaching learning process. They boost teaching learning process and are proved very helpful for teachers and students. Furthermore, availability transportation facilities for the students who live away from the university in the same city are needed. Each student can't afford to come to university daily from the distant location because this is the matter of money and time. Long distance travelling at every day possibly can affect the students' energy and academic performance. In addition, first aid also an important facility directly related to students' health. It is an immediate care in the absence of any health professional. Properly applied first aid can cure long term disability. Overall lacking or availability facilities at university directly or indirectly have an impact of academic achievement of the students.

Generally, most of studies highlighted relationship between physical facilities at university and academic achievement among school, college or university students. But literature is requiring on exploring relationship pattern between specific physical facilities at university (such as equipped laboratory, audio visual aids, first aid, and transport facility, comfortable chairs, writing board, airy class rooms, social event and sports ground). Future studies must be conducted to fill out literature gap on inconsistent pattern of result relationship between these and academic achievement of the university students.

Conclusion

It was concluded that there are statistically significant differences between public and private university students regarding academic achievements of the students. So, it can be concluded that public and private universities make differences in academic achievement of their university students.

This study which evaluates that public and private universities and adequacy of university's physical facilities are correlated with academic achievement be helpful to find out the role of Governing bodies, educationists, parents / guardians, students and other authorities. The findings of the study will be helpful to encourage the administration to guarantee the arrangement of facilities at university. Some variable of facilities provided by the universities were correlated with academic achievement of the students. These variables include equipped laboratory, audio visual aids, first aid, and transport. While the other facilities at universities such as comfortable chairs, writing board, airy class rooms, E library, social event and Sports ground have insignificant relationship with academic achievement of the students.

Limitations and Future Directions

Current study has some limitations, but if it can be overcome, future studies will benefit kids, educators, parents, and stakeholders. Time was the first major barrier of this investigation, preventing a high sample size. Large samples may improve generalizability. Another disadvantage is that the study only included university students, not primary, secondary, or higher secondary students. Thus, future study should include primary, secondary, and higher secondary students to present a more complete picture. Student academic achievement and other characteristics were self-reported using questionnaires. Observation and interviews should be employed to estimate research variables. This study only included Karachi university students. Thus, it is impossible to generalise about socio-economic factors and academic accomplishment in other Pakistani cities. Future researchers could expand data to urban and rural Pakistani groups to improve generalizability. In future qualitative, longitudinal, or experimental research, quantitative approach constrains results. The same issue should be studied further to address gaps in Pakistani literature.

Implications

Present research will be beneficial for the government officials, policymakers, stakeholders, educators and parents / guardians in the field of higher education i.e. university level. The findings of the study will be helpful to encourage the governing bodies and administration to guarantee the arrangement of facilities at university. The investigation in this way suggests that educational stake holders should meet up and nurture the universities' physical facilities with a) equipped laboratory b) audio visual aids c) first aid and d) transport facility. The ministry of education and educationists needs to figure a guideline policy for all universities and recommend adoption of increases in budget allocation. Government should control the enrolment and make ensure that the ratio between students' enrollment and justice in the provision of facilities should be balanced. Findings of this study will endow with a useful baseline for upcoming researchers to conduct further new multidimensional and confirmatory studies in this phenomenon.

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