

Prediction of Achievements of Distance Learners from Locus of Control

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Abstract

The purpose of the study was to predict academic achievement of distance learners from Locus of Control. The study was delimited to teacher education Programs (M.A., M.Ed and B.Ed) offered by universities of Pakistan through distance learning mode. A total number of 1513 students was selected through stratified sampling technique. The Nowicki-Duke Locus of Control Scale developed by Duke and Nowicki (1974) was administered to check the locus of control of distance learners. A pilot study was also done (randomly selected 100 distance learners) to validate the scale. The expert opinion of 05 experts was sought and test-retest reliability (.81*) of the scale was also checked. Final exam grades were taken to measure the academic achievement of students. Data analysis was done by using mean, percentage and regression analysis technique. The findings of the study indicated that distance learners with internal LOC had high achievements and those with external LO C had low achievements. It was recommended that the prediction of distance learners' achievements from LOC generated the need intervention training program for low achievers so that they may improve their performance.

Keywords: locus of control, achievements, prediction, distance learner

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Introduction

Distance education has evolved for almost 200 years (Tracey & Richey, 2005, p. 21) in Distance education pupils are expected to participate in learning activities with more autonomy. Learners of distance education need to be pro-active and responsible in their learning but as they belong from different regions and cultures may have diversity of psychological, sociological and psycho-social variables which may hinder their academic performance. Many researchers (Yoloye, 2004; Aremu, 2000; Adeyemo, 2005; & Zimmerman, 2000) explored that socio-psychological variables (locus of control, self-esteem, self-instruction, self-efficacy etc.) affect learners' academic achievement. Students who exhibit internal LOC are expected to do better learning as compared to those students who have external LOC.

Locus of control is an important aspect of a person's personality. It is a person's tendency to attribute successes and failures to internal (effort, ability, motivation) or external (chance, destiny, and other's actions) factors (Leone & Burns, 2000). The originator of the concept of locus of control (LOC) is Rotter who presented his theory of LOC in the early 1950s. His theory is based on his social learning theory. He conceived LOC as a person's underlying internal (low general expectancy) and external (high general expectancy) forces. Due to these forces he/she attributes success and failure to internal/ external control. He called internal control as internal LOC (actions) and external control as external LOC (events outside of one's control/actions). Internal versus external control makes the beliefs on whether the results of one's actions are dependent on what he/she performs. Theory of LOC revolves around two types of individuals, internals and externals. For Rotter, internals are the persons who recognize the probability of occurring of an event as consequences of their own actions. Internals focus on their own efforts/skills for success and failure. Externals are the persons who perceive events as dependent on external forces, i.e. chance, fate, and people of the community (Rotter, 1966). Rotter (1990, p.489) describes the internal locus of control as:

The degree to which persons expect that reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics.

He defines external LOC as:

The degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable, (p. 491).

So, the extent to which a person thinks that success/failure is due to his/her own efforts and mistakes, it is called internal locus of control; and the extent to which success/failure is attached with luck chance or fate is called external locus of control. The above debate on LOC indicates that Rotter's idea of developing internal/external LOC extremes was to assess the extent to which a person is internally or externally motivated to perform a task. But the term has very interesting historical underpinnings.

Kalechstein and Nowicki (1977) also elaborated Rotter's theory of LOC. They opined that beliefs about results of specific behaviors are the core of the Rotter's theory. People who possess an external locus of control are more appropriate to react to strain/anxiety as they are more expected to focus their attention on difficulties rather than chances. Different researchers have explored the effectiveness and role of both dimensions of LOC with different variables. However, there remains controversies in different research findings regarding the phenomena of present study. In a study by Erol (2008) it was revealed that internal LOC is associated positively with general stress, depression and outcomes. Ghonsooly and Elahi (2010) also explored that the students who had better scores on General English test had high internal LOC than students who had low scores on the same test tended to have external LOC. In the study by Chalak, Nasri and Tabrizi (2014) no significant correlation between students' achievement and LOC was found. Another study was conducted by Ghonsooly and Moharer (2012) to explore the relationship between locus of control and achievement in translation. The study resulted that internal LOC students were superior in performing translation tasks than external LOC students. In another study by Carden, Bryant, and Moss (2004) it was revealed that the academic procrastination of students who had internal LOC was low as compared with academic procrastination of students with external LOC.

Many other research studies also explored relationship between academic performance and LOC (Nejati, et al., 2012; & Anakwe, 2003) and expanded the need to explore the phenomena in more detail. Some of the studies explored the phenomena in face to face learning, and few

studies have investigated LOC in open and distance learning situation. Jegede et al. (1999) conducted a study in Open University of Hong Kong (OUHK) to find out correlation among Meta-cognition, LOC, and academic success. Results revealed that high achievers were better than low achievers indifferent aspects i.e. more attached in academic tasks, capacity to handle difficult tasks while learning through distance mode, and enthusiasm to tackle with unsuccessful events. contrary findings are reported by Blackner (2000) who investigated relationship between students' individual differences and final grades for developmental mathematics classes at the community college level by using three different teaching modes (computer aided instruction (CAI) in distance education, CAI in on-campus; and traditional teaching mode). The study revealed no relationship between LOC and students 'achievement in mathematics. In one more study by Esterhuysen and Stanz (2004) concluded that LOC was not predicting force in online and conventional setting as their study did not found any difference between LOC face-to-face and online learning. In the study by Parker (1999) it was revealed that in distance education, students with internal LOC had higher completion rates as compared with students who had external LOC.

Coleman and Deleire (2000) has revealed in his report that locus of control is greatly associated with academic performance. Barzegar (2001) has also done his research on Iranian students' locus of control. His study indicated that locus of control predicts academic achievement of students. Another study was conducted by Nejati, et al. (2012) and an association between students' academic success and their levels of LOC was studied. Major finding indicated significant association between LOC and pupils' academic performance. Furthermore, different researchers have the opinion that people with an internal LOC can do better than people with external LOC (Chegg, 2014). This view was previously tested by Shepherd, Owen, Fitch and Marsall (2006) who found that students with higher GPA group reported higher score in internal locus of control. This view was also elaborated by other researchers (Knowles & Kerman, 2007) who concluded that pupils who exhibit internal LOC do better in their studies as than those with external LOC. Mohsin and Zaidi (2013) did a research on 200 graduation pupils in Pakistan with the objective to explore direction and gender differences of LOC. Results of the study revealed that men exhibited higher levels of internal locus of control and women exhibited higher levels of external LOC.

Research work (Uba, 1997; Hawthorne, 2004; Martinez 2003; Nejati et al., 2012; & Anakwe, 2003) recommended that the study of locus of

control needs to be studied as it puts impact on students' achievement. It is need of the day that among other psychological variables, LOC also needs to be studied with academic achievement especially in Pakistan as this phenomenon is investigated little with achievements of distance learners, so there is need to explore it (Mohsin & Zaidi, 2013).

Distance education is wide spreading in Pakistan and distance learners have diverse psychological characteristics "which may hinder or improve their academic performance". So, it is imperative that this phenomenon be investigated in Pakistan in the perspective of distance education. Keeping in view the importance of psychological factor (LOC) in students' progress, the present study was focused on "prediction of distance learners' achievements from locus of control at post graduate level".

Review of Literature

Locus of control and distance learners: Distance learning revolves around the multi-dimensional concept of self-regulated learning which encompasses several psychological aspects of learners (Boekaerts & Corno, 2005); one important factor is locus of control which motivates learners towards learning (Zimmerman, 2002). Locus of control is an important aspect of a person's personality; being a person's tendency he/she can attribute successes and failures to internal (effort, ability, motivation) or external (chance, destiny, and other's actions) factors (Leone & Burns, 2000).

Historical background: The originator of the concept of locus of control (LOC) is Rotter who presented his theory of LOC in the early 1950s. His theory is based on his social learning theory. He conceived LOC as a person's underlying internal (low general expectancy) and external (high general expectancy) forces. Due to these forces he/she attributes success and failure to internal/ external control. He called internal control as internal LOC (actions) and external control as external LOC (events outside of one's control/actions). Internal versus external control makes the beliefs on whether the results of one's actions are dependent on what he/she performs. Theory of LOC revolves around two types of individuals, internals and externals. For Rotter, internals are the persons who recognize the probability of occurring of an event as consequences of their own actions. Internals focus on their own efforts/skills for success and failure. Externals are the persons who perceive events as dependent on external forces, i.e. chance, fate, and people of the

community. In 1996, Rotter designed a 13 item LOC scale. The basic idea of developing the Internal-External (I-E) locus of control questionnaire was to judge that to which extent a person is internally or externally motivated to perform a task. According to Rotter, if there is a linkage between a person's behaviors and reinforcers, then reinforcers influence his/her behavior. If there is no linkage, then he/she respond less predictably to reinforcers. Internal LOC indicates that the person is more likely to believe that he/she has all of the skills which are essential to do a task and the outcomes are results of their own actions. People with an internal locus of control pursue challenges as they have high levels of motivation than people with low levels of LOC. They can control stress because they have knowledge that the result of outcome is due to their own capabilities. External LOC indicates that the person has feelings that he/she is victim of circumstances. There is always lack of determination required to execute a task. Such individual thinks that the cause of failures is his/her limited intellect and the success is due to chance rather than effort (Rotter, 1966).

Research studies: Different researchers have explored the effectiveness and role of both dimensions of LOC with different variables. In a study by Iskender and Akin (2010) explored positive relationship between internal academic locus of control and performance-approach and an inverse relationship between external academic locus of control with performance goals/approach. Similar findings have been explored almost two decades before by Sarason et al., (1983). It was found that the performance of those college students was poor on a difficult problem that exhibited low levels of external locus of control and perceived social support. Trice and Hackburt (1989) highlighted that external locus of control is associated with various maladaptive educational and psychological variables i.e. college absenteeism, internet addiction (Iskender & Akin, 2010), and performance approach (Akin 2010). Contrary findings are also reported by Multu, Balbag, and Cemrek (2010) who carried out their research to explore the role of self-esteem, LOC, and big five personality traits in predicting hopelessness of university students. Results revealed that hopelessness among students was predicted by internal LOC, self-esteem and extraversion. On the other hand, in a research by Pannells and Claxton (2008) the positive impact of internal LOC was found. Results reported positive association between internal LOC and happiness. Individuals with high internal LOC have high scores in different events that lead them towards happiness. Ghonsooly and Elahi (2010) also explored that the students who had

internal LOC had better scores. An interesting finding was reported by Serin, Serin, and Sahin (2010) who found that students who had more siblings had more internal control of locus. Saracaloglu and Yilmaz (2011) conducted a survey to examine locus of control, and critical thinking attitudes of the prospective teachers' (155 first grade and 151 fourth grade students from three universities). Findings revealed that the prospective teachers tend to have external locus of control. Lonky and Reihman (1980) explored that the internally controlled students took much time while performing on learning tasks than externally controlled students who didn't took much time to perform on the same learning tasks. Omid, Omid, and Behzad (2015) carried out a study at Imam Reza International University and Khayyam Institute of higher education to investigate the relationship between LOC and achievement in English translation. The participants observed were those B.A. senior students (100 students, 27 males and 73 female) who were studying English translation as their major. Overall significant positive was seen between the level of LOC and translation achievement of students. Internally controlled students performed better than externally controlled students. It was also observed that with the increase in the students' locus of control the performance of students also increased.

Conceptual framework: The concept of locus of control (LOC) was first introduced by Phares and then presented by Julian Rotter in 1966 which is based on his social learning theory. The theory aims to unite two significant theories of psychology the stimulus-response or reinforcement theory and cognitive or field theory. This theory focuses on human behavior and personality in social circumstances as well as needs required for human satisfaction by reinforcements. The concept of LOC is theorized on a vigorous uni-dimensional/bipolar continuum which is internal LOC to external LOC. A person either possesses internal or external LOC. People with internal LOC attribute consequences as a result of one's own behavior. Individuals, who attribute success or failure to their fate, luck, or powerful others possess external LOC. Rotter also published his scale of Locus of Control which is widely applied (Rotter, 1966).

Mearns (2015) elaborated the ideas of Rotter that there are different factors i.e. behavior potential, reinforcement value, expectancy and psychological situation which may help to understand and predict a person's behavior. Following is the detail of these factors:

Behavior Potential: It is the possibility of a person to involve his/herself in a specific behavior in particular circumstances. There is a behavior potential for every probable behavior.

Reinforcement Value: It is the desirability of results. The things for which they are not attracted and they do not want them to occur have low reinforcement value. The things for which people are attracted towards and they wish them to occur, have a high reinforcement value.

Expectancy: It is the particular likelihood that a specific behavior will result in a specific product. Individuals have high and low expectancies. High expectancy is associated with specific behavior accomplishment and low expectancy is associated with failure in behavior accomplishment.

Psychological Situation: This reflects Rotter's notion that every person has a unique experience of his/her environment. However same situation is interpreted in different manner by different people.

Stewart (2012) highlighted that in 1970s there were different scholars i.e. Lefcourt, Hirsch, Scheibe, Levenson, Murels, Reid and Ware who argued that a person's LOC is multidimensional as well as one's perceived locus of control influences his/her specific goal expectancy in each situation. Lefcourt (1976) elaborated LOC in terms of perceived control as a general probability for internal in contrast with external control of reinforcements. During this era, the main focus of LOC remained on ability versus luck. Hurst (2015) elaborated that after 1970s, Bernard Weiner was the person who pointed out that attribution to ability versus luck also differs as the former is an attribution to a stable cause (ability) and the latter is an attribution to unstable cause (luck). His theory argued that an individual's future actions are influenced by his/her understanding of the reasons of past events. He gave his attribution theory and enlisted the following elements of theory:

- Behavior is observed /perceived.
- Behavior is determined to be intentional;
- Behavior is attributed to internal or external causes.

Locus of control has been explored with many variables i.e. cultural impacts, age; achievement etc.

Objectives

The objectives of the study were to:

1. Explore the nature of locus of control of distance learners.

2. Find out the relationship between achievements and LOC.
3. Predict the distance learners' achievements from locus of control.

Hypothesis

The study was conducted to test the following null hypothesis:

- H₀₁** There is no significant between achievements and locus of control of distance learners.
- H₀₂** There is no significant prediction of distance learners' achievements, from locus of control of distance learners.

Methodology

Following methodology was adopted:

Research Design

Following is the description of research design of the study.

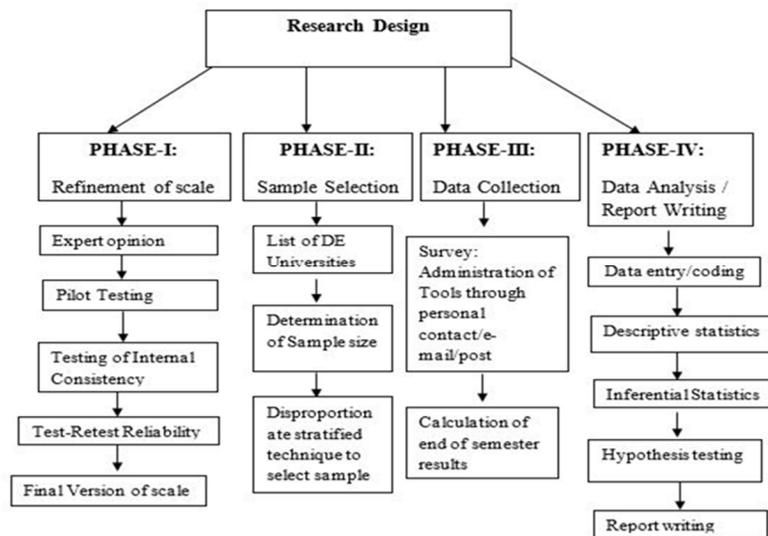


Figure 2: Research Design of the Study

Participants

Population consisted of distance learners (Spring or Autumn 2015) of teacher education programs; M.A, M.Ed and B.Ed offered by universities of Pakistan through distance learning mode. The total

number of population was 156262. After inclusion and exclusion criteria (the universities which were offering M.A, M.Ed and B.Ed on distance mode), distance learners were sampled from the following universities:

1. Allama Iqbal Open University
2. Bahauddin Zakariya University Multan
3. Gomal University Dera Ismail Khan
4. Government College University Faisalabad
5. University of Sindh
6. University of Agriculture Faisalabad
7. University of Peshawar
8. International Islamic University

The sample size was determined by using “Sample Size Table from the Research Advisors, (Research Advisors, 2006. Retrieved from <http://www.research-advisors.com/tools/SampleSize.htm>). The total sample size calculated was 1513 (with 95% confidence level and 0.025% degree of accuracy/margin of error).

Stratified random sampling was used to select the sample. The sample size of male and female stratum was determined through disproportionate stratified random sampling technique. Following is the description of selection of male and female stratum:

Table 1

Population and Sample Size

Stratum	Male	Female
Population Size	42558	110386
Sampling Fraction (%)	0.9%	1%
Final Sample Size	391	1182

Research Instrument

The Nowicki-Duke Locus of Control Scale developed by Duke and Nowicki (1974) was adapted after taking legal permission and used to measure the Locus of Control of students. This scale is comprised of 40 items. The scale was translated in Urdu language and the language. The Urdu translated version of the scale was administered in the study.

Pilot testing was done to assess internal consistency of the research measure. The Nowicki-Duke Locus of Control Scale was sent through post to a sample of 100 students from selected universities (Students from the selected universities who were not included in the actual sample) were selected randomly and a self-addressed envelope was also

sent to the participants for their convenience to be able to quickly respond. Total number of 83 respondents sent back the scale. Their responses were analyzed in SPSS (version 16.0) and alpha reliability coefficients of the scale was calculated before actual administration on the study sample. Following is the description of alpha reliability coefficient of scale:

Table 2

Alpha Reliability Co-efficient of “The Nowicki-Duke Locus of Control Scale”

	Alpha reliability co-efficient	Total No. of Items
The Nowicki-Duke Locus of Control Scale	.88	40

The Nowicki-Duke Locus of Control Scale was content validated by seeking opinion from 7 experts. Moreover, test-retest reliability of the scale was also checked. Following table indicates the description of test-retest reliability co-efficient of the scale:

Table 3

Test-retest Reliability of “The Nowicki-Duke Locus of Control Scale”

	Test-Retest Reliability (r)	Total No. of Items
The Nowicki-Duke Locus of Control Scale	.81*	40

Variables

Locus of control was dependent variable and achievement was independent variable of the study.

Locus of control: Locus of control is an individual’s belief regarding the causes of his or her experiences and the factors to which that person attributes success or failure (Njus & Brockway, 1999). Individuals who possess internal LOC consider their success to their own talents and abilities. However, individuals with external LOC attribute success/failure to external factors i.e. luck or fate (Chegg, 2014). In the present study, internal, external and intermediate locus of control was investigated.

Achievements: Achievements were measured in terms of students' grades in the semester (Spring/Autumn 2015), life success/distinctions, and co-curricular activities.

Data Collection and Analysis

Data was collected through e-mail/post/personal contact. Data was analyzed and tabulated in percentages, frequencies, mean, standard deviation, and regression analysis in SPSS.

Results and Discussion

For the analysis of LOC scale, the scoring key given by Duke and Nowicki was followed. The total scale score was 40 (Internal Score 0-6, Intermediate Score 7-15, External Score 16-40).

The achievements variable comprised of life success/distinctions, co-curricular activities, and academic achievement. The academic achievement of the respondents was taken in terms of grades achieved at the end of semester. Two categories of achievements; high and low were made. In high achievements A, B and life success/distinctions, co-curricular activities graders were included. In the low academic achievement C, D, F and reappear/re-workshop were taken.

Following tables indicate the descriptive statistics of the respondents regarding their nature of locus of control, level of self-efficacy and achievements.

Table 4

Nature of Locus of Control (LOC) of Distance Learners (DL) in terms of Frequency (f), Percentage (%), Mean, Standard Deviation and Variance. N=1273

Locus of Control	f	(%)	Mean	S.D	Variance
Internal LOC	737	(58)	4.30	1.11	1.24
External LOC	376	(30)	33.19	4.04	16.3
Intermediate LOC	160	(12)	11.13	1.99	3.97

Above table 4 highlights the nature of locus of control of distance learners. Among three dimensions of LOC (internal, external and intermediate), distance learners with internal LOC were 58% whereas 30% respondents had external LOC and 12% distance learners had

intermediate LOC. The mean score for internal, external and intermediate LOC is 4.30, 33.19 and 11.13 respectively. So, the table depicts the picture that there were few respondents with intermediate and external LOC and those with internal LOC were in majority.

Table 5

Description of Achievements of Distance Learners (DL) with LOC in terms of Frequency (f), Percentage (%), Mean and Standard Deviation, N=1273.

	f	%	Mean	S.D	Variance
Internal LOC			4.31	1.09	1.19
High Achievements	550	43	4.96	.86	.74
External LOC			32.01	4.72	22.3
High Achievements	182	14	5.02	.98	.96
Intermediate LOC			10.64	2.08	4.34
High Achievements	104	8	4.68	.74	.54
Internal LOC			4.27	1.17	1.39
Low Achievements	187	15	1.86	.86	.74
External LOC			27.58	8.62	74.3
Low Achievements	194	15	1.72	.67	.45
Intermediate LOC			11.64	1.77	3.14
Low Achievements	56	5	2.13	.85	.73

Table 5 describes achievements of distance learners with LOC. It highlights that in high achievements category, respondents had high level of internal LOC with M=4.31, S. D=1.09; then there were respondents with external LOC with M=32.01, S. D=4.72, and those who exhibited intermediate LOC (M=10.64, S. D=2.08) were minor. So, it depicts the picture that those with internal LOC had high achievements. In the low achievements category, distance learners with internal, external and intermediate LOC were 187 (15%), 194 (15%) and 56 (5%) separately. It

reflects that most of the distance learners who had external LOC $M=27.58$, $S. D=8.62$ had low achievements.

Table 6

Relationships between Locus of Control (LOC) and Achievements of Distance Learners (DL)

		Mean	S.D	Pearson r	P-values
	High Achievements	4.96	.86		
	Internal LOC	4.31	1.09	.73**	0.00
	Low Achievements	1.86	.86		
LOC Versus	Internal LOC	4.27	1.17	-.36**	0.00
Achievements	High Achievements	5.02	.98		
	External LOC	34.56	3.48	-.30*	0.01
	Low Achievements	1.72	.67		
	External LOC	31.90	4.11	.88**	0.00
	High Achievements	4.68	.74		
	Intermediate LOC	10.64	2.08	.25**	0.00
	Low Achievements	2.13	.85		
	Intermediate LOC	12.02	1.44	.41**	0.00

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the results related to the correlation between achievements LOC of participants. There were three dimensions of LOC (internal, external and intermediate) and two dimensions of achievements (high and low). The results indicated that distance learners with internal LOC had high achievements and those with external LOC exhibited low achievements. However, there was weak relationship between intermediate LOC and high and low achievements categories. This table tells positive significant relationship (.73**) between internal LOC and high achievements; and an inverse relationship (-.36**) between internal LOC and low achievements. The relationship between external LOC and high achievements is inverse (-.30**); and the relationship between external LOC and low achievements is significantly positive (.88**). In the intermediate LOC category, the relationship between intermediate

LOC and high achievements is .25**; and the relationship between intermediate LOC and low achievements is .41**.

Table 7

Description of Achievements of Distance Learners (DL) in terms of Frequency (f) and Percentage (%), N=1273

	Life Success/ Distinctions	Co- curricular Activities	Others	Academic Achievement/Grades					
				A	B	C	D	F	R/W
f	460	485	328	276	550	104	141	184	18
(%)	(36)	(38)	(26)	(22)	(43)	(8)	(11)	(15)	(1)

Table 7 elaborates overall achievements of distance learners. It indicates that those who had life success/distinctions were 460 (36%), co-curricular activities 485 (38%), and students in category others (who had no life success/distinctions/co-curricular activities) were 328 (26%). In the academic achievement/grades, 276 (22%) students had ‘A’ grade, 550 (43%) students had ‘B’ grade, 104 (8%) students had ‘C’ grade, 141 (11%) students had ‘D’ grade, 184 (15%) students had ‘F’ grade and 18 (1%) students in R/W (re-workshop). It indicates that most of the distance learners had achievements in co-curricular activities and obtained ‘B’ grade.

Table 8

Prediction of Distance Learners Achievements from Locus of Control (LOC).

	R	Adjusted R Square	Unstandardized Coefficients		t	P-value	
			B	Std. Error			
Internal Versus Achievements	LOC High	.73 ^b	.53	2.47	.102	24.32	0.00
External Versus Achievements	LOC Low	.88 ^b	.77	2.88	.180	15.99	0.00

** . Correlation is significant at the 0.01 level (2-tailed).

Above table 08 shows regression analysis of distance learners' achievements from LOC. In the internal LOC with high achievements, there is positive significant relationship (p -value $0.00 < 0.05$) the correlation coefficient ($r=.73$) reflected adjusted R Square (.53). It indicates that there is strong relationship between high achievements and internal LOC. In the external LOC with low achievements, there is also positive significant relationship (R Square = .77 and $r =.88$), (p -value $0.00 < 0.05$). It predicts that there is strong relationship between low achievements and external LOC. It indicates that the distance learners with internal locus of control had better performance in their achievements and vice versa.

Discussion

The relationship between LOC and achievements revealed that distance learners (DLs) with internal LOC had statistically significant positive relationship with high achievements and distance learners with external LOC had statistically significant positive relationship with low achievements. However, it was also found that DLs with intermediate LOC had weak relationship with high achievements. Mixed results are found in the literature. In the previous work of Wang (2005) found that in a web-based environment, the students with internal LOC were dependent upon their own skills, while students with external LOC were dependent upon the tutors' assistance. The study revealed an overall positive relationship between LOC and academic achievement of students. In the study of Boss and Taylor (2004) similar results are reported. They investigated relationship among LOC, academic level and sex of students. Their study found relationship between LOC and academic levels (advanced versus general) of students. Ghonsooly and Elahi (2010) also found relationship between LOC and academic achievement. Their study indicated that the students who had better scores on General English test had high internal LOC than students who had low scores on the same test tended to have external LOC. It was found by Shepherd, Owen, Fitch and Marsall (2006) that students with high levels of internal LOC exhibited higher levels of achievement. Chalak, Nasri and Tabrizi (2014) conducted a study on Iranian online students who were studying in English as a Foreign Language (EFL). In this study it was checked that whether there was correlation between distance learners' LOC and achievement in EFL. The findings showed no significant correlation between students' achievement and LOC. Similar results are found by Blackner (2000) who investigated

relationship between students' individual differences and final grades for developmental mathematics classes at the community college level by using three different teaching modes (computer aided instruction (CAI) in distance education, CAI in on-campus; and traditional teaching mode). The study revealed no relationship between LOC and students' achievement in mathematics.

This study was based on the prediction of distance learners' achievements from LOC. Results revealed that LOC predicted the achievements of respondents. A study on prediction of academic achievements from demographic variables and LOC was conducted by Khayyer and deLacey (1994) with different sample characteristics as compared with the present study. In that study the results revealed that among all the independent variables of the study, the best predictor of academic achievement of students was LOC. Behzad (2015) and Jegede et al. (1999) also reported the same results. An important finding of the present study was that internal LOC predicted high achievements. These results are supported by many other studies (Ghonsooly & Elahi 2010; Shepherd et al., 2006; and Wang 2005) also supported that internal LOC predicts high academic achievements of students. Ahmed (2012) investigated impact of two independent variables (locus of control and time management) on secondary school students' academic achievement. Results indicated that both variables (LOC and time management) strongly predicted students' success. On the other hand, contrary findings are also found in literature. In a study by Nodoushan (2012) on impact of LOC on language achievement, results did not identify LOC as predictor of achievement.

On the other dimension of distance learners'; it was found that distance learners with low achievements predicted external LOC. These findings are supported by the study of Mearns (2006) in which it was revealed that external LOC contributes low academic achievement of students. The above discussion reflects that since the study was conducted on distance learners, however, literature from distance education setting and formal education setting supported the study results. Overall, the results of this research also contributed in adding fresh information aligned with other related literature regarding LOC and achievements of distance education.

Conclusion and Recommendations

Based on the findings of the study it was concluded that distance learners tend to attribute their success and failures to their own efforts.

So, they had more internal LOC as they relied on their own capacities in achievement of their tasks. The findings of this study also concluded that the LOC has significant relationship with the achievements of distance learners. The studies cited in the above sections also suggest that LOC predicts academic achievement of students not only in face-to-face learning but also in online learning environment. So, these results are complementing the results of previous studies in the field of locus of control. But there is scarcity of research studies in distance learning in the field of LOC and achievements, so it arouses the need for the future researchers to expand this phenomenon in online distance education environment, where the phenome of LOC may be studied in varied other dimensions of students' achievement with many other psychological variables which may affect the achievements of students.

The study also found that Internal LOC predicted high achievements of DLs, and external LOC predicted low achievements of DLs (H_02 rejected). While some studies cited in this paper in the field of distance education regarding LOC and achievement revealed contrary findings. It implies the need for the investigation of LOC and achievements in more controlled research environments i.e. experimental studies may be conducted so that impact of many other intervening variables may be studied. However, the mix of results in the discussion section indicates that the results of the present study may not directly be transferred to face-to-face learning but it is a good evidence that LOC predicts achievements in distance learning environment. In the context of the scenario in which the present study was conducted, the results of the study arouse the need of some training programs by distance learning institutions especially by AIOU for tutors and students. So that when they meet in counselling sessions, emphasis may be given on the importance of psychological factors i.e. LOC of students which may affect their performance. The findings of this study may be used as a baseline data to explore this phenomenon in distance educational institutions regarding the importance of psychological factors i.e. LOC in achievements of DLs.

References

- Adeyemo, D. A. (2001). Self-efficacy and subject Enrolment in Secondary Schools: An Empirical Inquiry. *Journal of Educational Studies*, 1(1), 86 – 95.
- Adeyemo, D. A. (2007). Moderating influence of emotional intelligence on the link between academic self-efficacy and achievement of university students. *Psychology Developing Societies*, 19 (2), 199-213.
- Ahmed, O. (2012). Locus of Control and Time and Study Management as Predictors of Academic Achievement *Bulgarian Journal of Science and Education Policy (BJSEP)*, 12 (1), 140-152. Retrieved from <http://bjsep.org/getfile.php?id=262>
- Akin, A. (2010). Achievement goals and academic locus of control: A structural equation modeling approach. *Eurasian Journal of Educational Research*, 10 (38), 1–18.
- Anakwe, A.I. (2003). *The Relationship among Locus of Control, Academic Performance and School Adjustment of Senior Secondary School Students in Plateau state*. (Unpublished PhD Thesis). University of Jos, Nigeria. Retrieved from <http://dspace.unijos.edu.ng/handle/10485/1849>
- Aremu, A. O. (2000). *Academic Performance, 5-Factor Inventory*. Ibadan: Stirling-Horden Publishers.
- Barzegar, M. (2011). The Relationship between Learning Style, Locus of Control and Academic Achievement in Iranian students, *Proceedings of the 2011th International Conference on Education and Technology*, (13), 195-199. Retrieved from <http://www.ipedr.com/vol13/38-T00067.pdf>
- Bates, T. (2005). *Technology, E-Learning and Distance Education*. (Second Edition). UK: Routledge Taylor & Francis Group.
- Blackner, D. M. (2000). *Prediction of Community College Students' Success in Developmental Math with Traditional Classroom, Computer-Based On-Campus and Computer-Based at A Distance Instruction Using Locus of Control, Math Anxiety and Learning Style*. (Unpublished PhD Thesis). University of North Texas,

Denton. Retrieved from <https://digital.library.unt.edu/ark:/67531/metadc2540/m1/17/>

Boekaerts, M., Corno L. (2005). Self-regulation in the Classroom: A Perspective on Assessment and Intervention. *Applied Psychology: An International Review* 54 (2), 199–231.

Carden, R., Bryant, C., & Moss, R. (2004). Locus of Control, Test Anxiety, Academic Procrastination, and Achievement among College Students. *Psychological Reports*, 95(2), 581-582.

Chalak, A., Nasri, N., & Tabrizi, H. H. (2014). The Relationship between the Types of Locus of Control and the Academic Achievement of Iranian Online Foreign Language Learners. *Cypriot Journal of Educational Sciences*, 9 (1), 50-56. Retrieved from https://www.researchgate.net/publication/262413372_The_Relationship_between_the_Types_of_Locus_of_Control_and_the_Academic_Achievement_of_Iranian_Online_Foreign_Language_Learners

Chegg, J. B. (2014). *Locus of Control: Internal Vs External LOC*. Retrieved from <http://www.loc-internal/jeb/extrov.html>

Coleman, M., & Deleire, G. B. (2000). *An Economic Model of Locus of Control and the Human Capital Investment Decision*. Retrieved from https://www.researchgate.net/publication/46552536_An_Economic_Model_of_Locus_of_Control_and_the_Human_Capital_Investment_Decision

Erol, R. Y. (2008). *Social support (Perceived vs. Received) as the Moderator between the Relationship of Stress and Health Outcomes: Importance of Locus of Control*. [Master Thesis]. Middle East Technical University: Ankara. Retrieved from <http://etd.lib.metu.edu.tr/upload/12609832/index.pdf>

Esterhuysen, S., & Stanz, K.J. (2004). Locus of control and online learning. *Journal of Industrial Psychology*, 30(1), 17-25.

Fazey, A., & Fazey, J. A. (2001). The Potential for Autonomy in Learning: Perceptions of Competence, Motivation and Locus of Control in first-year Undergraduate Students. *Studies in Higher Education*, 26 (3), 345–361.

- Ghonsooly, B., & Elahi, M. (2010). Validating Locus of Control Questionnaire and Examining its Relation to General English Achievement. *Journal of Teaching Language Skills*, 2(1), pp. 117-144.
- Ghonsooly, B., & Moharer, A. (2012). Examining the Relationship between Translation Students, Locus of Control and their Translation Achievement. *International Journal of Linguistics*, 4(2), 244-256.
- Hamid, P. N. (1974). Changes in locus of control as a function of value modification. *British Journal of Social & Clinical Psychology*, 13(2), 143-150.
- Hawthorne, S. (2004). *Engaging Reluctant Writers in Secondary School English*, Retrieved from www.english.unitechnology.ac.nz
- Hurst, M. (2015). *Attribution Theory and the Principle of Locus of Control*. Retrieved from <http://education-portal.com/academy/lesson/attribution-theory-and-the-principle-of-locus-of-control.html>
- Iskender, M., & Akin, A. (2010). Social Self-efficacy, Academic Locus of Control, and Internet Addiction. *Computer and Education*, 54 (4), 1101-1106. Doi: <https://doi.org/10.1016/j.compedu.2009.10.014>
- Jegade, O., Fan, R. Y. K., Chan, M. S.C., Yum, J., & Taplin, M. (1999). Locus of Control and Meta-cognition in Open and Distance Learning: A Comparative Study of Low and High Achievers. *Paper presented at the 13th Annual Conference of the Asia Association of Open Universities (AAOU)*. The Open University of Hong Kong SAR: China.
- Kalechstein, A. D., & Nowicki, S. J. R. (1977). A Meta-Analytic Examination of the Relationship between Control Expectancies and Academic Achievement: An 11-year follow-up to Findlay and Cooper. *Genetic, Social, and General Psychology Monographs*, 123, (1), 27-56. Retrieved from <https://go.galegroup.com/ps/i.do?p=AOONE&sw=w&u=googlescholar&v=2.1&it=r&id=GALE%7CA20640393&sid=googleScholar&asid=1093a532>
- Knowles, E., & Kerman, D. (2007). *An Investigation of students' attitude and motivation toward online learning: Students' Motivation*. Retrieved from www.motivation/online-learning/fal.htm
- Khayyer, M., & deLacey, P. R. (1994). *Prediction of Academic Achievement from some Demographic, Family Background and*

Locus of Control Variables. Retrieved from <https://www.aare.edu.au/data/publications/1994/khaym94386.pdf>

Lefcourt. (1976). *Locus of Control and the Response to Aversive Events*. Retrieved from https://www.researchgate.net/publication/232499250_Locus_of_control_and_the_response_to_aversive_events. DOI: 10.1037/h0081839

Leone, C., & Burns, J. (2000). The Measurement of Locus of Control: Assessing more than Meets the eye? *Journal of Psychology Interdisciplinary & Applied*, 134 (1), 63-76.

Lonky, E., & Reihman, J. (1980). *Cognitive Evaluation Theory, Locus of Control and Positive Verbal Feedback*. Retrieved from https://www.researchgate.net/publication/234590082_Cognitive_Evaluation_Theory_Locus_of_Control_and_Positive_Verbal_Feedback

Mearns, J. (2006). *The social Learning Theory of Julian Rotter*. In D. P. Crowne (Ed.), *Personality theory*. New York: Oxford University Press.

Mearns, J. (2015). *The Social Learning Theory of Julian B. Rotter (1916 - 2014)*. Retrieved from <http://psych.fullerton.edu/jmearns/rotter.htm>

Mohsin, M. N., & Zaidi, I. H. (2013). *Locus of Control in Graduation Students*. Retrieved from http://www.scielo.org.co/scielo.php?pid=S2011-20842013000100003&script=sci_arttext&tlng=pt,

Multu, T., Balbag., & Cemrek, F. (2010). *The Role of Self-esteem, Locus of Control and Big Five Personality Traits in Predicting Hopelessness*. Retrieved from http://ac.els-cdn.com/S1877042810025061/1-s2.0-S1877042810025061-main.pdf?_tid=34ccd374-3e8b-11e6-98a8-00000aacb360&acdnat=1467268008_fe48fd850add20b367a791638628c246,

Nejati, M., Abedi, A., Agbaci, A., & Mohammadi. (2012). The Relationship between Locus of Control with the Academic Performance of the M.A. Students by Considering the Role of Life Quality and Satisfaction with Life. *Interdisciplinary Journal of Contemporary Research in Business*, 4(5), 254-263.

Njus, D. M., & Brockway, J. H. (1999). Perceptions of Competence and Locus of Control for positive and negative outcomes. *Personality and individual differences*, 26 (3), 531-548.

- Nodoushan, M. A. S. (2012). The impact of locus of control on language achievement. *International Journal of Language Studies (IJLS)*, 6 (2), 123-136. Retrieved from <https://files.eric.ed.gov/fulltext/ED530462.pdf>
- Omid, K., Omid, A., & Behzad, G. (2015). On the Relationship between Locus of Control and Translation Achievement of Iranian Translation Students. *International Journal of Research Studies in Education*, 5 (1), 51-61. Retrieved from <http://www.consortiacademia.org/index.php/ijrse/article/viewFile/1176/511>.
- Parker, A. (1999). A study of variables that predict dropout from distance education. *International Journal of Educational Technology*, 1(2), 1-10.
- Pannells, T.C. & Claxton, F.A. (2008). Happiness, Creative Ideation and Locus of Control. *Creativity Research Journal*, 20 (1), 67-71.
- Rotter J. B. (1990). Internal Versus External Control of Reinforcement: A Case History of a Variable. *American Psychologist*, 45 (4), 490-493.
- Rotter, J. B. (1966). Generalized expectancies for Internal versus External Control of Reinforcement: *Psychological Monographs: General & Applied* 80 (1), 1-28.
- Saracaloglu, A. S., & Yilmaz, S. (2011). An Investigation of Prospective Teachers' Critical Thinking Attitudes and Locus of Control. *Elementary Education Online*. 10 (2), 468-478. Retrieved from <http://ilkogretim-online.org.tr>.
- Sarason I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing Social Support: Social Support Questionnaire. *Journal of Personality and Social Psychology*, 44 (1), 127-139. doi: <http://dx.doi.org/10.1037/0022-3514.44.1.127>
- Serin N. B., Serin, O., Sahin, F. S. (2010). Factors Affecting the Locus of Control of the University Students. *Procedia Social and Behavioral Sciences*, 2, 449-452 Retrieved from <http://kisi.deu.edu.tr/oguz.serin/2010.yili.makaleler/sulen.nerguz.oguz.2010.pdf>

- Shepherd, S., Fitch, T. J., Owen, D., & Marshall, J. L. (2006). Locus of control and Academic Achievement in High School Students. *Psychological Reports, 98* (2), pp. 318- 322.
- Stewart, T. (2012). Undergraduate Honors Service Learning & Effects on Locus of Control. *Journal of Service-Learning in Higher Education, 1*, 70-86. Retrieved from <http://journals.sfu.ca/jslhe/index.php/jslhe/article/view/17/5>
- Tracey, M., & Richey, R. (2005). The Evolution of Distance Education. *Distance Learning, 2*(6), 17–21.
- Trice, A., & Hackburt, L. (1989). Academic Locus of Control, Type A Behavior, and College Absenteeism. *Psychological Reports, 65*, 337-338.
- Uba, L. (1997). Educating for Success: A Strategy to Motivate Independent Learners. *College Quarterly, 4* (4), 1-7. Retrieved from: <http://collegequarterly.ca/1997-vol04-num04-summer/uba.html>
- Wang, D. (2005). Students' Learning and Locus of Control in Web-supplemental Instruction. *Innovative Higher Education, 30*(1), 67-82.
- Yoloye, T. W. B. (2004). *That we may Learn Better*'. [Inaugural Lecture]. Ibadan: Stirling Horden Publishers. pp. 29.
- Zimmerman, B. (2000). Self-Efficacy: An Essential Motive to Learn. *Contemporary Educational Psychology 25*(1), 82-91.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for Academic Attainment: The Role of Self-efficacy Beliefs and Personal Goal Setting. *American Educational Research Journal, 29*, 663–676.
- Zimmerman, B., Gandur, A., & Martinez-Pons, M. (1992). Self-motivating for Academic Attainment: The role of Self-Efficacy Beliefs and Personal goal-setting. *American Educational Research, 29*, 663-676.

Citation of this Article:

Naseer, N. & Majid, S. (2018). Prediction of Achievements of Distance Learners from Locus of Control. *Pakistan Journal of Distance and Online Learning, 4*(2), 25-48.

