

The Impact Of Learning Styles And University Type On The Academic Performance Of The Students

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Abstract: The current study investigated the impact of learning styles and university type on the academic performance of the students in University of Shiraz and Payame Noor University. Based on Morgan & Krejcie's (1970) table by taking the total population into consideration sample size gained 381 students. Stratified random sampling method was used to determine the sample size from each university. 381 questionnaires were distributed among the students. And finally the total numbers of 339 questionnaires were analyzed. Kolb's (1984) learning style questionnaire used to determine the learning styles of the students and for measuring academic performance of the students, their grade average point used as a measure of the academic success. Chi-square test and multi-variable ANOVA used to analyze the data. Results of the Chi-square test showed that there are differences between the learning styles of the students. Also the results of MANOVA showed that University type and learning styles both have a significant impact on the academic performance of the students separately. While investigating the interactive impact of learning style and university type, the results showed that these two variables don't impact academic performance interactively but their impact is solely independent from each other.

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Introduction:

Learning is a process that aims to change the behavior of others according to a predetermined ways. As the role of a teacher in order to provide proper environmental conditions and change the behavior of learner's works, Education and training has a major role in determining the predetermined objectives. In general, there are two types of training: Social Goals and Educational Objectives. Social goals are goals for the community by providing educational activities. For example, the vocational education prepares students to get absorbed in the labor market. Educational goals are goals that students should acquire by the end of their course. These objectives are complement to each other (Navazeh and Karooni, 1999).

These goals are good general education goals as well as a good guide for those involved are trainees. But because they are general, they aren't appropriate measures to ensure the objectives achieved or not achieved. The teacher should also evaluate the levels of achieving these goals during and after educational course.

The teacher should determine the details of the goals at the beginning, during and end of the course learners to achieve their desired goals of the

evaluation. Availability of expectations, according to the learner's score is determined. And it can be called achievement. There are different definitions of academic achievement included the following definitions:

The academic performance of the public or specific knowledge or skills acquired on the course that is measured by tests or markers that are determined by the student's teacher (Moayeri, 1985). Atkinson contends that achievement is skills acquired or learned person knows (Dehghan, 1991).

Learning styles

Started in the 1970s, research on learning styles and the content is not too large. According to Raydyng and Shima (1992), the term is considered as an alternative to light perception, light perception because it is part of learning styles. Learning style consists of a set of characteristics that are related to the whole is greater than the parts. Gestalt learning style is the internal and external activities of neural biology combines the individual and personality as a reflecting behavior (Bag and Ferrell, 1990). Thus, learning styles, teaching methods, especially by the general tendency is pervasive.

Learning styles have different definitions of the

most important of which are: the use of individual learning methods for information processing in learning new concepts (D Chekev and Crawford, quoted Saif, 1991). Learning styles are individual differences that affect learning in the classroom. Learning styles refer to the ways in which those concepts, laws and principles are conducive to the situations they encounter new leads (Dembo, 1994).

Learning styles refer to the ways in which individuals create those concepts and principles that will guide them in dealing with new situations (Mohammadi Vaseli, 1990).

According to Di Chego and Craford (Quoted by Saif, 1990) learning styles defined as the ways in which people learn the concepts and principles of information processing. Also learning styles are referred to the stable personality related characteristics of the individuals (Youliang and Kinter, 2000).

Kolb and Fry (1984) say that learning styles have specific strengths and weaknesses. And Learning, which uses only one learning style, is not perfect. As a "whole" the individual learner should be commensurate with the position of the different learning styles. They say a full description of the learner's learning is "perfect" when learner uses the four major of concrete experience, reflective observation, abstract conceptualization and active experimentation in which the learning occurs by merging them together to solve the issues.

Research Methodology:

The method of data collection (research project), is descriptive and correlation research. Descriptive study of the ways in which they describe the situation or phenomenon is studied. Descriptive research could further understanding of the situation or merely to assist the decision making process.

Population:

The study population consisted of undergraduate students of Payam Noor University and Shiraz University of Medical Sciences with the student population of 19200 and 25207 respectively in the academic year 1388 to 1389 Hijri (2009-2010).

Sample size and sampling:

The study sample consisted of 381 students, which is landing on the table and Morgan and Krejcie,s (1970) has been determined by taking the total population into consideration.

In order to determine the sample stratified random sampling method is used. Thus with respect to sex ratio and the number of students the sample from each university has been determined. 380 questionnaires were distributed among the students. And finally the total numbers of 339 questionnaires

were analyzed, and the remainders were excluded because of flaws in how to respond.

Mesures: Kolb's (1984) learning style questionnaire used to determine the learning styles of the students and for measuring academic performance of the students, their grade average point used as a measure of the academic success.

Reliability and validity of learning styles questionnaire:

Several investigations into the tool by Yarmohammadi (1999), Rahman (2000), Beige (2003) and Mosavat Azar (2002) have confirmed the reliability of the tool and validity was confirmed by experts and university professors.

The reliability of each scale and the learning style at the international level has been studied. And at the international level reliability between 0.69 to 0.77 using Cronbach's alpha has been reported. And national research on the four components of the scale is reported between 0.52 and 0.72. In this study, the reliability of the questionnaire was tested and Cronbach's alpha coefficient was between 0.56 and 0.76 respectively.

Method of data analysis:

The study was conducted in two parts: the descriptive statistics: frequency of use, charts and other statistical indicators

Inferential statistics; in order to investigate the hypotheses and research questions and answering the research questions. These methods include chi-square test, t test for independent groups using stepwise multiple regressions, ANOVA one-way and two-way ANOVA and multivariate ANOVA.

Results:

Distribution of the components:

In this section, the mean and standard deviation, the highest and lowest scores for each of the component variables of the study, are presented separately:

Concrete experience

The components of subjective experience among students of Payam Noor University have an average of 27.69, SD 7.38, maximum score of 46 and a minimum score of 15. The highest score among male students at the Payam Noor University was 41 with a mean of 29.62 SD of 8.02, and a minimum score of 15. While the components of concrete experiences among female students of Shiraz University were: mean 25, SD 8.47 and a maximum of 47 and a minimum score of 12. And among male students of Shiraz University of components were: mean 23.58, SD 7.13, the highest score of 38 and minimum 12.

It can be concluded that the average scores of

“concrete experience” style is higher in Payame Noor students both in female and males than Shiraz University Students.

Reflective Observation:

The components of reflective observation among female students of Payam Noor University have an average of 32.34, SD 5.78, maximum score of 45 and a minimum score of 13. The highest score among male students at the Payam Noor University was 43 with a mean of 30.87 SD of 7.30, and a minimum score of 13. While the components of reflective observation among female students of Shiraz University were: mean 29.91, SD 5.13 and a maximum of 44 and a minimum score of 19. And among male students of Shiraz University of components were: mean 29.82, SD 4.05, the highest score of 39 and minimum 19.

It can be concluded that the highest average score within the reflective observation style belongs to female students of Payame Noor University and in general, the levels are higher among neither payame nor university students than Shiraz Students.

Abstract Conceptualization:

The components of Abstract Conceptualization among female students of Payam Noor University have an average of 34.81 SD 6.07, maximum score of 48 and a minimum score of 16. The highest score among male students at the Payam Noor University was 48 with a mean of 24.9 SD of 6.29, and a minimum score of 21. While the components of Abstract Conceptualization among female students of Shiraz University were: mean 36.34, SD 5.84 and a maximum of 46 and a minimum score of 15. And among male students of Shiraz University components were: mean 34.92, SD 6.69, the highest score of 46 and minimum 16.

It can be concluded that the highest average score in “abstract conceptualization” styles belongs to female students of Shiraz University. And among all, students of Shiraz University have more intention to this style than Payame Noor University Students.

Active experimentation:

The components of Active experimentation among female students of Payam Noor University have an average of 30.31 SD 6.86, maximum score of 43 and a minimum score of 16. The highest score among male students at the Payam Noor University was 44 with a mean of 31.72 SD of 6.21, and a minimum score of 17. While the components of Active experimentation among female students of Shiraz University were: mean 31.42, SD 6.09 and among male students of Shiraz University components were: mean 30.93, and SD 7.54

It can be concluded that the average scores for “active experimentation” style are very similar in both female and male students and in both students of Shiraz University and Payame Noor University.

Test hypotheses and research questions:

In this section, each of the research hypotheses are discussed individually and then presents findings related accessories:

Hypothesis 1: The learning styles of the students of Payam Noor University and Shiraz University has a significant difference.

Due to the nominal nature of the data, the Chi Square test was used. The following table presents the results.

Table1- the results of Chi Square test

According to the table the chi square amount of 26.465, with df of 3 is located at the significance level of 0.001. Due to the fact that the significance level is lower than maximum allowed error of 5%, It can be concluded that the learning styles of students according to their differences are significant, so the hypothesis is confirmed.

Also the intensity of the relationship between two variables measured by Kramer coefficient that is 0.225

Hypothesis 2: there are significant differences between learning styles of Shiraz students and Payame Noor Students with regard to their academic progress.

In this hypothesis, due to the nature and the number of the variables two way analysis was used. The results are presented in the following table:

Table2- The results of two ways ANOVA for learning styles of Payame Noor and Shiraz Students according to academic progress

As it can be observed in the table 2, there are significant differences between learning styles of the students in their academic progress. This means that the students with different learning styles have different levels of academic progress. With regard to the ($f=5.33$ and $df=3$), is located in the significance level of 0.02 and due to the fact that this level is below 5%, it can be concluded that the difference between learning styles is confirmed statistically. Also there is significant differences between academic progress of the students of two universities ($F=3.84$, $df=1$ and $sig=0.045$).

Also while investigating the interactive impact of the university type and learning style on academic progress, it can be concluded that this type of impact cannot be confirmed ($F=0.99$, $df=3$, $sig=0.397$).

In general, it can be concluded that the university type and learning style each has a separate

significant impact on the academic progress and they have no interactive impact. While investigating Post HOC analyses, it was observed that the real difference between academic progresses of the students with regard to their academic progress is resulted from difference between one divergent styles with the others based on statistical analyses.

Discussion and Conclusion:

This study examined the impact of the learning styles and university type on the academic progress of students in Shiraz University and Payame Noor University. As well, differences between learning styles of the students also investigated.

The results of the descriptive statistics showed that average scores of "concrete experience" style is higher in Payame Noor students both in female and males than Shiraz University Students. This shows that the students of payame noor university are more focused on their feelings than their thinking and may be the levels of thinking are higher in the Shiraz Students to the extent that they are admitted in a top class university while the payame noor university has a poor rank in the global and national rankings of the universities.

Also the results indicated that the average scores for "active experimentation" style are very similar in both female and male students and in both students of Shiraz University and Payame Noor University. May be it be a conclusion that this learning style doesn't contribute to academic success of the samples.

The results also show that the highest average score in "abstract conceptualization" styles belongs to female students of Shiraz University. And among all, students of Shiraz University have more intention to this style than Payame Noor University Students. It can be concluded that the female students of Shiraz University are more focused on thinking than feelings. The frequency of the female students of Shiraz University also is the confirmation of the fact (their number was greater 64% female versus 36% male).

The results of descriptive statistics also shows that the highest average score within the reflective observation style belongs to female students of Payame Noor University and in general, the levels are higher among neither payame nor university students than Shiraz Students. This shows that the students of Payame Noor University are more watcher than active. They are more intended to feeling and watching rather than thinking and doing.

The results of the inferential statistics showed that the learning styles of the students are different and also the results indicated that the learning style is related to the academic performance. May be it can be interpreted in a way that the students that adopt

thinking and doing styles are more successful than the others.

The results also indicated that the university type has a significant impact on the academic performance of the students. In the case of our study also the grade point average of the students of Shiraz University was higher than the students of Payame Noor University.

The results also indicated that the university type and learning style has no interactive impact on the academic performance of the students. This means that the variables impact the academic performance separately and only the university type or learning style doesn't warranty the academic performance.

As our study concluded that the learning style can impact the academic performance, the following considerations also should be presented about the learning styles;

Some learning characteristics may be changed. And others may be subject to replication strategies. There are probably some things that cannot be overcome (blindness and deafness). Small differences in cognitive abilities, individuals will have the flexibility issues. There are many conditions to ensure that learners are entitled to the highest degree, coordination among learners is an example (Kolb, 1948).

Limitations and future studies:

The current study used samples from two different universities one top grade and one poor grade to determine if the university type can impact the academic performance or not. As our study is a case, other studies also should be conducted to receive a more confidence on the impact of the university type. Also as the advancement of educational technology is going beyond the expectations, also its impact should be considered when analyzing the impact of university type on the academic performance. Our study also used grade point average as a measure of academic performance so, other studies should be conducted to determine the impact of learning styles on academic progress because progress is a completely separate concept than performance.

As our study used a sample from two universities, the impact of academic disciplines has been ignored. As we know shiraz university is focused on engineering and applied sciences while Payame Noor university is more focused on the humanities and social sciences. So other studies should be done by considering equal samples from similar disciplines.

While our study indicated that the university type impacts the academic performance, there are

needs for other studies to determine if the grade average points of the students of top or poor universities are respectively high or low or not.

Our study indicated that learning style can impact the academic performance, other studies Table1- the results of Chi Square test

should be conducted to assure us that is it true for all of the academic disciplines or not? Other studies also should be conducted between the students with the different educational courses to determine if this finding is true for such students or not?

Table1- the results of Chi Square test

Chi Square	df	Kramer Coefficient	Significance Level	Number
26.465	3	0.225	0.001	339

Table2- The results of two ways ANOVA for learning styles of Payame Noor and Shiraz Students according to academic progress

Sig. Level	Observed f	Mean of squares	df	Sum of squares	Resources
0.001	3.55	8.932	7	62.524	Model Correction
0.002	5.133	12.905	3	38.715	Learning Style
0.045	3.84	9.66	1	91.662	University Type
0.397	0.990	2.490	3	7.496	Interactive impacts of learning style and university type
		2.514	520	1307.295	error
			338	125842.246	total

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