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RELATIONSHIP OF MULTIPLE INTELLIGENCE WITH THE ACADEMIC ACHIEVEMENT OF STUDENTS AT UNIVERSITY LEVEL

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ABSTRACT

This Study was designed to investigate the relationship of multiple intelligence with the academic achievements among university students. The main purpose of this study was to overview the relationship of multiple intelligence with the academic achievement of students at university level. It was descriptive correlational in nature in which scientific method used to achieve the research objectives. The first objective of this study is to identify the multiple intelligence level of university students, second objective of this study is to identify the academic achievement of university students and the third objective is to investigate the relationship of multiple intelligence and academic achievements of university students. The population of the study consisted on public and private universities of Wah Cantt and Taxila. A stratified random sampling of the student data from private and public universities was used in this investigation. The study was delimited to Bachelor level students only. The "Simple Multiple Intelligence Inventory" created by Gardner, which included 8 sub-scales, was utilized in this study to measure multiple intelligence. The student academic achievements were measured through their results of Bachelors performance. After data collection it was analyzed with the help of SPSS software by applying various statistical tests

such as, Mean, SD and Pearson Correlation. The nature of this study was quantitative and correlational. In this study, data from the students gathered using a questionnaire that is based on an evaluation of Gardner theory of Multiple Intelligence.The institution's examination records was used to compile the student's achievement data.

KEYWORDS: multiple intelligence; academic achievements; university students

INTRODUCTION

Due to their psychological capabilities, students react to changes in the environment in a distinctive way, which allows them to form distinctive impressions of their knowledge and abilities. If we believe that all students join educational institutions with comparable academic and data handling skills, we will be perplexed because it is common for no two students to have the same organic, social, and personal foundations. In the second part of the 20th century, the idea of personal contrasts really took off, attracting qualities and contrasts that ordinary people were curious about forever(Akbari & Hosseini, 2008).

This caught the attention of educators and resulted in a renewed perspective on their teaching strategies. After this shift in perspective, the divisive subject of what makes one person different from another has gained prominence in academic and learning circles. There are many ways to compare people, and these comparisons can also rank each person according to the very important knowledge categories that they possess.(Yenice & Aktamis, 2010).

The eight main categories of intelligence or learning styles identified by Gardener are logical-mathematical intelligence, visual-spatial intelligence, musical-rythmic intelligence, bodily-kinesthetic intelligence, intrapersonal intelligence ,interpersonal intelligence, naturalistic intelligence, and verbal-linguistic intelligence.Visual knowledge regulates pupils' capacity to learn by imagining and arranging things spatially. Visual knowledge controls students' capacity to learn most effectively by imagining and organizing things spatially. Students like to create diagrams, charts, maps, tables, representations, and handicraft.

Verbal phonetic knowledge controls a student's advantage in language, including interest in speaking, writing, reading, and listening. Strong verbal-phonetic comprehension allows for the usage of words in writing and speaking by students. These students usually show excellent writing, recall, and reading abilities. The ability of students to demonstrate a propensity for numbers, reasoning, and critical thinking is managed by numerical or consistent insight. Students with strong consistent numerical knowledge also excel in thinking, detecting patterns, and logically understanding and deconstructing problems. These folks enjoy thinking about statistics, connections, and illustrations (Gardner, 2006).

Existentialist understanding explains the student's interest in philosophical and paranormal parts of life, where they learn about "What is the reason for people?" What part do we play in the world? Once a student's knowledge has been determined, teachers can successfully instruct various students in accordance with their individual learning preferences. Knowledge also has a significant role in academic success. No one but Knowledge can vouch for academic success, and focusing on one's ability is equally important for achieving passing grades in academics.

Aspects of musical intelligence include man's remarkable ear for music and his capacity to compose and share music. The capacity to comprehend, value, and successfully identify with people is known as interpersonal intelligence. Intrapersonal intelligences, or the ability to recognize and evaluate one's own special skills. A person with naturalistic intelligence is knowledgeable and interested in the natural world. Existentialist intelligence is the capacity to be sensitive to, or to be capable of managing, more issues concerning human presence, such as the meaning of life, the reasons behind our beliefs, why we die, and what is awareness. (Arif,2003)

PROBLEM STATEMENT OF THE STUDY

This problem statement was seek to understand the relationship between the multiple intelligence with students' academic learning and achievement. It was focus specifically on university level, where students are in the stages of their educational journey. By examining

student intelligence, the statement aims to determine how certain multiple intelligence can relate with students' academic learning and achievements positively or negatively.

OBJECTIVES OF THE STUDY

This research has following objectives.

- To identify the multiple intelligence of university students.
- To identify the academic achievement of university students.
- To investigate the relationship of multiple Intelligence and academic achievements of university students.

HYPOTHESES OF THE STUDY

The hypotheses of the study were:

- H1. Academic success at the university level and multiple intelligences are positively correlated.
- H2. Comparatively, students from private institutions have better study habits than those from public universities.
- H3. When compared to students in public universities, students in private universities perform better academically.

SIGNIFICANCE OF THE STUDY

Because it relates to a contemporary learning approach, this study was beneficial to policy makers, administrators, heads, teachers, parents, and students. The study will allow students, teachers, university administration, and parents of the students to identify the factors that contribute to academic performance. Teachers and parents will benefit from the study's explanation of the different types and aspects of intelligence. Students who are aware of their personality's weak points might focus their efforts there, improving their academic performance

MATERIALS AND METHODS

In order to achieve the study goals, the population was made up of all undergraduate students enrolled in tehsil Taxila's private and public universities.

RESEARCH DESIGN

The nature of this investigation is quantitative and correlational. In this study, data from the students were gathered through questionnaire, and data on the students' academic achievement were gathered from the institution's records.

SAMPLING TECHNIQUES

The 250 university students was selected from public and private universities as the sample of this study through stratified random sampling technique. Data was collected through questionnaire from selected universities including.

- University Of Wah, Wah Cantt
- University of Engineering and Technology (UET) Taxila

RESEARCH INSTRUMENTS AND TOOLS

The Gardner Simple Multiple Intelligence Inventory, which has eight subscales, was used as the research instrument in this study to measure multiple intelligences. The semester grade was used to calculate the student's achievement score for academic purposes.

PILOT TESTING

The student's survey asked about "Gardner's Multiple Intelligences," which were to be measured. Eight subscales were added to the questionnaire. The statistical package for the social sciences (SPSS) software was used to code and input the data. A pilot test of the student survey was conducted in order to use it in the current study.

DATA ANALYSIS

By using Pearson correlation approaches, data was evaluated. The mean and standard deviation will be determined. Because there are more than 30 samples, an impartial sampling

the z-test will be used to see whether there are any notable differences in cognitive style and student achievement between genders or subject areas. Academic success was considered a dependent variable, with the eight different intelligence acting as independent factors.

RESULTS

After completing data collection, the whole data was transferred to the computer and with the help of SPSS data was analyzed with suitable statistical techniques such as alpha reliability coefficient, coefficients of correlation, percentages, mean, S.D, Chi square test, Descriptive statistics. Cronbach's Alpha Coefficients of Multiple Intelligence was yielded an internal consistency coefficient of .997 for entire 8 items. Cronbach's Alpha Coefficients of Academic Achievement was yielded an internal consistency coefficient of .814 for 3 semesters

Table 1: Inter-Scales Correlation of Multiple Intelligence, with Academic Achievement

Subscales	**Verbal**	**Logical**	**Visual**	**Bodily**	**Musical**	**Inter**	**Intra**	**Natural**
Linguistic								
Logical	.30							
Visual	.39	.45						
Bodily	.38	.48	.41					
Musical	.30	.37	.27	.30				

Inter. Pers	.45	.38	.39	.32	.32		
Intra. Pers	.26	.29	.34	.30	.22	.29	
Natural	.23	.24	.29	.35	.24	.25	.26
Academic Achievement	.61	.72	.25	.20	.25	.35	.22

Table 1 indicates the results of inter relation of multiple intelligence of the students with the academic achievement. From this table it can be seen that academic achievement has high correlation with Logical .72, Linguistic .61, Interpersonal .46, intrapersonal .30, Spatial .25, Bodily .20, Natural .22, Musical .25. On the basis of the inter correlations it can say that there is a positive relationship between multiple intelligence, study skills and academic achievement.

Table 2: Comparison of Public and Private Sector Universities on Multiple Intelligence Subscales

Sub Scales	**Public**		**Private**	
	M	**SD**	**M**	**SD**
Linguistic	23.41	3.81	22.96	3.64
Logical	27.55	4.25	28.65	3.87

Spatial	27.14	4.22	28.33	4.20
Bodily	32.38	4.57	32.21	4.61
Musical	19.72	5.28	19.62	4.82
Interpersonal	27.04	4.61	26.84	5.18
Intrapersonal	26.87	3.87	26.42	3.29
Natural	19.68	3.17	19. 31	3.05
Total	203.79	33.78	204.34	32.66

Table 2 indicates the result of comparison of the public and private sector universities with subscales of the multiple intelligence and in academic achievement. This result confirms that students from private sector university scores higher as compared to the public sector universities (Public M=203.79, Private M=204.34).

Table 3: Gender Wise Comparison on Multiple Intelligence Inventory

Dimension Variables	**Male**		**Female**	
	M	**SD**	**M**	**SD**
Linguistic	23.18	3.83	23.27	3.69

Logical	28.25	3.99	27.79	4.23
Spatial	27.13	4.23	27.95	4.24
Bodily	32.08	4.80	31.77	4.34
Musical	19.97	4.88	19.47	5.25
Interpersonal	28.01	5.19	26.61	4.42
Intrapersonal	26.72	4.15	26.68	3.26
Natural	19.43	3.25	19.01	3.03
Total	205.77	34.32	202.75	32.46

Table 3 shows the gender wise comparison of students' scores on multiple intelligence inventory or in academic achievement. However, the male university students show higher scores as compared to the female university students (Male M=205.77, Female M=202.75).

Table 4: Department Wise Comparison on Multiple Intelligence Inventory

Dimension Variables	**Social Sciences**		**Engineering**		**Management Sciences**	
	M	**SD**	**M**	**SD**	**M**	**SD**
Linguistic	23.27	3.20	23.02	4.01	23.33	4.06

Logical	27.92	4.31	27.35	4.16	28.45	3.92
Spatial	26.76	4.24	28.08	4.25	28.13	4.16
Bodily	31.58	4.65	32.52	4.37	32.90	4.59
Musical	19.29	5.11	20.52	4.64	19.50	5.34
Interpersonal	26.11	4.34	27.24	5.24	27.59	4.93
Intrapersonal	25.86	4.02	28.32	2.85	28.45	3.43
Natural	19.24	3.09	19.73	3.07	19.70	3.19
Total	200.03	32.96	206.78	32.59	206.05	33.62

Table 4 shows the department wise comparison of students' scores on multiple intelligence inventory. It can be seen from the table that there is a negligible difference between the scores of the students on multiple intelligence inventory. However, the students of Engineering(M=206.78) show higher scores as compared to the students of Social Sciences (M=200.03) and Management Sciences (M=206.05).

DISCUSSIONS

This Study was designed to investigate the relationship of multiple intelligence with the academic achievements among university students. The main purpose of this study was to overview the relationship of multiple intelligence with the academic achievement of students at university level. It was descriptive correlational in nature in which scientific method used to achieve the research objectives. The first objective of this study is to identify the multiple intelligence level of university students, second objective of this study is to identify the academic achievement of university students and the third objective is to investigate the

relationship of multiple intelligence and academic achievements of university students. The population of the study consisted on public and private universities of Wah Cantt and Taxila. A stratified random sampling of the student data from private and public universities was used in this investigation. The study was delimited to Bachelor level students only. The "Simple Multiple Intelligence Inventory" created by Gardner, which included 8 sub-scales, was utilized in this study to measure multiple intelligence. The student academic achievements were measured through their results of Bachelors performance. After data collection it was analyzed with the help of SPSS software by applying various statistical tests such as, Mean, SD and Pearson Correlation. The nature of this study was quantitative and correlational. In this study, data from the students gathered using a questionnaire that is based on an evaluation of Gardner theory of Multiple Intelligence. The institution's examination records were used to compile the student's achievement data. Data was analyzed by using SPSS 16 and different statistics tests like Mean, S.D, and percentage analysis, chi square test and Pearson Correlation was used to analyze the data. The result of the study revealed that there was positive relationship between multiple intelligence with academic achievement. The impact of different demographic variables was measured. It was found that almost all the demographic variables effect on the multiple intelligence and academic achievement.

CONCLUSIONS

In the light of the analysis and interpretation of data, it reveals that the multiple intelligence, and academic achievement are interrelated constructs in the teaching learning environment. Based on the findings of the study following conclusions were drawn:

1. Multiple intelligence and academic achievement are significantly positively correlated with each other.

2. The verbal / linguistic abilities and visual /spatial intelligence of the students of Management Sciences were higher as compared to students of humanities and social sciences.

3. The interpersonal intelligence skills of students of management sciences were more developed as compared to students of engineering and social sciences.

4. The logical-mathematical abilities of the students of management sciences were higher as compared to students of social sciences and engineering faculties.

5. The verbal/linguistic abilities of the female university students were more developed as compared to male university students.

6. The logical–mathematical abilities of male university students were more developed as compared to female university students.

7. There was a negligible difference between the multiple intelligence of public and private sector universities' students. The students of private sector university possessed higher multiple intelligence than the students of public sector universities. There was a significant difference between the students of public and private sector universities on the basis of scores of academics.

8.The students of private sector universities scored higher in academics as compared to public sector universities

9. The students of humanities and management sciences had higher score on the multiple intelligence inventory than the students of social sciences. While on study skills students of management sciences scored higher than students of other departments.

10. Male students had higher score on multiple intelligence while female students had higher score in academic achievement.

RECOMMENDATIONS

1. Efficient study habits can increase students' academic achievements, teaching studying skills increases academic achievements of students. So public sector universities may adopt such strategies and measures through which study habits of students can be flourished.

2. Selection of curriculum can play an important role for development of efficient studying skills which enables students to organize the study environment and to use some specific methods effectively such as efficient reading, listening lectures, note-taking, efficient writing and doing homework.

3. The male students may work hard to increase their academic achievement and pay more attention towards their studies, if they need extra help, they may not feel any hesitation to discuss their problems with their teachers.

4. Teachers can use specific strategies that can enhance the linguistic, logical, spatial, bodily-kinesthetic, musical, intrapersonal, interpersonal and naturalist abilities of students, especially more attention may be given to the students of social sciences. Teacher may communicate the importance of study skills of the learner and try to teach them various strategies through which students can enhance their study skills which consequently affect the goal that is academic achievement of the learner, especially the students of social sciences and humanities.

5. Awareness programs through workshops and counseling and guidance may be conducted for students to make them aware about their intelligence and study skills for their success in academic social and professional life.

6. Individual differences and variations are there in the students so teachers may respect and consider these differences and should try to adopt the teaching strategies accordingly.

7. University management can provide creative competitive environment to the learner so learner can develop their intelligence and exhibit serious attitudes towards studies. Students may also be taught the importance of proactive behaviour, so they may face the challenges of life effectively and successfully.

8. Home environment, parental care and support can play an important role in improving the academic achievement of the learners through polishing intelligence and study habits. It is recommended in university there may be a system of awareness for the parents and caretakers

through which parents can be informed about the ways to develop knowledge and skills their offspring.

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