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STUDENTS' PREFERRED LEARNING STYLES & ACADEMIC PERFORMANCE

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***ABSTRACT*:** *It is imperative to remember that each individual is a unique learner. Scholars have identified that some learners lean toward specific techniques/strategies for learning. These techniques, referred as learning styles or learning preferences. This study elaborates the preferred learning styles of business management students and its impact over academic performance in different universities of Pakistan. To conduct this empirical study Felder's Index of Learning Styles is used to identify four learning styles: Active/Reflective, Sensing/Intuiting, Visual/Verbal and Sequential/Global. The data is collected from the five universities of public and private sector of different cities. The results are drawn from a sample of 343 business students. Spearman Rho Correlation is used to test the correlation and Kruskal-Wallis test is applied to evaluate whether there is any significant relationship between different learning styles on the basis of academic performance. The findings of the study show that predominant profile of respondents consists of following preferred learning styles: active, reflective, sensory and intuitive. It also suggests that the academic performance of business students does not effect by any specific learning style. Limitations, future dimensions and recommendation on the basis of results have been discussed at the end.*

Key Words: Learning style, Academic performance, Active/Reflective, Sensing/Intuiting, Visual/Verbal, Sequential/Global.

INTRODUCTION

Individual have their own unique learning methods. e.g. some like to process information in visual way (e.g., pictures, diagrams, graphs), while some prefer verbal way (reading or listening) etc. These methods are known as preferred learning styles. Researcher are trying to determine the preferences of methods for acquisition of knowledge for many decades [1-3], because idea of alignment between individual's preferred style and presentation of the learning materials is very appealing from practitioner's point of view. The compatibility between preference and format promises to enhance learning performance [4-7].

Past research in this domain is broadly categorized in two major groups regarding the focus of inquiry by researchers. First who try to validate and test the learning style inventories [8-10] and second who investigate the application and results of learning styles in student academic career [11-13]. However, there is dearth of empirical investigations to support this idea of preferred learning style and its impact on performance. Like it is sensible to let learner choose themselves in which modality and format the information material will be offered. A specific learning method might be more attractive than others. The question arises do learners with a preference for specific learning style will perform better in academic achievements. More broadly, to what extent can preferred learning styles predict academic performance?

Researchers investigate preferred learning styles in different fields including medical, finance, engineering etc. According to our best knowledge, no prior study investigates the preferred learning style of business students and its impact on their academic performance. Until unless the learning style of the students are not clear to the teachers they may do their best but the students will not be able to perform not only at academic level but also in the organizations at their best capacity. It is very necessary to understand and discuss this phenomenon so that the teachers could prepare their teaching strategies accordingly. A study conducted in Taiwan [14] to identify the learning styles of MBA students which significantly opposed the purposed styles by Kolb [15] for business management.

In the last decade the popularity of BBA and MBA degree has been raised not only among Pakistani professionals but also at international level the significance of BBA and MBA is increased. Students are being attracted towards universities to earn their business degree. As education sector is being considered a very high profit making business, many investors have started investing in these sectors to earn high rate of profits ignoring the standard of study. Although HEC is supervising the Pakistani universities but the learning styles of the students are not being preferred.

There is no study in Pakistani context to find out the learning styles of Pakistani business students. Until unless the learning style of the students will not be clear to the teachers they may do their best but the students will not be able to perform not only at academic level but also in the organizations at their best capacity. It is very necessary to understand and discuss their learning styles so that the teachers could prepare their teaching strategies accordingly. The results of the study show that predominant profile of respondents consists of following preferred learning styles: active, reflective, sensory and intuitive. It also suggests that the academic performance of business students does not effect by any specific learning style. The study findings will provide the basis for the enhancement of learning and to develop the programs for curriculum development, student development and faculty development.

Learning Styles and Academic Performance

The term ''learning styles'' refers to the concept that individuals differ concerning what mode of instruction or study is most effective for them [16]. Richard M. Felder and Linda K. Silverman presented a model in 1988. They were interested to identify the learning style of engineering students. They prepared the instrument with the name of Index of Learning Styles. They design a model by combining

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the work of Malcolm and Myers-Briggs for especially engineering and science disciplines [18]. The instrument is used to identify the learning styles on four scales: Sensing/Intuitive, Visual/Verbal, Active/Reflective and sequential/Global. Sensory learners are those who prefer learning facts and solving problems with known methods while intuitive prefer discovering possibilities. Active learners love to try things out or do something actively on the contrary reflective learners prefer thinking about things on their own. Sequential learners prefer to learn in small steps whilst global learners understand things in large steps. Different studies have been conducted to identify the students learning styles. Index of learning styles is available on web and thousands of students take the test to know their learning style. Following is the table of characteristics of the different types of learners on the basis of their learning styles. "The learning dimensions are the answers to the following question,

1. What type of data do students perceive preferably sensory or intuitive?
2. How is the sensory information received visually or verbally?
3. How do the students process the information actively or reflectively?
4. How do the students understand sequentially or globally?

In 1971 Jung introduced two ways sensation and intuition to perceive the world. Sensing means observation and collection of date through senses while intuition means use of subconscious and imaging [19]. In our daily life, everyone uses both of above but some prefer one to another. Visual learners perceive the information in diagrams, pictures, flowcharts demonstrations and films and in the contrary verbal learners love written or spoken explanations [19].The processing of information in mind is done by two ways actively and reflectively. Kolb has concluded same results in learning style inventory. Active processing means doing something physically and reflective processing means examining the information in prospectively [19]. Sequential learners take in data in small-connected chunks and global learners absorb information in large hostile leaps [19].

In this study, we are concern about the academic performance of the students. Academic performance of the students is linked with the meeting standard set by higher education or by institute itself [20]. Grading system or CGPA in institutes of the students shows how well they are performing. The parents and organization for future employments seeks the graduates with higher CGPA and good conceptual base. Academic performance of the students does not only depend upon the learning style but there are also many other factors that could be the cause of good or bad performance.

In this study we intended to determine the most preferred learning style of business students and its impact on their performance. Following are research question raised in this study.

Which is the most preferred style of learning in business students?

Does the preferred style have impact on their academic performance?

From these research questions, four hypotheses are generated between four dimensions of learning styles and academic performance.

Hypothesis 1: There is relationship between perception dimension of learning style and Academic performance.

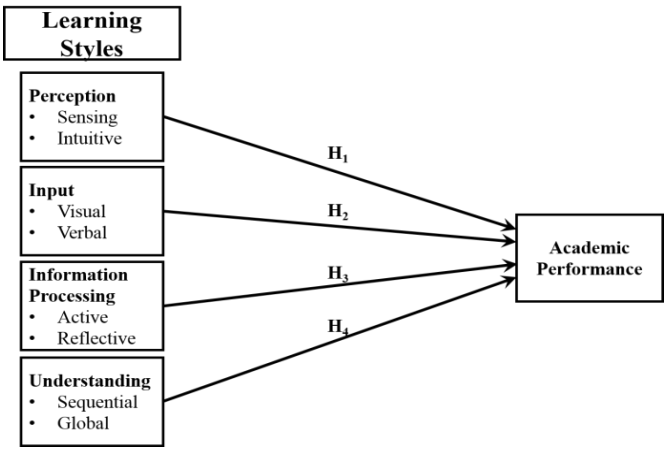

Figure 1: Theoretical Framework

Hypothesis 2: There is relationship between input dimension of learning style and Academic performance.

Hypothesis 3: There is relationship between information processing dimension of learning style and Academic performance.

Hypothesis 4: There is relationship between understanding dimension of learning style and Academic performance.

METHODOLOGY

This study depends on positivism worldview, and cross sectional outline was utilized to gather essential information numerically utilizing quantitative exploration approach. Quantitative research used to develop models, theories and hypothesis [21] by use of numeric data enhanced the accuracy of results. The population for this study was students. A sample of 343 students was selected using simple sampling techniques which were based on probability sampling procedures. Index of learning styles of Felder which was being developed in 1988 will be used to collect the data. Data was collected through close ended questions and statistical analysis was performed in SPSS. The concept has been operationalized using forced choice method. Index of Learning Styles test retest is satisfactory with high correlation and statistical significance as concluded by different studies conducted to identify the validity and reliability of index of learning style [22].

RESULTS

The data is analysed by various statistical techniques. Scores for each set of variable in the learning style dimension was classified into two groups: i.e. high and low. Each dimension of learning style has linked with its 11 items, with each has two (a or b) option parallel to one type of the dimension (e.g., Visual and Verbal). It seems suitable to procedure a scoring technique that sums 'a' responses, therefore the score on one dimension is an integer ranging from 0-11. Using the visual-verbal dimension as an example, 0-11 'a' responses would represent a high preference for verbal learning, 2-3 a

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moderate preference for verbal, 4-5 a mild preference for verbal, 6-7 a mild preference for visual learning, 8-9 a moderate preference for visual, and 10-11 a strong preference for visual. These six group are further categorize in two major groups on the basis of preference of each dimension of learning style. Like first three groups 1-3 indicate a major preference towards a first dimensions i.e. verbal of learning style. Group of 4-6 indicates a major preference other dimension i.e. visual of same dimension of learning style. Similar method is used to present the results of statistical analysis. Frequency count is used to assess the initial preference of students of business for learning styles. The existence of every learning style in business students is showed by using descriptive statistics (percentages and frequencies). The other method used is inferential statistics. Furthermore, Spearman Rho Correlation is conducted to get the correlation between learning style and its significance level. Finally, for hypothesis testing, Kruskal-Wallis, a nonparametric test, is used.

Response rate and Respondents characteristics

Overall 400 questionnaires were distributed to customers of business graduates of different universities who are currently studying in universities to complete their degree. Out of these 400 questionnaires, 343 questionnaires were gotten back that were suitably filled in with no missing qualities with 86% response rate. The 14% questionnaires not returned were the questionnaires that were handed over to the respondents with the commitment that they will return after filling in them on the mutually consented time. 65.3% of respondents are male and 92.1% percent respondents are below 25 age and remaining are elder. 26.5% students are from the field of finance, 32.9% are associated with marketing program and 40.5% are from the HR field.

Spearman Rho Correlation

The results of Spearman correlation presented in table 4.2 show that out of the four learning styles and demographic variables mentioned, only age is found to have significant relationship with students' performance. Absence of significance correlation among preference of learning style and academic performance shows their learning style have not any bearing on students' academic performance. Perceptions, Input, Information Processing and Understanding learning style are not correlated with the academic performance of the students. These findings are align with the findings of Gurpinar, Alimoglu [23], Urval, Kamath [1] and Choi [24]. Both research studies represent no relationship between the preference of learning styles and the academic performance of business students.

Table 4.1: Pearson Rho Correlations

	Variables	value	p value
1	Age	-.123*	0.023
2	Gender	0.012	0.819
4	Active-Reflective	0.003	0.963
5	Sensitive-Intuitive	0.020	0.717
6	Visual-Verbal	0.041	0.451
7	Sequential-Glow	-0.040	0.466

n=343; * p < 0.05, ** P < 0.01

Kruskal-Wallis Test

A Kruskal-Wallis, a non-parametric test was conducted to determine the significance of relationship between preferences for learning styles on academic performance. The first hypothesis is between the first dimension of learning style i.e. perception and academic performance. The findings indicate that the performance distribution across the groups with different preference for learning style is same with significance value 0.876, therefore we retain the null hypothesis.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CGPA is the same across categories of Act_Ref_F.	Independent-Samples Kruskal-Wallis Test	.876	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Second hypothesis is between the input, second dimension of learning style and academic performance. Result indicate that there is no relationship between input dimension of learning style and academic performance with significance value of 0.438 therefore it shows that the distribution of performance similar across the both dimension (sensitive-intuitive) of input dimension.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CGPA is the same across categories of Sns_Int_F.	Independent-Samples Kruskal-Wallis Test	.438	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The third hypothesis is between the third dimension of learning style i.e. information processing and academic performance distribution is equal across both categories of dimension; therefore we retain the null hypothesis.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CGPA is the same across categories of Seq_Glo_F.	Independent-Samples Kruskal-Wallis Test	.157	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

The fourth hypothesis shows the relationship between fourth dimension of learning style i.e. understanding and academic performance. The result shows that there is no difference in distribution of academic performance across the both categories of this dimension with significance value of 0.614 therefore, we retain the null hypothesis.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CGPA is the same across categories of Vis_Vrb_F.	Independent-Samples Kruskal-Wallis Test	.614	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

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DISCUSSION

The purpose of this empirical study was to investigate the impact of student's preferred learning style on the academic performance in business administration discipline. From the results it is visible that there are some other variables that affect the academic performance of the students. These findings are align with the findings of Gurpinar, Alimoglu [23], Urval, Kamath [1] and Choi [24]. Both research studies represent no relationship between the preference of learning styles and the academic performance of business students. This research provides significant evidence regarding the preference of learning styles of business management students.

Many educational scholar would approve that various combination of different learning styles significantly increase the academic performance [19]. It is also suggested that successful learner learns in various learning styles [25]. Therefore, students with two or more learning styles might perform better. For a teacher, it is primary concern to know about the preferred learning methods of students because teachers can enhance learning them by using appropriate study method. As much as they aware of student's preferred learning styles, they can develop better teaching strategy for their students. The findings of learning style and their preferences is act as a guideline for students as well as teachers.

CONCLUSION

Conclusively, this study attempts to describe the learning preferences and its effect on academic performance of business students. Study finds that most of the students are multimodal learners, that is good for learning as well as teaching perspective. The following are conclusions from the study findings: the finding exhibits that the majority of the students have close balance between all the learning styles. The academic performance of business students does not exhibit preference for specific learning style and they demonstrate almost equal preferences for all the learning styles. This research also suggests that the majority of business students have different combination of learning styles. Overall, it is concluded from study findings that every student use the different learning style which are personally unique to them.

Limitation and Future Direction

The study used a small sample size of 343 students from the large population of business students of Pakistani universities and that can hinder in generalizing the results. Quantitative approach only identifies the preference of the students ignoring the reasons. Least work has been done in this field in Pakistan. So, there is great scope of research in this field in different fields and professions. The larger sample size of study in future research can help to monitor the effects of demographics over learning styles. The mix research design can be used to create a healthy debate to investigate the interrelationship of the variables.

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