

The Relationship between Learning Style , locus of control and academic Achievement in Iranian students

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Abstract. The purpose of doing the research was the relationship between learning styles and students' academic achievement among the students of Islamic azad university-marvdasht branch. Due to this fact, Kolb Learning-style questionnaire and the Rotter Internal-External Locus of Control Scale was put to work for 700 students. The outcomes were analyzed with the help of correlation index , multiple regression, independent t and analysis of variance. results of this research shown that there is no significant relationship between the learning style and the student's academic achievement. And there is no difference between the learning styles of female and male students.

Keywords: Learning style, locus of control, academic achievement

1. Introduction:

The term learning styles refers to the view that different people learn information in different ways. In recent decades, the concept of learning styles has steadily gained influence (Pashler,2008).

Locus of control is an individual's belief system regarding the causes of his or her experiences and the factors to which that person attributes success or failure. It can be assessed with the Rotter Internal-External Locus of Control Scale.

If a person has an internal locus of control, that person attributes success to his or her own efforts and abilities.

A person with an external locus of control, who attributes his or her success to luck or fate, will be less likely to make the effort needed to learn. People with external locus of control are also more likely to experience anxiety since they believe that they are not in control of their lives.

Students with an internal locus of control may be more likely to do well at distance learning situations that require a certain amount of independence from the learner. Students with an external locus of control will need more encouragement and guidance from the instructor. correlated positively with grade point average or GPA and course grades. Other studies In addition, numerous studies relating locus of control orientations to academic achievement have surfaced. A recent study by Biggs (1997) found that internality have corroborated this finding by noting significant differences between high achievers and average achievers on measures of locus of control. Other studies involving achievement and locus of control in classroom settings have cited that internality is positively related to certain school achievement related behaviors such as class participation and study skills that are said to aid in learning and achievement (Trice,1985).

Hypotheses

- 1: There will be correlation between Colbs learning styles and academic achievement.
- 2: There will be correlation between Colbs learning styles and gender
- 3: There will be correlation between Rotter's I-E and academic achievement.
- 4: There will be correlation between Rotter's I-E and gender.

2. METHODS:

A total of 640 student from Islamic azad University participated in the study. Of the participants 340 (53%) were females, 300 (47%) were males;

Two instruments were used in this study:

1-Kolb's Learning Style Inventory

The instrument is a 12-item, forced-choice inventory each item is a sentence-beginning with four possible endings. The subject ranks the endings according to how well the sentence describes his or her thoughts. A rank of 4 designates the best fit; a rank of 1 indicates the least appropriate fit. Sentences are brief; vocabulary is clear. The administration of the instrument is untimed, thus the subjects are able to complete the document without any pressure due to time.

Reliability of the LSI: Cronbach's alpha internal consistency coefficients of the

Concrete Experience 0.62, Reflective Observation 0.70, Abstract Conceptualization 0.70, Active Experimentation 0.63, Concrete-Abstract 0.73, Active-Reflective 0.74.

2-Rotter's Locus of control scale, commonly called the I-E Scale (1966), including 29 forced-choice items ("a" or "b"). For instance, item 2 is like this: "a. Many of the unhappy things in people's lives are partly due to bad luck. b. People's misfortunes result from the mistakes they make".

3. FINDINGS:

Table1 shows the descriptive statistics of participants' learning styles and academic achievement.

Table1 Participants learning style score

Learning styles	N	%	Academic achievement mean	Academic achievement SD
Accommodators	66	10.4	16.5	2.33
Divergers	101	15.9	16.8	2.58
Convergers	297	46.5	16.35	2.2
Assimilators	176	25.9	16.78	2.6

As shown in Table 1, 297(%46.5) of the participants were convergers, 176 (%25.9) were assimilators, 101 (%15.9) were divergers, and 66 (%10.4) were accommodators.. As it can be seen, the most common learning styles of Iranian student are *converging* and *assimilating*.

As shown in Table 1 participants' university mean in terms of their learning styles were M=16.8 for divergers, =16.78 for assimilators, M=16.5for accommodators, and M=16.35 for convergers, respectively. interestingly, *divergers* outperformed assimilators, accommodators, and convergers, but the difference is not statistically significant [F(3,536)=.450, p>.05]. This finding is inconsistent with the finding of another study that showed the convergers and assimilators among students counterparts (M=75.18, SD=6.13); convergers who have flexible beliefs that learning strongly depends on ability are more successful in the university. In addition, the convergers who have higher motivation for succeeding in school are more successful than their low motivated counterparts.

Table 2 shows the frequencies and percents of participants' learning styles and locus of control and genders.

TABLE 2 PARTICIPANTS' LEARNING STYLES AND GENDERS

Learning styles and loc	Females N	Females %	male N	Male %
Accommodators	38	57	28	43
Divergers	57	56	44	44
Convergers	155	52	139	48
Assimilators	90	51	86	49
internality	150	51	140	49
externality	180	51	170	49

As shown in Table I the distribution of learning styles between males and females was also very similar and the difference is not statistically significant ($\chi^2=1.253$, $df= 3, p>.05$) and thus the hypothesis 2 was rejected.

In Hypothesis 3, it was stated that there was expected to be a correlation between Rotter's scale and academic achievement. From analyzing the mean scores obtained in the sample, it was found that Rotter's scale ($M=11.81$, $SD=3.82$) and academic achievement ($M=6.53$, $SD=3.23$) were very close in relation to each other. Other descriptive statistics involving mean scores and standard deviations can be found in Table 3.

TABLE 3 Table of Mean and Standard Deviation Scores and pearson correlation

	N	mean	SD	Pearson r	df	sig
Rotter IE	640	11.81	3.82	.051	638	0.085
Achievement	640	6.53	3.23			

As shown in Table 3 While using the Pearson r correlation measure, it was found that scores on Rotter's scale and academic achievement were indeed found to be no significant, $r=.051$, $p>.01$; and thus the hypothesis 3 was rejected.

In discussing the findings of Hypothesis 4, it was intended that there would be no correlation between gender on Rotter's scale;. Mean scores by the two genders on Rotter's scale are shown in Table 4.

TABLE 4 Summary Table of Mean Scores from Rotter's Scale

sex	N	mean	SD
female	340	11.68	3.92
male	297	11.84	3.75

As shown in Table 4 the scores from Rotter's scale, one can see that the males and females scored very close to one another, $M=11.84$, $SD=3.75$ and $M=11.68$, $SD=3.92$ respectively. Upon further analysis using an independent t-test, it was found that indeed no significant difference was noted, ($t=.228$, $p>.05$).

4. DISCUSSION

The Kolb's Learning Style Inventory test, one of the popular instruments for describing learning styles was used to determine which learning styles were predominant among students .Findings showed that the most common learning styles of the Iranian student were Converging (46.5%) and Assimilating (25.9%). This finding is consistent with many other studies' findings that attempted to determine the learning styles of

student . This finding is contrary to Kolb's (1984) study in which he stated that the dominant style in architects is accommodating

learners. A pioneer study in architecture considering learning styles was belonging to Newland et al. (1987). They had found that the architecture students favored reflective observation and abstract conceptualization where Kolb would call these students as assimilating learners. Both in Demirbas and Demirkan (2003) and Kvan and Yunyan's (2005) studies related to design students, accommodating learners were in minority of the four learning styles that confirms with this study. In Demirbas and Demirkan's (2003) study, most of the freshman students learning

style were converging (33%) and assimilating (31.8%). In Kvan and Yunyan's (2005) study the majority of the students were diverging learners (48.6%) in one group and assimilating learners (40.9%) in the other group and both groups were junior students. The difference in distribution can be explained as Kolb (1984) stated that learning styles are shaped gradually by individual experience, since one group consists of freshmen and the other junior students. But Kvan and Yunyan (2005) explained the difference between these two studies in terms of cultural diversity.

Previous research related to Learning Style Inventory tests (Smith & Kolb, 1996) shows that males were more abstract (AC) than females on the perceiving dimension (AC & CE) and that there were no significant gender differences on the processing dimension (AE & RO). In Knight et al.'s (1997). In our study, it is found that learning styles and gender were no correlated.

None of the learning styles was associated positively with academic success.

It was found that no significant relationship existed between Rotter's measure and academic achievement measured. This seems to serve as a reminder that Rotter's general measure of locus of control is indeed more general and less specific as seen in this instance regarding the area of academic achievement. This was precisely the reason why Trice's specific measure of academic locus of control was included in the study to help illustrate a higher potential of finding a significant correlation between the locus of control construct and academic achievement.

5. References

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