Relationship of Examination Preparation Styles and Academic Achievement of Students from Different Faculties at University Level

* Sadia Mushtaq, Assistant Professor

** Dr. Muhammad Zafar Iqbal, Co-Ordinator

*** Dr. Erum Aslam Khan, Assistant Professor (Corresponding Author)
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Abstract

Students have individual differences with different sets of behaviors, learning styles and attitudes towards learning. This research study dealt to investigate the relationship between students' exam preparation styles and their academic achievement of different faculties. The participants of the study were the 1324 who were enrolled in different seven universities of Punjab, Pakistan. The study was descriptive in nature and utilized a quantitative-descriptive correlational research design. To achieve the objective of study a survey questionnaire was used based on the examination preparation styles. Data were organized and analyzed through mean, standard deviation, correlation, t- test and regression coefficient. The results of correlation showed a relationship between students' examination preparation styles and their achievement. T-test results indicate a significant difference among the students' exam preparation styles in the three faculties. Based on the results, this study concluded that exam preparation styles can affect the students' performance. It is recommended that the faculty members should focus on their teaching methods which guide the students for the adaptations of their learning methods. With the help of these study findings, faculty members will be able to apply the appropriate teaching strategies according to the different faculties-based requirements.

Keywords: Examination Preparation Style, Academic Achievement, Different Faculties, University level

Introduction

Teacher and students recognize that each person valued their own preferred examination preparation styles. Many educationalists are in favor of learning styles and others are in against (Kirchner, 2017). Students study methods are defined as attitudes and behaviors those help them in the learning situation (Cassidy, 2004). Generally, learning strategies are the patterns that people adopt to learn. Every person used mix learning strategies but some have their own learning style. It is also observed that students used different exam preparation styles according to the needs of the content and situation. Suitable and appropriate study strategies can reduce the risk of failure and lead towards success (Hall & Mosely, 2005).

There are many examinations preparation styles e.g., Kolb's Experiential Learning Model, Fleming's VARK model, Entwistle's model and examination preparation styles questionnaire developed by Williams, Rudyk and Staley (Cassidy, 2004). These learning styles inventories and questionnaires assess four different domains that active students prefer to work in groups and want to play with their content and task. Some students prefer to walk alone and their task shows their reflective thinking style techniques. Concrete facts are liked by the sensing students while intuitive students liked the memorization of concepts and abstract material (Felder& Spurlin, 2005). Students also like the visual material (e.g., figure, graph and chart etc.) others prefer the written or verbal explanations (Grzybowski & Demel, 2015). These dimensions of learning deal according to the needs of content and requirements of any project. So, to fulfill the needs of students for the academic and professional achievement, it is necessary for teachers to consider the intentions and attitudes of students about exam preparation (Daud et al., 2014).

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* Government Degree College (W), Shah Rukn e Alam, Multan Email: sadia.mushtaq15@gmail.com

** Admin Branch; Board of Intermediate & Secondary Education, Multan Email: m.zafariub@gmail.com

***Department of Education, Bahauddin Zakariya University, Multan, Pakistan
Email: erumkhan63@hotmail.com

To improve the efficacy of students, instructor should focus the students' examination preparation styles (Khalid et al., 2015). Effective teaching is that in which teachers used mix learning methods to teach (Dobson, 2009). It is observed that when teachers used learners preferred study style then students learn more effectively and teacher student bound become strong. For the growth and development, it is very important to focus on the exam preparation styles of students, those are influenced by the curriculum design, its application and amendments (Vermunt & Donche 2017). In addition, reflective practices of organizations improve the educational standards of their students. Teunissen and Bok (2013) argued that the purpose of the organizations is to achieve lifelong achievements. Klein et al., (2017) stated that development of students is the main aim of any institution. If the institutions create competitive environment instead of productivity, then it will lose the learning of students. Tabernero and Wood (1999) suggested that student's development is not only based on the learning environment but also need to clearly inform all the pattern about learning (MacNeil et al., 2009). Every institution has its own culture values assumptions and beliefs to which are exposed by what is done, how it is perform and who one performs it (Bridges, 2003).

The research study (Abouzeid, 2021) results revealed insignificant between exam preparation styles and achievement. Different disciplines affect the students' achievement level. Smyth et al.., (2015) found a relationship between discipline, exam preparation methods and students' achievement. He also found the variations in different disciplines in responses to examination preparation styles and outcomes of students. The purpose of the current study was to investigate to find out the relationship between the difference of faculties' students exam preparation styles and their achievement.

The present study

Student academic outcomes are the eminent parameters which are used for the estimation of their future academic status (Dryer et al., 2016). Students' academic achievement is affected by their exam preparation styles (Ozyurt et al., 2015) and these styles are based on these students' intellectual, emotional and physiological traits that explain, how the students perceive and response in any educational situation (Zamani & Kaboodi, 2017). Educational environment (teaching and learning process) in any institution affects the students learning style (Ahmadi & Allami, 2014). Each student has individual differences and also has its own study style and exam preparation style (Stirling & Alquraini, 2017). There are many methods to measure the exam preparation style of students. Many research studies investigating the relationship of different students' exam preparation styles and their academic achievement of different disciplines (Farajollahi et al., 2013). Some of the studies found relationship (Li, 2014) while others reported insignificant relationship (Liew et al., 2015). The present study was conducted to investigate the relationship of exam preparation strategies and academic achievement in students of different faculties.

Research Questions

The main objective of the study was to investigate the faculty-based differences of exam preparation styles. The following questions addressed the research questions:

1.   What are the students' examination preparation styles at university level?
2.   Is there any faculty-based difference of students' examination preparation styles?
3.   To identify the relationship between students' examination preparation styles and academic achievement.

Research Methodology

To answer the research questions of this study, survey method was applied. Li et al., (2021) viewed that the most common and easily applicable for all the target population is survey method. The population of study was the twenty-five general public sector universities of Punjab province and the simple random sampling technique was used for selection the sample. Thomas, (2020) stated that each individual of the population has equal chances to be selected. First of all, sample of universities were randomly selected then three faculties were selected faculty of social sciences (FSS), faculty of natural sciences (FNS) faculty of languages (FL). Sample of Students (1324) from these faculties were also selected by simple random sampling technique.

After reviewing the literature, a questionnaire was adapted regarding the examination preparation styles developed by Williams et al., (2004). The questionnaire was consisting of two parts. The first part was about participants' demographic factors (semester year, sex, discipline and CGPA). The second part consisted eight different factors that related to participants' examination

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preparation styles. A 5-point Likert scale questionnaire consist of 50-items was used. According to the guideline and expert opinion the questionnaire was validated and improved.

Data Analysis and Results

The data was analyzed by applying the descriptive (Mean, SD) and the inferential (t-test, regression) statistics. Data were coded and analyzed by using the SPSS (version 23). The reliability of the questionnaire was tested by calculating Cronbach's alpha coefficient. The mean scores and standard deviation of each gender were calculated and are presented as an under table1.

Table 1

Dimensions of different the faculties (N = 1324)

Faculties	N	Mean	Standard dev
FSS	673	3.71	0.48
FNS	483	3.61	.440
FL	168	3.66	.433
Total	1324	3.67	.464

NOTE: FSS (Faculty of Social Sciences), FNS (Faculty of Natural Sciences),
FL (Faculty of Languages)

Table1 shows the descriptive values of mean and standard deviation. The highest mean value was 3.71 from the faculty of social sciences (N=673). The lowest number of students was 168 and mean value was 3.66 of faculty of languages. The mean score of social sciences students is greater than the mean score of natural sciences students which indicate that social sciences students are used more apprehensive strategies for their exam preparation methods.

Table 2

Comparison of Students' Environmentally Interactive Strategies in Different Faculties

	Sum of squares	df	Mean square	F	Sig
Between groups	9.314	2	4.65	10.64	0.00
Within groups	578.08	1321	0.44		
Total	587.39	1323			

Table 2 shows the values of comparison between three faculties of students' exam preparation strategies (environmentally interactive strategies). The results revealed that three faculties are significantly different as (F =10.64, p< 0.00) environmentally interactive strategies of students. It shows that all the students from three faculties of social sciences, natural, science and languages have the different styles of preparation of exam through the interactive environmental strategies.

Table 3

Comparison of Different Faculties Students' Strategies of Environmentally Reflective

	Sum of squares	df	Mean Square	F	Sig
Between groups	0.46	2	0.23	0.63	0.53
Within groups	489.55	1321	0.37		
Total	490.02	1323			

Table 3 shows the values of comparison between three faculties of students' examination preparation styles of environmentally reflective strategies. The results revealed that different faculties are insignificantly different as F=0.63, p<0.53 the students' environmentally- reflective-strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have same adaptation of environmentally- reflective-strategies.

Table 4

Comparison of Different Faculties Students' Factual-Practical-Strategies

	Sum of squares	df	Mean square	F	Sig
Between groups	9.26	2	4.63	10.58	0.00
Within groups	577.64	1321	0.44		
Total	586.90	1323			

Table 4 shows the values of comparison between three faculties of students' factual-practical-strategies. The results revealed that different faculties are significantly different as F =10.58, p< 0.000 factual-practical-strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have strong variance of factual practical strategies of examination preparation styles.

Table 5
Comparison of Different Faculties Students' Strategies of Abstract theoretical

	Sum of squares	df	Mean square	F	Sig
Between groups	4.92	2	2.459	5.72	.003
Within groups	568.16	1321	.430		
Total	573.08	1323			

Table 5 shows the values of comparison between three faculties of students' examination preparation styles of abstract theoretical strategies. The results revealed that different faculties are significantly different as (F =5.72, p< 0.003) the students' abstract-theoretical-strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have strong variance of abstract theoretical strategies of examination preparation styles.

Table 6
Comparison of Different Faculties Students' Strategies of Organized-planful

	Sum of squares	df	Mean square	F	Sig
Between groups	1.69	2	0.85	2.08	0.13
Within groups	536.32	1321	0.42		
Total	538.00	1323			

Table 6 shows the values of comparison between three faculties of students organized-planful strategies. The results revealed that different faculties are significantly different as (F =2.08, p<.13) the organized-planful strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have no variance of organized-planful strategies of exam preparation styles.

Table 7
Comparison of Students' Personally-valued Strategies in Different Faculties

	Sum of squares	df	Mean square	F	Sig
Between groups	0.84	2	0.421	1.05	0.35
Within groups	529.89	1321	0.400		
Total	530.74	1323			

Table 7 shows the values of comparison between three faculties of students' examination preparation styles of personally-valued strategies. The results revealed that different faculties are significantly different as F =1.05, p< 0.35) the students' personally-valued strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have no variance of personally-valued strategies of examination preparation styles.

Table 8
Comparison of Different Faculties Students' Strategies of Analytical-Logical

	Sum of squares	df	Mean square	F	Sig
Between groups	3.57	2	1.78	3.24	0.04
Within groups	729.49	1321	0.55		
Total	733.07	1323			

Table 8 shows the values of comparison between three faculties of students' Analytical-Logical-strategies. The results revealed that different faculties are significantly different as (F =3.24, p< .04) the students' Analytical-Logical strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have low variance of Analytical-Logical-strategies of examination preparation styles.

Table 9
Comparison of Different Faculties students' Strategies of open-ended Spontaneous

	Sum of squares	df	Mean square	F	Sig
Between groups	19.65	2	9.83	12.32	0.00
Within groups	1054.38	1321	0.79		
Total	1074.04	1323			

Table 9 shows the values of comparison between three faculties of students' examination preparation styles of open-ended spontaneous strategies. The results revealed that different faculties are significantly different as (F=12.32, p< 0.00) the students' open-ended spontaneous-strategies. It shows that all the students from three faculties of social sciences, natural, science and languages have variance of open-ended spontaneous strategies.

Table 10
Correlation of students' CGPA and their strategies of Exam Preparation

Variables	Mean	SD	Correlation	P value
V1	20.28	3.99	0.03	0.12
V2	30.43	4.86	0.14	0.00
V3	25.61	4.66	0.04	0.11
V4	18.88	3.29	0.06	0.01
V5	26.31	4.46	0.05	0.02
V6	29.37	5.06	0.04	0.05
V7	19.16	3.72	0.07	0.00
V8	13.53	3.60	-0.11	0.00

Note: V= variable, Environmentally-Interactive strategies = 1, Environmentally-Reflective strategies = 2, Factual-Practical strategies =3, Abstract- Theoretical strategies =4, Organized-Planful strategies =5, Personality-Valued strategies = 6, Analytical-Logical strategies = 7, Open-Ended Spontaneous strategies =8

Table 10 shows a correlation among students' examination preparation style and their achievement (CGPA). The variables of environmentally-reflective strategies, Abstract-theoretical strategies, Organized-planful strategies, Personally-valued strategies, Analytical-Logical strategies and Open-ended spontaneous strategies show significant relationship between CGPA. However, in case of environmentally interactive strategies, Factual practical strategies and CGPA was insignificant correlation p-value > .05 which indicates that these preparation styles have no relationship with students' CGPA.

Table 11

Effects of Exam Preparation Strategies of Social Sciences Students on their Achievement of (N = 673)

Variables	B	SE	Beta	T	Sig
Constant	3.13	0.127		24.619	.00
V1	-0.00	0.01	-0.01	-0.17	0.86
V2	0.01	0.00	0.12	2.17	0.03
V3	0.00	0.01	-0.00	-0.05	0.95
V4	0.00	0.01	0.02	0.46	0.64
V5	-0.00	0.01	-0.04	-0.82	0.42
V6	-0.00	0.00	-0.01	-0.147	0.88
V7	0.01	0.01	0.05	1.12	0.26
V8	-0.01	0.01	-0.11	-2.45	0.01

Table 11 shows the regression coefficient which was used to find out the relationship between student's examination preparation styles and their achievement (CGPA) of social sciences students. For this model, only two variables (Environmentally reflective strategies t=-2.17, p<.03 and Open- ended spontaneous strategies t = -2.45, p<0.01) were significant predictors. The remaining variables of exam preparation styles were (Environmentally-interactive strategies 0.86, Factual-practical strategies, 0.95, Abstract-theoretical strategies 0.64, Organized-planful strategies 0.42, Personality valued strategies 0.88, Analytical-Logical strategies 0.26) negatively correlated.

Table 12

Effects of Exam Preparation Strategies of Natural Sciences Students on their Achievement (N = 483)

Variables	B	SE	Beta	T	Sig
Constant	2.983	.148		20.15	0.00
V1	-0.00	0.01	-0.02	-0.28	0.77
V2	0.01	0.02	0.14	2.45	0.02
V3	-0.00	0.02	-0.02	-0.60	0.55
V4	0.01	0.01	0.06	1.03	0.30
V5	0.00	0.02	0.04	0.63	0.53
V6	-5.32	0.01	-0.00	-0.01	0.99
V7	0.01	0.03	0.08	1.51	0.13
V8	-0.02	0.01	-0.15	-3.22	0.00

Table 12 shows the regression coefficient which was used to find out the relationship between student's examination preparation styles and their achievement (CGPA) of natural sciences students. For this model, the only two variables (environmentally reflective strategies t=-2.45, p< 0.02 and Open- ended spontaneous strategies t = -3.22, p<0.00) were significant predictors. The remaining variables of examination preparation styles were (environmentally-interactive strategies 0.77, Factual-practical strategies, 0.55, Abstract-theoretical strategies 0.30, Organized-planful

strategies 0.53, Personality-valued strategies 0.99, Analytical-Logical strategies 0.13) negatively correlated.

Table 13

Effects of Exam Preparation Strategies of Language Faculties Students on their Achievement of (N = 168)

Variables	B	SE	Beta	T	Sig
Constant	2.926	0.29		10.05	0.000
V1	0.01	0.01	0.14	1.56	0.12
V2	0.02	0.01	0.24	2.46	0.02
V3	-0.02	0.01	-0.16	-1.72	0.08
V4	-0.01	0.02	-0.04	-0.35	0.73
V5	0.01	0.01	0.05	0.52	0.60
V6	0.00	0.01	0.05	0.50	0.62
V7	-0.01	0.01	-0.07	-0.77	0.44
V8	-0.02	0.01	-0.15	-1.82	0.07

Table 13 shows the regression coefficient which was used to find out the relationship between student's examination preparation styles and their achievement (CGPA) of language students. For this model, the only one variable (environmentally reflective strategies t= 2.46, p<0.02) was significant predictor. The remaining seven variables (environmentally-interactive strategies 0.12, Factual-practical strategies, 0.08, Abstract-theoretical strategies 0.73, Organized-planful strategies 0.60, Personality-valued strategies 0.62, Analytical-Logical strategies 0.44, Open- ended spontaneous strategies 0.07) were negatively correlated.

Discussion

The main purpose of the study was to find out the difference among different faculties' students exam preparation styles and their academic achievements. It is concluded that different faculties have affect differently on the students' exam preparation styles and their CGPA (achievement). Cheng et al., (2015) stated some teaching implication specifically for the improvement of assessment process. He viewed that if the learning objectives are correlated with assessment task, then students learn more and improve their examination preparation style. Symth et al., (2017) stated that students learn more and adopt deep study methods if there is harmony among their discipline and learning style. Platow et al., (2013) stated that there are many factors affecting the academic achievement of students one of them is their study strategies which are used to achieve the targets.

Symth et al., found the difference between different students of different disciplines he stated that students of hard pure disciplines (Physics, Chemistry) adopt surface-oriented approaches of exam preparation and soft pure disciplines (History, English) students adopt deep study approaches. Moreover, he concluded that without discrimination of any disciplines, the deep study approaches for exam preparation are more productive than surface learning approaches. Kember, Hong, Yau and Ho (2014) stated that the government sector universities have selected mechanism e.g., teacher content approaches are used, students cramming the material and traditional assessment process is used that are the most affected factor on the academic achievement of students. This study result shows a difference between different departments such as Social Sciences and natural Sciences. It is concluded a significant difference among social sciences and language departments and insignificant difference between natural sciences and languages department.

Mozaffariet al., (2020) investigated the relationship between learning styles and the academic achievement of dental students. The results revealed that all the students weak and strong adopt reading and writing style. Aural and kinesthetic study styles was commonly used by the mostly students (Husmann & O'Loughlin,2019; Aldosari, 2018). The research study results show that students used various study methods and their methods are linked with their discipline and content of subject. The study results (Carter, 2021) revealed that institutions have effect on the student's achievement if students have perceived their institutions environment pleasant then the students achieve high marks otherwise vice-versa (Nisar et al., 2017).

Recommendations

On the basis of study findings, it is recommended that examination preparation styles given the consideration for the development of students' achievement at university level. The faculty members should focus on their teaching methods which guide the students for the adaptations of their learning

methods. With the help of these study findings, faculty members will be able to apply the appropriate teaching strategies according to the different faculties-based requirements. This study offers further opportunities for research to identify and relate the methods of faculty members for the development of students.

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