

Does Learning Style Affect Academic Performance of Business Administration Students?

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Abstract: *The study was conducted to explore effects of learning styles of Business Administration students on their academic performance. Sample consisted of 353 students of Business Administration at Masters' Level. Data were collected through Kolb's Learning Style Inventory, and past two semesters' examination results of respondent students. Data were analysed through Percentage, One-way ANOVA, and Independent Sample T –test. Findings revealed that there was a significant effect of learning styles of Business Administration students on their academic performance. The divergent learners scored highest among Business administration students. However demographic variables like gender, geographic location, mothers' and fathers' academic qualification, and parents' monthly income did not have any significant effect on learning styles of students of Business Administration.*

Key words: *Learning styles, Experiential learning, Divergent, Assimilators, Convergent, Accommodative.*

Introduction

Experience plays a major role in learning. Without experience no effective learning can occur. Experiential learning is a popular phenomenon in this world of today. Experiential learning asserts that past experiences and present life experiences have significant impact on learning. Whatever sort of past experiences one brings to educational institutions they give birth to their future learning. Experience alone is not sufficient for experiential learning. It needs some realization of the value of that experience. The reflection is considered an important part of experiential learning. The learner has to articulate an experience and discuss meaning of that experience to other people. She thinks over what has happened to her and why all that has happened. This reflection gives way to analysis, and generalization. This generalization is an abstract concept but very much needed for further action. In other words it can be said that experiential learning is based on a sequence of stages which is normally initiated with an experience and ends up with an action in most of the cases.

David, A Kolb's experiential learning theory is very much cited in the literature available on experiential learning and learning styles. Learning is a state resultant of an individual's preferential resolution of the dual continuums of experiencing/conceptualizing and

acting/reflecting. The person chooses one from experiencing/conceptualizing continuum and one from acting/reflecting continuum. The environmental conditions also play their role in forming the learning style of the learners. The unique interaction between individual and its environmental circumstances give way to form a unique preference for learning that is the particular learning style of the learner. (Kolb and Kolb, 2005).

There are four abilities or stages of experiential learning. The combination of each two creates a unique learning style. These learning styles are divergent, assimilative, convergent, and accommodative learning styles. Divergent learning style is the combination of concrete experience and reflective observation, Assimilative learning style is based on reflective observation and abstract conceptualization. Convergent learning style is the result of abstract conceptualization and active experimentation. Whereas the fourth style that is accommodative learning style is the combination of active experimentation and concrete experience.

Rationale of the Study

There are different researches available in the area of experiential learning and learning styles which assert that there is a strong association between learning style and academic performance. Many research studies have suggested that a teacher must plan her teaching according to students' learning styles. In Pakistan very few researches are done in the area of learning styles that is why there was felt a need to carry out a research in this area and explore the learning styles of students of Business Administration major and find out that is there any effect of learning style of students on their academic performance.

Different professions and career have different requirements. One of the purposes of education at higher level is to provide learners with such type of knowledge, skill and attitude which match with a particular profession and career. Moreover different disciplines have different demands and expectations from their students. As the needs and expectations are different in different disciplines there are chances that students in different disciplines may learn in different ways. As every individual is unique in terms of social, emotional, physical and intellectual aspects, students are also different from each other in the way they go for acquiring knowledge, and processing that knowledge. They have different preferences for learning. Some feel comfortable with listening; some make pictures in their minds, some believe in mental models or images, while others want to see the things. There are some learners for whom only the theories are important, but there are some other people for whom theories are nothing if they cannot be applied. So in other words, it can be said that along with individual differences the way the individuals prefer to acquire knowledge is also an important factor to be considered. The study aimed at exploring learning styles of Business Administration students and determining their effect on academic performance.

Objectives of the Study

The study was conducted to:

Explore learning styles of the students of Business Administration at Masters' level in public sector universities of Pakistan.

1. Find out mean difference between students' learning styles and academic performance of Business Administration students at Masters' level in public sector universities.
2. Explore mean difference between learning styles of male and female students.
3. Investigate mean difference between learning styles of rural and urban students of Business Administration at Masters' level in public sector universities.
4. Find out mean difference between learning styles of students due to difference in fathers' academic
5. Explore mean difference between learning styles of students due to difference in mothers' academic qualification of Business Administration students at Masters' level in public sector universities.
6. Investigate mean difference between learning styles of students due to parents' monthly income of Business Administration students at Masters' level in public sector universities.

Hypotheses of the Study

Following were the hypotheses of the study.

H₀1. There is no significant mean difference in academic performance of students due to learning style difference of Business Administration students.

H₀ 2. There is no significant mean difference of learning styles of male and female students of Business Administration students at Masters' level.

H₀ 3. There is no significant mean difference between learning styles of rural and urban students of Business Administration students at Masters' level.

H₀ 4. There is no significant mean difference between learning Styles of students of Business Administration at masters' level due to difference in their fathers' academic qualification.

H₀ 5. There is no significant mean difference between learning styles of students of Business Administration at Masters' level due to difference in their mothers' academic qualification.

H₀ 6. There is no significant mean difference between learning styles of the students of Business Administration at Masters' level due to difference in their parents' monthly income.

Literature Review

Learning style has been perceived and studied in three ways as structure, process, and structure and process (Riding and Cheema, 1991). Learning style is seen to reflect a presumed stable structure, which remains constant over time. It is the structure that does not change easily and remains the same. It is taken in terms of permanent thing. Learning style is seen as being in a state of continuous change, and therefore the focus should be on discovering how it changes. This school of thought assumes that it is not a permanent entity that cannot be subjected to any change rather it is changeable. Environment and other variables can influence and do influence it and bring significant or insignificant changes in learning styles. It is not something that is same over time but it changes and focus should be paid to explore those changes as well as how these changes have taken place. This view is opposite to the structure view of learning styles. Structure and Process view would see learning style as being relatively stable but at the same time being modified by events. This view integrates the process and structure view. It assumes learning style as the combination of multiple elements some of which can be subjected to change and some are permanent in nature. The proponents of this school of thought consider learning style neither too rigid nor too flexible, but in between of the two. They believe that modification can be done but within limits. There are some permanent elements as well as some changeable elements in learning style.

Curry (1983) is of the opinion that learning style can be viewed as both a structure and a process both relatively stable and at the same time open to modification. Curry's model argues that all learning style measures may be placed into three groups or 'strata resembling layers of an onion. It means that learning style is viewed in three senses. Some believe that it is permanent in nature and does not change at all, some believe learning style is a process which is constantly modified and even it can be changed, while others believe that it is the combination of structure and process.

Learning styles include cognitive style, and thinking styles. Messick and his colleagues believe that cognitive styles are those habits of information processing which are related to perception, thinking, problem solving. They consider the cognitive style or thinking style the part of learning style (Messick and Associates, 1976). It is related to receiving and deciphering information. Cognitive styles focus on how the people encode and decode information. This process of encoding and decoding is very much selective while focusing on different related actions like selective encoding, selective combination, and selective comparison. (Sternberg, 1986). Messick (1976) cited in Child, 2004 defined Cognitive (or 'thinking' style) as:

"Consistent individual differences in ways of organizing and processing information and experience... cognitive styles represent consistencies in the manner or form of cognition, as

distinct from the content of cognition or the level of skill displayed in the cognitive performance. They are conceptualized as subtle attitudes, preferences or habitual strategies determining a person's typical modes of perceiving, remembering, thinking and problem solving" (Child, 2004. p.316).

These are four primary adaptive modes. Concrete experience, reflective observation, abstract conceptualization, and active experimentation. Kolb (1981) says that with each of these four modes, a major dimension of personal growth is associated. Development in the concrete experience adaptive mode is characterized by increase in affective complexity. Development in the reflective observation mode is characterized by increase in perceptual complexity. Development in the abstract conceptualization and active experimentation mode is characterized, respectively, by increase in symbolic complexity and behavioral complexity.

He asserts that first of all we experience the things from our senses, then this concrete experience helps us to reflect on it by using listening and sight ability, then what ever we built through reflective observation, goes under the process of abstract conceptualization where different ideas are formed, and on the basis of these theories, we actively perform something, or act on those theories. He also says that these abilities can be found in some person at different age level, as well as we use these abilities in different type of skills. There are some professions that demand the particular learning abilities that exist in experiential learning cycle.

The persons who are having concrete experience (CE) ability emphasize the ability to employ feeling. This ability demands the sensitivity towards the people's emotions and values. They perform well in social professions, like education, social work etc. The persons who are having command on reflective observation (RO) rely on watching and listening. They try to use their reflective observation in order to find out the solutions to the problems. The people having ability in Abstract conceptualization (AC) use logic, ideas and concepts. They give preference to models. In the last those persons who are social and want to work on key positions in organizations, have the ability of Active Experimentation (AE). They trust more on the people rather than the concepts or ideas. For these people only those things matter which have work for them and are practical. In other words they are pragmatists. They can easily take different actions.

Kolb has derived four learning styles, that are divergers, assimilator, converger, and accommodator. The persons having the ability of concrete experience and reflective observation have diverging learning style. The divergers are those people who are social, creative, and like to work with people, their learning is dependent on five senses. Divergers have the opposite learning strengths from those of convergers. Their greatest strength lies in imaginative ability. They can organize many relationships into a meaningful "gestalt" they perform well in brainstorming sessions. These people are imaginative, and emotional. These people have broad cultural interests. They excel in humanities and liberal arts. The artists, social workers, teachers

are divergers. These persons can generate many ideas on a single topic, and they can think in various dimensions. They are sensitive. They rely more on watching than doing. These people like to work in groups.

The second learning style in Kolb's cycle is of assimilator. These persons use their abilities of reflective observation, and abstract conceptualization. They are those persons who can work well with abstract ideas, symbols and ideas, they are called theorists. Their greatest strength lies in the ability to create theoretical models. They excel in inductive reasoning. They have less interest in people. They are more concerned in making theories, and less concerned with the practical use of theories. These persons give space to the new ideas with the old ideas. This style is more characteristic of the basic sciences and mathematics than of the applied sciences. In organizations, this learning cycle is found most often in the research and planning departments. (Kolb, 1976a)

Third types of learners are convergers. They can use the theories. They use abstract conceptualization, and active experimentation for learning. They are good in practical implementation of theories. These persons perform well in those situations where the only one correct solution to the problem is available. They are unemotional, and they are good in physical sciences they work through hypothetical-deductive reasoning. These people are more comfortable with the thing rather than the persons. The doctors and the engineers are convergers.

Fourth type of learners is called accommodators. They use the abilities of active experimentation, and concrete experience in order to acquire knowledge. They are good in doing things. They can easily carry out plans. They are often called risk-takers. They can adapt themselves to different situations in a very well manner. They learn by trial and error. They rely more on people than things. These people are good in business, and marketing and sales. They are good in management, and they work on their gut feelings. They are action oriented people.

The diagnosis of learning style gives an advantage to educators in terms of facilitating them to analyze performance of their students, motivate them in the better way, and guide their students in the school that how they can get maximum benefit in the instructional programs. The learning style diagnosis is considered a most powerful approach to education as well as an innovative and unique way of finding out learners' differences in term of learning. The knowledge of students' learning style helps a teacher in better teaching and modifying teaching strategies according to varied needs and preferences of learners. The asset of studying different learning styles is the improvement in teaching learning process. This approach guides in the better way that where a particular child has the difficulty in relation to grasping or processing information in the educational institutions as well as in the daily life.

Learning Styles and Academic Performance

A study was conducted by Lynch, Woelfl, Steele, and Hanssen in order to find out the relationship between learning style and three academic measures in a third year surgery clerkship

in a medical school. These academic performance measures examined on two cohorts of 3rd year medicals students, the first two measures are based on a single-best answer, multiple choice question format, the United States Medical Licensing Examination step 1(USMLE 1), and the National Board of Medical Examiners (NBME), whereas computer-based case simulations (CBX) is a computer simulation that is used to measure clinical management skill. Kolb's learning style inventory was administered to find out learning style of the learners. The total participants of the study were 227. Out of these 227 it was found that 102(45 percent) were convergers, 59 (26 percent) were assimilator, 48(21 percent) were accommodators, and only 18(8 percent) were divergers. The results of three measures indicated that students who were convergers or assimilators scored higher on two scales (United States Medical Licensing Examination step 1(USMLE 1), the National Board of Medical Examiners (NBME), whereas learning style difference was found on computer based simulation. The results of this study supported Kolb's assertion that converging and assimilating learners perform well on objective, MCQE, and single –best answer.. it was also concluded by researcher that no significant relationship was found between learning style and CBX. It suggested that MCE and CBX do not measure the same capabilities and achievements. This result also suggested the administration of more than one type of Examination format. Support abstract learners. It was also revealed that some more measures were required to measure skills, abilities and behavior that are not shown in objective measures of performance. (Kolb, 2005)

A study was conducted by Oughten and Reed to measure the relationship between graduate students' learning styles and performance outcome in a hypermedia environment. The students were asked to map out their acquired knowledge and find out interrelationships among various ideas and concepts. There were various dependent variables in the study. They were number of concepts, number of links, number of nodes, number of bidirectional links, and number of multiple concept nodes, omitted concepts, and added concepts on each student's map. It was found that diverging and assimilating learners were better than converging or accommodating learners. The researcher attributed these results to those common characteristics of personality that are shared by assimilating and diverging learners. (Oughten and Reed, 2000)

Another study was conducted by Holley and Jenkins to explore the impact of learning style on four accounting exam question formats: Multiple-choice theory (MCT), multiple-choice quantitative (MCQ), open-ended theory (OET), and open-ended Quantitative (OEQ). A significant difference was found in performance of students due to different learning styles for all measures except multiple-choice quantitative format. A significant difference of ($p < 0.01$) was found in active-reflective continuum on the multiple choice theory format, and the open-ended quantitative format ($p < 0.05$) as active students performed better on those above mentioned measures. whereas on abstract-concrete continuum the abstract students performed better ($p < 0.062$) on the open –ended theory format. These results supported the researcher in concluding that students perform differently due to different learning styles on different format

tests. It was also concluded that performance cannot be generalized for similar subjects while testing with different formats of tests. (Holley and Jenkins, 1993).

Nelson, Dunn, Griggs, Primavera, and Miller (1993) reported significantly higher overall grade point average when the instructional strategies were congruent, rather than incongruent.

Methods and Procedures

The Quantitative approach was employed to find out the effect of learning style on students' academic performance. Sample consisted of 353 students of third and fourth semesters of Masters of Business Administration in public sector universities of Rawalpindi and Islamabad (Pakistan). Data were collected by using three instruments. These were demographic sheet, Kolb's learning style inventory Version 3, and semester results (1st and 2nd Semester). Data were analyzed Percentages, Independent Sample T -test, and one way ANOVA.

Table: 1

Demographic Details of Respondents

S.No	Variable		Frequency (Percentage)
1	Gender	Male	254 (72 %)
		Female	99 (28 %)
		Total	353 (100 %)
2	Residential Location	Urban	277 (78 %)
		Rural	76 (21%)
		Total	353 (100%)
3	Fathers' Academic Qualification	Secondary School Certificate or below	68 (19.3 %)
		B.A/ B.Sc or below	153 (43 %)
		M.A/ M.Sc or below	132 (37 %)
		Total	353 (100 %)
4	Mothers' Academic Qualification	Secondary School Certificate or below	155 (43.9 %)
		B.A/ B.Sc or below	147(41.6 %)
		M.A/ M.Sc or below	51 (14.4 %)
		Total	353 (100 %)

5	Monthly Income (Pakistani Rupee)	20000 and below	111 (31.4 %)
		30000 and below	94 (26.6 %)
		40000 and below	59 (16.7 %)
		Above 40000	89 (25.2 %)
		Total	353 (100 %)
6	Cumulative Grade Point Average	3.50- 4.00	76 (21.5%)
		3.00- 3.49	95 (26.9%)
		2.50- 2.99	100 (28.3%)
		Below 2.50	82 (23.2 %)

Table: 2

Learning Styles of students of Business Administration at Masters' Level.

1	Learning Styles	Frequency (Percentage)
2	Divergent	141 (39 %)
3	Assimilative	113 (32 %)
4	Convergent	56 (15.9 %)
	Accommodative	43 (12.2 %)
5	Total	353 (100 %)

Table: 3

Mean Difference in academic performance of students with different learning styles

Learning Styles	N	M	SD	df	F	p
Divergent	141	2.64	1.064	352	2.439	.05
Assimilative	113	2.53	1.103			
Convergent	56	2.20	1.017			
Accommodative	43	2.63	1.024			
Total	353	2.53	1.071			

* The mean difference is significant at the .05 level.

The table shows that F-Value (2.439) is significant at 0.05 level regarding the difference in academic performance of students with different learning styles. Therefore the null hypothesis that there is no significant mean difference in academic performance of students due to learning style difference of Business Administration students is rejected and it is concluded that learning styles bring significant difference in academic performance.

Table: 4

Mean Difference in Learning Styles of Male and Female Students

Gender	N	M	SD	T	P
Male	254	1.9566	1.030	0.2107	0.884
Female	99	2.1212	1.0027		

T -value (0.2107) regarding the difference between learning styles of the students due to their gender is not significant at 0.05 level of significance. So the null hypothesis (H_{02}) is accepted and it is concluded that there is no significant difference between learning styles of male and female students.

Table: 5

Mean Difference in Learning styles of Urban and rural students

Residential Location	N	M	SD	T	P
Urban	277	2.0036	1.0090	0.705	0.155
Rural	76	2.0	1.0832		

T-Value (0.705) regarding the difference between learning styles of the students due to their residential location is not significant at 0.05 level of significance. So the null hypothesis is accepted and it is concluded that there is no significant difference between learning styles of urban and rural students.

Table: 6

Difference between Learning Styles of the Students at Masters Level due to Difference in Their Fathers' Academic Qualification in Business Administration Department

Fathers' academic	N	M	SD	df	F	P
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Qualification						
Secondary School Certificate or below	68	1.91	1.047	352	0.353	0.703
B.A/B.Sc and below	153	2.01	1.019			
M.A/M.Sc and Above	132	2.04	1.022			
Total	353	2.50	1.024			

F-Value (0.353) regarding the difference in learning styles of the students due to difference in their fathers' academic qualification is not significant at 0.05 level of significance. So the null hypothesis is accepted and it is concluded that there is no significant difference between learning styles of the students in the masters' in Business Administration due to difference in their fathers' academic qualification.

Table: 7

Difference between Learning Styles of the Students due to difference in Their Mothers' Academic Qualification in Business Administration Department.

Mother's academic Qualification	N	M	SD	df	F	P
Secondary School Certificate or below	155	1.95	1.028	352	0.411	0.663
B.A/B.Sc and below	147	2.62	1.010			
M.A/M.Sc and Above	51	2.10	1.063			
Total	353	2.00	1.024			

F-Value (0.411) regarding the difference between learning styles of the students due to difference in their mothers' academic qualification is not significant at 0.05 level of significance. Therefore it is concluded that there is no significant difference between learning styles of the students in masters' in Business Administration due to difference in their mothers' academic qualification.

Table: 8

Effect of Parents' Monthly Income on learning styles of students

Parents' Monthly Income	N	M	SD	df	F	P
Below 20000	111	1.88	1.025	352	2.172	0.091
Between 20000 and 30000	94	1.91	1.023			
Between 30000 and 4000	59	2.03	2.03			
Above 40000	89	2.22	2.22			
Total	353					

F-Value (2.172) regarding the difference between learning styles of the students due to difference in their parents' monthly income is not significant at 0.05 level of significance. Therefore it is concluded that there is no significant difference in learning styles of students due to their parents' monthly income.

Findings

1. There is a significant mean difference in academic performance of students with different learning styles in Business Administration
2. There is no significant mean difference between the learning styles of male and female students.
3. There is no significant mean difference in learning styles of urban and rural students.
4. There is no significant mean difference in learning styles of the students at masters' level due to academic qualification of their fathers
5. There is no significant mean difference in students learning styles due to academic qualification of their mothers.
6. There is no significant mean difference between students learning styles due to their parents' monthly income in masters' in Business Administration

Discussion

It was revealed from data that there is a significant mean difference in academic performance of students with different learning styles. The majority of the students were found to be divergers.

According to Kolb such type of people has concrete experience and reflective observation as their dominant learning abilities. They can see one concrete situation from many points of view. Such type of students collects information from various resources and find comfortable with other people. According to Kolb's studies the students of business major belong to accommodating learning style but in this study they are found to be divergers. The possible reason can be that education system that does not offer varied types of experiences to all the students, and they just remain to experience the things and only reflecting on those experiences. It does not permit the students to go for higher order levels of learning like abstract conceptualization, and active experimentation. Now some private schools have started to base their education systems on experiential learning, where they rely heavily on field works, projects, hand –on –experiences, but they are quite few, and make only a nominal percentage.

Whereas demographic variables did not have any significant effect on learning styles of students. In short it can be said that gender, residential location, father's academic qualification, and mothers' academic qualification, and parents monthly income do not have significant effect on the learning styles of Business Administration students.

Conclusions

The present study was carried out to examine the effect of learning style on academic performance of students of Business Administration at Masters Level. For this study three hundred and fifty three students were selected as respondents from Public sector universities of Rawalpindi and Islamabad (Pakistan). It was found that there was a significant difference in academic performance of students with different learning styles. The divergent Learners perform best in terms of grade achievement, whereas demographic variables did not have any significant effect on learning styles of students.

Suggestions and Recommendations

1. It is recommended strongly that students learning styles may be explored not only by students themselves but the educational institutions may also find out students' learning styles.
2. There may be use of different pedagogical strategies by teachers in order to accommodate students with different learning styles.
3. The university management of may organize different trainings to acquaint the teachers with different learning styles and strategies which may be helpful for different learners.
4. The experimental studies may be conducted to investigate the difference in academic achievement while teaching with traditional methods and experiential methods.

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