

**ON THE RELATIONSHIP BETWEEN LOCUS OF
CONTROL AND THE GRADE POINT AVERAGE OF THE
IRANIAN AZAD UNIVERSITY EFL STUDENTS**

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Abstract

The present study intended to see if locus of control really affected students' language achievement. It was hypothesized that subjects' loci of controls affected their GPA's in meaningful and significant ways. The study also tried to measure the effects of students' major and their proficiency level on their language achievement. A total of 198 freshman, sophomore, junior, and senior students all majoring in English (i.e., Translation, TEFL, or Literature) in different branches of Islamic Azad University (i.e., Karaj, Takestan, Zanzan, and Bandar Abbas) took the Rotter's (1966) locus of control personality test and were classified as internal LOC ($n_i=78$), and external LOC members ($n_e=120$). They then took their ordinary courses and at the end of the semester, they were given their exams. Their GPAs were calculated and compared to their previous term GPAs. For data analysis, three sets of Mixed between-within subjects analysis of variance (also known as SPANOVA) were conducted with study major, proficiency, and locus of control as the independent variables.

The results of data analysis indicated that language proficiency was the most important factor in language achievement; neither locus of control nor major of study were found as indicators of GPA gain. It was also noticed that advanced proficiency students had somewhat lost their GPAs. This indicated that other factors such as locus of control and/or major of study, if at all, interacted with proficiency only at the advanced proficiency level. As such, the first and second null hypotheses of the study were not rejected. However, the last null hypothesis was rejected.

Key Terms: Locus of control, Internal locus of control, External locus of control, Grade Point Average, Cognitive Style,

Chapter One

1.1. Introduction

The environment, where the learning occurs, has a profound influence itself; as Williams and Burden stated (1997, p. 84): “Learning never takes place in a vacuum”. Therefore, a better understanding of different aspects of the immediate environment is of great importance for language teachers and learners. Each learner has an individual role in the learning process. The way s/he observes the world in its surrounding area has a great influence over her/his educational process. One of the most significant factors in arousing and maintaining individuals’ interest and involvement in their sense of personal control over what is happening around them and how it affects them is known as Locus of Control or LoC.

Locus of Control is a concept in psychology. In proposing the Social Learning Theory, Rotter (1954) first mentioned and introduced the concept of Locus of Control, which indicates how a person believes about control over life events and refers to a person's belief about what causes the good or bad results in his or her life, either in general or in a specific area such as health or academics. Originally developed within the framework of Julian Rotter's (1954) social learning theory, Locus of Control refers to whether or not individuals believe that the events of their lives are related to their own behavior. According to Locus of Control theory, some people are ‘internalisers’ who feel personally responsible for everything that happens to them in their lives. ‘Externalisers’ are those who believe that there are some factors beyond their control that determine what would happen in their lives; factors such as fate, luck, and the influence of other people in their surrounding environment (Rotter, 1954).

On the other hand, Grade point average, as is described in the *Dictionary of Language Teaching and Applied Linguistics* (Richards & Schmidt, 2002, p.230), refers to “a measurement of scholastic performance”. A GPA is an internationally recognized measure which provides an overall view of students’ performance in a program and is a leading indicator of students’ achievement. In some countries such as The United States of America, Canada, The Great Britain, Australia, Hong Kong, and South Africa the educational organizations use numerical values which are assigned to letter grades (e.g. A equals to 4, B equals to 3, etc.). In some other nations, such as Mexico, schools use a scale from 0 to 10 to measure the students' scores. Since decimal scores are common, a scale from 0 to 100 is often used to remove the decimal point; wherein >70 to 100 equals to Good to Excellent, 70 is the Average point, 60 is the Passing thresholds, and <60 equals to Failed. In Argentina and Indonesia a grade point average ranging from 1 to 10 is used. In Israel there are two scales, 0-10 (usually small quizzes, surprise quizzes etc.) and 0-100 (usually exams). In countries such as Algeria, Belgium, Ecuador, France, Greece, Morocco, Portugal, Peru, Venezuela, Senegal, Mali, **Iran**, and Tunisia, a 20-

point grading scale is used, in which 20 is the highest grade and 0 is the lowest wherein a score of 20 is considered perfect, a score of 10 is the “passing grade”, and accordingly scores below 10 are subject to failure.

1. 2. Statement of the problem

In the process of teaching/learning, situations are not always within the control and if they are, they may be either internal or external forms of control. The concept of Locus of Control enlightened the way learners view their own learning and suggests some functions through which teachers can help learners have a better understanding of this process. The present study intends to see if Locus of Control really affects students test performances. It is hypothesized that subjects' Locus of Controls affects their test and task scores in meaningful and significant ways.

1. 3. Research questions

The study specifically addresses the following questions:

1. Is there a change in subjects' GPA across two time phases (Previous semester and this semester) as a result of the effect of their loci of control?
2. Is there a change in subjects' GPA across two time phases (Previous semester and this semester) as a result of the effect of their study major?
3. Is there a change in subjects' GPA across two time phases (Previous semester and this semester) as a result of the effect of their proficiency level?

It appears that externality or internality of Locus of Control influences individuals' learning process. That is, internal learners who believe that they can affect their own learning process are more successful than external learners, who believe that their learning is controlled by people and the environment around them. Therefore, though the researcher has taken benefits from subjects' major and English proficiency, the main objective of the present study is to find the relationship between Locus of Control and students' grade point averages and how internality/externality will affect the process of learning, and therefore how it will cause students' GPA to fluctuate.

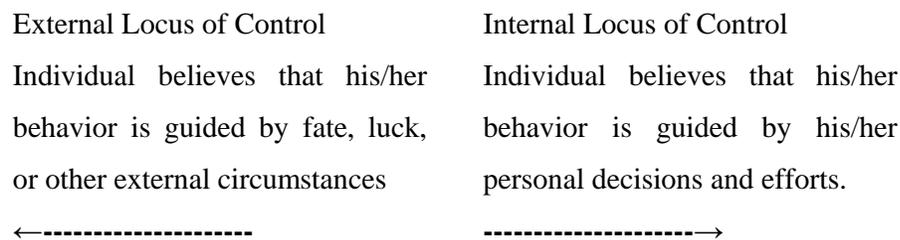
Chapter Two

Review of the Related Literature

Locus of Control, in particular, has been found to correlate positively and significantly with L2 learning in school settings where the target language is taught formally. Locus of Control theory is a concept in psychology that originally distinguished between two types of people - *internals*, who attribute events to their own control, and *externals*, who attribute events in their life to external circumstances. For example, college students with a strong *internal* Locus of Control may believe that

their grades were achieved through their own abilities and efforts, whereas those with a strong *external* Locus of Control may believe that their grades are the result of good or bad luck, and are hence less likely to work hard for high grades. (It should not be thought however, that internality is linked exclusively with attribution to effort and externality with attribution to luck). This has obvious implications for differences between internals and externals in terms of their achievement motivation, suggesting that internal locus is linked with higher levels of progress. Due to their locating control outside themselves, externals tend to feel they have less control over their fate. People with an external Locus of Control tend to be more stressed and prone to clinical depression (Benassi, Sweeney & Dafour, 1988; cited in Maltby, Day & Macaskill, 2007).

Thus, Locus of Control is conceptualized as referring to a unidimensional continuum, ranging from *external* to *internal*:



It has been found that persons who attribute their success to internal causes affirm more pride and satisfaction in their accomplishment than do people who attribute success to an external cause (Weiner, 1974). As cited in Neill's article (1979), studies examining the relationship between Locus of Control and personal adjustment have found an internal Locus of Control is related to positive personal adjustment while external Locus of Control is related to decreased personal, social, and overall adjustment. As a general rule, individuals with an Internal Locus of Control tend to be highly motivated, because they believe their actions will directly result in change, and individuals with an External Locus of Control tend to be less motivated and blame their circumstances on forces beyond their control. Most people lie somewhere in the middle of the continuum.

In 1970 in Britain, Gale, David Batty, and Deary have done a cohort study to examine the relationship between Locus of Control at the age of 10 and self-reported health outcomes (overweight, obesity, psychological distress, health, and hypertension) and health behaviors (smoking and physical activity) at age 30, controlling for sex, childhood IQ, educational attainment, earnings, and socioeconomic position. In this study, participants were members of the 1970 British Cohort Study, a national birth cohort. At age 10, 11,563 children took tests to measure Locus of Control and IQ. At age 30, 7551 men and women (65%) were interviewed about their health and completed a questionnaire about psychiatric morbidity. Results showed that men and women with a more internal Locus of Control score in childhood had a reduced risk of obesity (odds ratio, 95% CI, for a SD increase in Locus of

Control, 0.86, 0.78–0.95), overweight (0.87, 0.82–0.93), fair or poor self-rated health (0.89, 0.81–0.97), and psychological distress (0.86, 0.76–0.95). Women with a more internal Locus of Control had a reduced risk of high blood pressure (0.84, 0.76–0.92). Associations between childhood IQ and risk of obesity and overweight were weakened by adjustment for internal Locus of Control. Therefore, they concluded that having a stronger sense of control over one's own life in childhood seems to be a protective factor for some aspects of health in adult life. Sense of control provides predictive power beyond contemporaneously assessed IQ and may partially mediate the association between higher IQ in childhood and later risk of obesity and overweight.

As cited in Wikipedia, the free encyclopedia (2006), individuals who possess an external control orientation have been described as being self-pitying and unable to cope with the reality of a situation (Phares, 1968). They express aspirations incompatible with their abilities (DuCette & Wolk, 1972), and have lower vocational expectancies (Marecek & Frasch, 1977). Hountras and Scharfe (1970) have characterized externally oriented individuals as inhibited, wary, resentful, self-centered, confused, stereotyped in thinking, and lacking self-direction and self-discipline. In addition, they have been described as low in self-confidence and in expectations for success (Rotter, 1966). Research involving Locus of Control and individuals who are hearing impaired has suggested that in comparison to their hearing peers, hearing-impaired individuals tend to be more externally oriented (MacDonald, 1973). Research done by Lefcourt (1976) has revealed that individuals' Locus of Control orientation scores are susceptible to influence. People change in the causal attributions if they encounter experiences that meaningfully alter their contingencies between their acts and perceived outcomes. Lefcourt (1976), stated: "*The more action oriented therapies which stress the learning of and effecting of contingent results seems to be the optimal approaches for changing client perceptions of causality.*" (p. 126). Therefore, it is believed that the stress-challenge and controlled risk-taking elements of outdoor-adventure education courses may be useful in influencing Locus of Control because of the high degree of arousal and anticipatory stress. Clear demands are placed upon the participant to accept responsibility for dealing with arousal states and accepting the clear and obvious natural consequences for choices, actions, or inactions. The responsible choices and actions are further reinforced by individual and group feedback. Research conducted to investigate the effect of outdoor-adventure programming on hearing individuals' Locus of Control have exhibited positive findings (Sandler & Lakey, 1982).

Numerous researches have been done to investigate the relationship between Locus of Control and success in life, especially in academic achievement. By reviewing these studies, Findley and Cooper (1983) concluded that those with more internal beliefs are more successful in their academic achievements. They also believe that this relationship is stronger for male than for female. It is also

believed that those with a high level of internal LoC exhibit strong tendencies to seek information and show exploratory behaviour. They also voluntarily participate in problem-solving tasks. On the other hand, those with high externality, tend to be passive. They are compliant and non-exploratory and are inattentive.

Kennelly & Mount (1985); Rose, Hall, Bolen, & Webster (1996) believe that closely tied to metacognition is Locus of Control. Students who adopt a more external focus believe that their grades are often not under their own control but that of some outside force whereas students who are internally oriented believe success is dependent on their efforts and may expend more effort for their own academic success. Studies have shown locus of control to be a significant predictor of academic performance with higher levels of academic performance being associated with a more internal locus of control (Kennelly & Mount, 1985; Rose, Hall, Bolen, & Webster, 1996).

The idea that learning can be stimulated and enhanced through the use of rewards goes back at least as far as the educational practices of the ancient Greeks. Learning has always held a high place in different cultures. Numerous accounts make clear that instructional reinforcement practices have been in use throughout history. Kathleen Cotton (1986); interested in the subject; made a research to investigate the effects of different kinds of instructional reinforcements on students' achievements in educational settings. She intended to find out if students' psychological characteristics influence the effectiveness of different kinds of reinforcement. Her findings include:

- Noncontingent social reinforcement and praise are positively related to achievement for primary-age students, low-ability students, and many students from low SES backgrounds.
- Students with an external locus of control (those who believe that their actions are determined more by outside events and other people than by themselves) perform better with tangible reinforcement than with verbal reinforcement or with no reinforcement.
- Contingent reinforcement is positively associated with increases on measures of self-efficacy (internal Locus of Control).
- Internal locus of control students perform equally well with different kinds of reinforcers.

In 1989 a comparison of Locus of Control and achievement among remedial summer bridge and nonbridge students in Community Colleges in New Jersey was conducted by Fitts (cited in Smith, 1989) to determine whether participation in a summer bridge program influenced students' Locus of Control and improved their performance in community college. A comparison was made between two groups of full-time student participants in a state-supported academic and financial aid program for disadvantaged students with incomes below \$12,000. One group of these Educational Opportunity Fund (EOF) students attended a six-week summer bridge program, consisting of remedial courses,

college orientation, counseling, and achievement motivation activities, before attending one of five community colleges. The control group did not attend the bridge program. The original sample consisted of 155 randomly selected EOF freshmen between the ages of 17 and 46. The majority (52%) were Black, 25% were White, 14% Puerto Rican, 6% other Hispanic, and 3% other minority students. The final sample consisted of 100 subjects since 55 of the original 155 left college before the end of the fall semester. All these students were pretested prior to the summer bridge program and post-tested after one semester for basic skills and Locus of Control. Credits attained and cumulative grade point average (CGPA) was also used as measures of achievement. Study findings included the following:

- (1) There were no differences between the bridge and non-bridge students in terms of changes in Locus of Control, achievement in basic skills, and GPA;
- (2) Black bridge students earned the highest number of mean credits, and male bridge students were the most successful in terms of both GPA and credit earned;
- (3) Bridge students significantly increased their reading comprehension, essay, and algebra test scores on the post-tests;
- (4) 92% of the bridge students felt more in control of their environment after one semester, with those aged 31 and above the most inclined toward personal control. This shows how interrelated are people's psychological beliefs and their achievement in life.

Some research done by McCombs (1991), suggests that what underlies the internal Locus of control is the concept of "self as agent." This means that our thoughts control our actions and that when we realize this executive function of thinking; we can positively affect our beliefs, motivation, and academic performance.

Regarding the relationship between Locus of Control and grade point average, Zimmerman (1995) defined academic self-regulation as "*not a mental ability such as intelligence, or an academic skill, such as reading proficiency; rather, it is the self-directive process through which learners transform their mental abilities into academic skills*" (pp. 1-2). This process is a personal one with both behavioral and environmental components. It also requires a constant reassessment in order to gauge effectiveness and make modifications if needed. Zimmerman and Schunk (1997b) stated "... *perhaps the most important performance control process that distinguishes skilled from naive self-regulators is self-monitoring*" (p. 46).

In 1999, Maguiness tried to find the relationship between Locus of Control and the way it affected readers. Westerns Springs College (wherein this study was conducted) in Auckland, New Zealand is an inner city coeducational secondary school of 670 multicultural and diverse students. Achievement test results in reading comprehension and vocabulary grouped students at the top and bottom of the scale. Reading was identified as a significant barrier to learning and in 1997 staff agreed to begin

Sustained Silent Reading (SSR) in conjunction with a peer reading program for those students who needed support. The aim was to establish communities of readers. To find out what students thought about SSR and why a growing number were reluctant readers, Maguiness carried out a research project, using problem-based methodology developed by Robinson (1993). First the selected students were interviewed. Then practices, reading behaviors, and constraints were summarized for each student, who was then classified as a reluctant reader or a reader. He found that the readers were focused on the material and were clear about their preferences and selections; they were intrinsically motivated. But the eight reluctant readers read for less than 10 minutes out of the 20-minute reading session. He concluded that reluctant readers focused on the external Locus of Control. They were not ready to fulfill the model of SSR where the Locus of Control was on the student--they needed support.

Following the Theories of Personality introduced by Schultz & Schultz (2005), Galbraith and Alexander (2005) used case studies of a group of primary school pupils to examine the efficacy of an integrated, eclectic approach to the teaching of literacy, including whether constructs such as self-concept and self-esteem have a bearing on academic achievement. Circle Time activities, interactive teaching methods and discussion based on the principles of Solution Focused Brief Therapy aim to improve self-esteem and internalise Locus of Control in children. Significant improvements in the reading scores of the target children are concurrently achieved with improved self-esteem and Locus of Control scores, suggesting the usefulness of the teacher acting simultaneously as instructor, scaffolder and iconoclast.

Chapter Three

Methodology

3.1. Participants

On the whole, the population from which the subjects of the present study was drawn included university students in different branches of Islamic Azad University (i.e., Karaj, Takestan, Zanzan, and Bandar Abbas) majoring in translation, Literature, and teaching ($N=198$). My friends helped me collect data from these branches.

From the students majoring in Literature, a total of 73 subjects ($n_{Lit}=73$) participated in the study.

From the students majoring in Translation, a total of 59 subjects ($n_{Trans}=59$) participated in the study.

From the students majoring in TEFL, a total of 66 subjects ($n_{TEFL}=66$) participated in the study.

3. 2. Instrument

The instruments which were used for subject selection and data collection in this study included a personality test which was used to assess the extent to which an individual possessed internal or

external reinforcement beliefs to assign subjects to two cognitive-style groups with: Internal, and External Locus of Control (see appendix A).

Among different personality tests, the Julian Rotter's (1966) locus of control personality scale was used. The scale proposed by Rotter's (1966) is considered to be the most standard one which is used worldwide. It is a 29 items test, each containing two questions. The subjects were supposed to choose only one question according to what they feel and believe. 23 out of 29 of these items are intended to measure the kind of locus of control and the other 6 items work as distracters which follow the goal of the test in a disguise. They are items no. 1, 8, 12, 19, 23, and 28. While scoring, the answers to these 6 distracter items are not calculated.

In the 23 items which are used to measure subjects' locus of control, questions (a) have one value and questions (b) have zero value. The average is 8.28 and the mean is 8. Since the total mark of each individual suggests her/his kind of LoC, therefore, those with mark 9 or above have external LoC and those with marks less than 9 have internal LoC.

Previous studies have reported that this measure of LoC has acceptable reliability and validity.

3. 3. Procedures

In the first step of subject selection, a total of 198 freshman, sophomore, junior, and senior students all majoring in English (i.e., Translation, TEFL, or Literature) in different branches of Islamic Azad University (i.e., Karaj, Takestan, Zanjan, and Bandar Abbas) took the Rotter's (1966) locus of control personality test. Their scores on the Rotter's test revealed how many of the participants had internal Locus of Control and how many had external Locus of Control.

As such, the researcher had two major subgroups: subjects with internal LOC ($n_i=78$), and external LOC members ($n_e=120$). Table 3.1. describes the subjects of the study according to their loci of control.

Table 3.1. Description of the Subjects of Study by Loci of Control

	Locus of Control		TOTAL
	Internal	External	
Frequency	78	120	198
Percentage	39.4%	60.6%	100%

In the second step, both subject groups took their ordinary courses and at the end of the semester, they were given their exams.

In the third step, the subjects' marks from different cognitive styles; either with internal LoC or external LoC, were calculated to obtain their grade point average (GPA) on the basis of their tests' raw scores.

In the last step, the GPAs of subject groups in each cognitive style were compared to find the probable differences. That is, the GPA marks of subjects with internal LoC were matched with the GPA marks of subjects with external LoC.

For data analysis, three sets of Mixed between-within subjects analysis of variance (also known as SPANOVA) were conducted. SPANOVA is a tow-way ANOVA which is used to analyze the present research data. The between subjects variables for this study were Proficiency Level (i.e., Beginner, Lower-Intermediate, Upper-Intermediate, and Advanced), Loci of Control (i.e., External, and Internal), and Study Major (i.e., TEFL, Literature, and Translation. The within subjects variable, on the other hand, was the subjects GPA at two time phases (i.e., GPA-1 for last semester, and GPA-2 for this semester). This variable can be described as the time variable with two levels (i.e., time-1 or pretest, and time-2 or post-test).

Chapter Four

Results and Discussions

4. 1. SPANOVA for Locus of Control

To answer the first question, the data were put into one set of Mixed between-within subjects' analysis of variance (also known as SPANOVA).

Here the within-subjects factor was time. Subjects' GPAs from two different educational semesters were used as the scale for the within-subjects variable of the study (i.e., GPA from previous semester, and GPA from the present semester). As such, the within-subjects variable of the study can be described as GPA-1 (or time-1) and GPA-2 (or Time-2). The between-subjects variable for this first SPANOVA set was Locus of Control. This SPANOVA was conducted to see if there were main effects for each of the independent variables (i.e., Main effect for subjects' loci of control and main effect for time (i.e., semester)) and also for their interaction to tell if the change in GPA over time was different for the loci-of-control groups.

Table 4.1. *Box's Test of Equality of Covariance Matrices*

Box's M	1.867
F	.615
df1	3
df2	1323262.860
Sig.	.605

Design: Intercept+LOC

Within Subjects Design: Time

It was necessary to check for *Homogeneity of intercorrelations*—to see if for each of the levels of the between-subjects variable (i.e., Locus of Control) the pattern of intercorrelations among the levels of within-subjects variable (i.e., GPA) were the same. To test this assumption, Box's M statistic with the *alpha* level of .05 was used with the hope that the statistic would not be significant (i.e., that the *p* level would be greater than 0.055). In other words, Box's M statistic tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups. Table 4.1. displays the result and indicates that this assumption was met (*Sig.*=0.605).

Table 4.2. Multivariate Tests

Effect		Value	F	Sig.	Partial Eta²
Time	Pillai's Trace	.030	6.023(b)	.015	.030
	Wilks' Lambda	.970	6.023(b)	.015	.030
	Hotelling's Trace	.031	6.023(b)	.015	.030
	Roy's Largest Root	.031	6.023(b)	.015	.030
Time * LOC	Pillai's Trace	.000	.055(b)	.814	.000
	Wilks' Lambda	1.000	.055(b)	.814	.000
	Hotelling's Trace	.000	.055(b)	.814	.000
	Roy's Largest Root	.000	.055(b)	.814	.000

Computed using alpha = .05 (Exact statistic, Design: Intercept+Treatment, Within Subjects Design: Time)

Based on the values in the Wilks' Lambda's part of the "Multivariate Tests" table (See table 4.2. above) it was found that there was a statistically significant change in GPA as a result of Locus of Control. The value for Wilks' Lambda for time was 0.970, with a *Sig.* value of .015 (which means $p < .0155$). Because the *p* value was less than .05, it was concluded that there was a statistically significant effect for time. This suggested that there was a change in GPA across time; technically speaking, it showed the effect of Locus of Control on GPA. The value for partial Eta squared for time was 0.030. Using the commonly used guidelines proposed by Cohen (1988) (0.01=small effect, 0.06=moderate effect, and 0.14=large effect), this result suggested a small effect size for time.

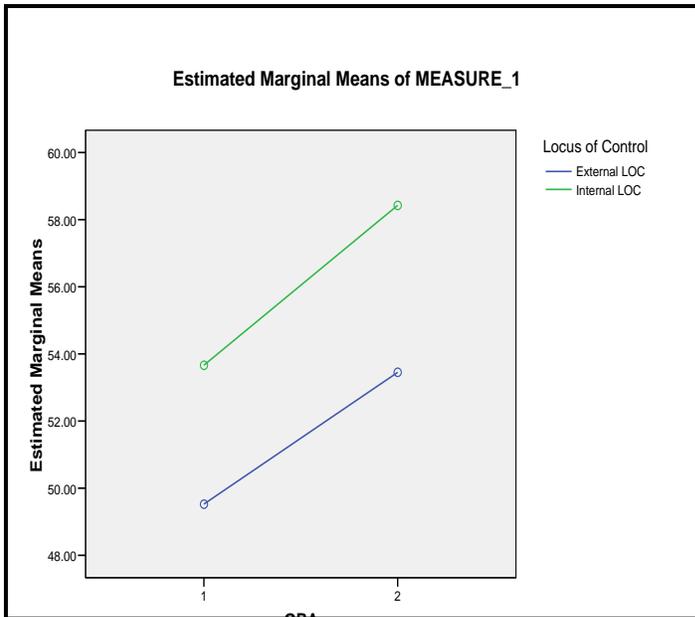


Figure 4.1. Comparison of gains in GPA across subject groups.

Table 4.3. presents the descriptive statistics for the two treatment groups across time.

Table 4.3. Descriptive Statistics for LOC Groups across Time

	Locus of Control	Mean	Std. Deviation	N
Pre-test (GPA-1)	External	49.5238	31.26188	120
	Internal	53.6630	35.53282	78
Post-test (GPA-2)	External	53.4524	29.07691	120
	Internal	58.4249	32.33028	78

As table 4.3. indicates, the pre-test (GPA-1) mean for Ex-LOC was 49.52 while the post test (GPA-2) mean was 53.45; the pre-test mean for In-LOC was 53.66 whereas the post test mean was 58.42. The mean change was mathematically small but the researcher had to check it for statistical significance; to this end, the researcher looked at the data displayed in Table 4.4.

Table 4.4. Tests of Between-Subjects Effects

Type II Sum of Squares						
Source	Squares	df	Mean Square	F	Sig.	Partial Eta ²
Intercept	1093242.521	1	1093242.521	636.730	.000	.765
LOC	1962.373	1	1962.373	1.143	.286	.006
Error	336525.052	196	1716.965			

Transformed Variable: Average & Computed using alpha = .05

As table 4.4. indicates, the Sig. value for LOC was not statistically significant ($Sig.=0.286$). The Sig. value was not less than the alpha level of 0.05. Therefore, the researcher concluded that the main effect for group was not significant. That is, there was no significant difference in gains in GPA for the two groups (those with External LOC and those with Internal LOC). The effect size of the between-subject effect also supported this finding; the eta-squared value for LOC (or group) was 0.006. This is very small. It is therefore not surprising that it did not reach statistical significance.

4. 2. SPANOVA for study major

In order to answer the second question, the within-subjects factor was time and subjects' GPAs from two different educational semesters. The between-subjects variable for this second SPANOVA set was students' study major (i.e., Literature, TEFL, or Translation).

This time the SPANOVA was conducted to find out if the change in GPA over time was different for the study-major groups.

Using the same procedure as for the first question, it was necessary to check for *Homogeneity of intercorrelations*—to see if for each of the levels of the between-subjects variable (i.e., study major) the pattern of intercorrelations among the levels of within-subjects variable (i.e., GPA) were the same. To test this assumption, Box's M statistic with the *alpha* level of .05 was used with the hope that the statistic would not be significant (i.e., that the *p* level would be greater than 0.055). Table 4.5. displays the result and indicates that this assumption was met ($Sig.=0.592$).

Table 4.5.Box's Test of Equality of Covariance Matrices

Box's M	4.703
F	.772
df1	6
df2	787447.163
Sig.	.592

Design: Intercept+study major

Within Subjects Design: Time

A look at the table indicated that there was a change in GPA across time which was not significant. The main effect for the interaction between time and study major was not significant, too. Using Wilks' Lambda values, the findings and the associated probability values are given in the column labeled *Sig.* in Table 4.6. above.

Based on the values in the Wilks' Lambda's part of the "Multivariate Tests" table (See table 4.5. above) it was found that there was a statistically significant change in GPA as a result of study major. The value for Wilks' Lambda for time was 0.969, with a *Sig.* value of .014 (which means $p<.0145$).

Because the p value was less than .05, it was concluded that there was a statistically significant effect for time. This suggested that there was a change in GPA across time; technically speaking, it showed the effect of study major on GPA. The value for partial Eta squared for time was 0.031. Using the commonly used guidelines proposed by Cohen's (1988) (0.01=small effect, 0.06=moderate effect, and 0.14=large effect), this result suggested a small effect size for time.

Table 4.6. Multivariate Tests

Effect		Value	F	Sig.	Partial Eta ²
Time	Pillai's Trace	.031	6.154(b)	.014	.031
	Wilks' Lambda	.969	6.154(b)	.014	.031
	Hotelling's Trace	.032	6.154(b)	.014	.031
	Roy's Largest Root	.032	6.154(b)	.014	.031
Time * Study Major	Pillai's Trace	.001	.124(b)	.884	.001
	Wilks' Lambda	.999	.124(b)	.884	.001
	Hotelling's Trace	.001	.124(b)	.884	.001
	Roy's Largest Root	.001	.124(b)	.884	.001

Furthermore, the value for Wilks' Lambda for time- study major interaction was 0.999, with a *Sig.* value of .884 (which means $p < .8845$). Because the p value was bigger than .05, it was concluded that there was no statistically significant effect for time- study major interaction. The partial Eta squared value for the interaction effect was 0.001. This suggests no effect for time- study major interaction. This means that there was the same change in GPA over time for the three study-major groups. In other words, gain in GPA for the literature, TEFL, and Translation students was the same. Figure 4.2. visualizes this similarity in GPA gains in across subject groups.

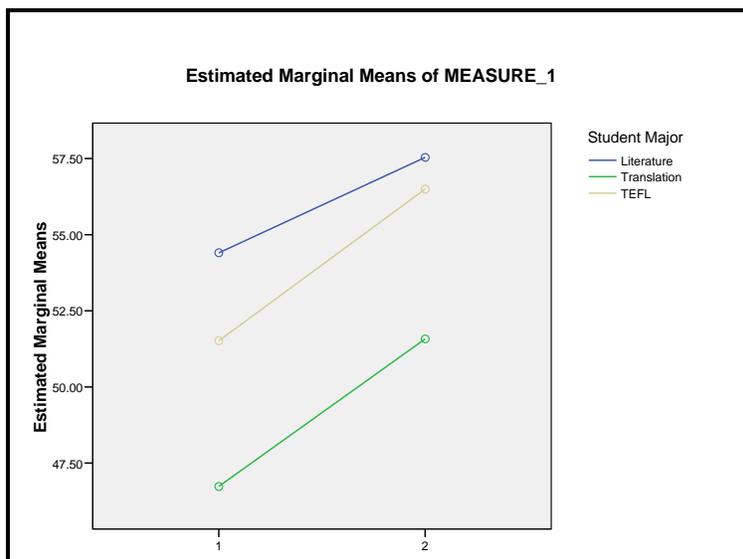


Figure 4.2. Comparison of gains in GPA across subject groups.

Table 4.7. presents the descriptive statistics for the two treatment groups across time.

Table 4.7. Descriptive Statistics for LOC Groups across Time

	Study Major	Mean	Std. Deviation	N
Pre-test (GPA-1)	Literature	54.4031	31.82448	73
	Translation	46.7312	32.25411	59
	TEFL	51.5152	34.89196	66
Post-test (GPA-2)	Literature	57.5342	31.13250	73
	Translation	51.5738	29.30306	59
	TEFL	56.4935	30.73478	66

As table 4.7. indicates, the pre-test (GPA-1) mean for Literature students was 54.40 while the post test (GPA-2) mean was 57.53; the pre-test mean for Translation students was 46.73 whereas the post test mean was 51.57; and the pre-test mean for TEFL students was 51.52 whereas the post test mean was 56.49.

The mean change was mathematically small but the researcher had to check it for statistical significance; to this end, the researcher looked at the data displayed in Table 4.8.

Table 4.8. Tests of Between-Subjects Effects

Source	Type II Sum of Squares	df	Mean Square	F	Sig.	Partial Eta ²
Intercept	1105735.027	1	1105735.027	642.960	.000	.767
Major	3134.929	2	1567.464	.911	.404	.009
Error	335352.496	195	1719.756			

Transformed Variable: Average Computed using alpha = .05

As table 4.8. indicates, the Sig. value for study major was not statistically significant ($Sig.=0.404$). The Sig. value was not less than the alpha level of 0.05. Therefore, the researcher concluded that the main effect for major-study group was not significant. That is, there was no significant difference in gains in GPA for the three groups (those majoring in Literature or TEFL or Translation). The effect size of the between-subject variation also supported this finding; the eta-squared value for study major (or group) was 0.009. This is very small. It is therefore not surprising that it did not reach statistical significance.

4. 3. SPANOVA for proficiency level

To answer the third question addressed in this study, the two ways ANOVA; i.e. SPANOVA was used. As before, the within-subjects factors were time and subjects' GPAs from two different educational semesters.

The between-subjects variable for this first SPANOVA set was students' proficiency level (i.e., Beginner, Lower-Intermediate, Upper-Intermediate, or Advanced).

This SPANOVA was conducted to see if each of the independent variables (i.e., Main effect for subjects' loci of control and main effect for time (i.e., semester)) and also their interaction cause any change in GPA over time.

Table 4.9. Box's Test of Equality of Covariance Matrices

Box's M	29.198
F	3.183
df1	9
df2	365243.757
Sig.	.001

Design: Intercept+LOC

Within Subjects Design: Time

Here again, checking for *Homogeneity of intercorrelations* was necessary. The purpose was to find out if for each of the levels of the between-subjects variable (i.e., Locus of Control) the pattern of intercorrelations among the levels of within-subjects variable (i.e., GPA) were the same. In order to test this assumption and with the hope that the statistics would not be significant, Box's M statistic with the *alpha* level of .05 was used. In other words, Box's M statistic tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups Table 4.9. displays the result and indicates that this assumption was not met (*Sig.*=0.001). This is not that important since this assumption is commonly violated (see Pallant, 2001, p. 214).

Table 4.10. Multivariate Tests

Effect		Value	F	Sig.	Partial Eta²
Time	Pillai's Trace	.032	6.395(b)	.012	.032
	Wilks' Lambda	.968	6.395(b)	.012	.032
	Hotelling's Trace	.033	6.395(b)	.012	.032
	Roy's Largest Root	.033	6.395(b)	.012	.032
Time * proficiency	Pillai's Trace	.034	2.267(b)	.082	.034
	Wilks' Lambda	.966	2.267(b)	.082	.034
	Hotelling's Trace	.035	2.267(b)	.082	.034
	Roy's Largest Root	.035	2.267(b)	.082	.034

Computed using alpha = .05 (Exact statistic, Design: Intercept+Treatment, Within Subjects Design: Time)

A look at the Multivariate Tests table also indicated that there was a change in GPA across time. The main effect for time was significant. There was, however, an indication that the four proficiency

groups were not different in terms of GPA across time. The main effect for the interaction between time and proficiency was not significant. These findings are indicated by Wilks' Lambda values and the associated probability values given in the column labeled *Sig.* in Table 4.10. above.

Based on the values in the Wilks' Lambda's part of the "Multivariate Tests" table (See table 4.10. above) it was found that there was a statistically significant change in GPA as a result of proficiency. The value for Wilks' Lambda for time was 0.968, with a *Sig.* value of .012 (which means $p < .0125$). Because the p value was less than .05, it was concluded that there was a statistically significant effect for time. This suggested that there was a change in GPA across time; technically speaking, it showed the effect of proficiency on GPA. The value for partial Eta squared for time was 0.032. Using the commonly used guidelines proposed by Cohen's (1988) (0.01=small effect, 0.06=moderate effect, and 0.14=large effect), this result suggested a small effect size for time.

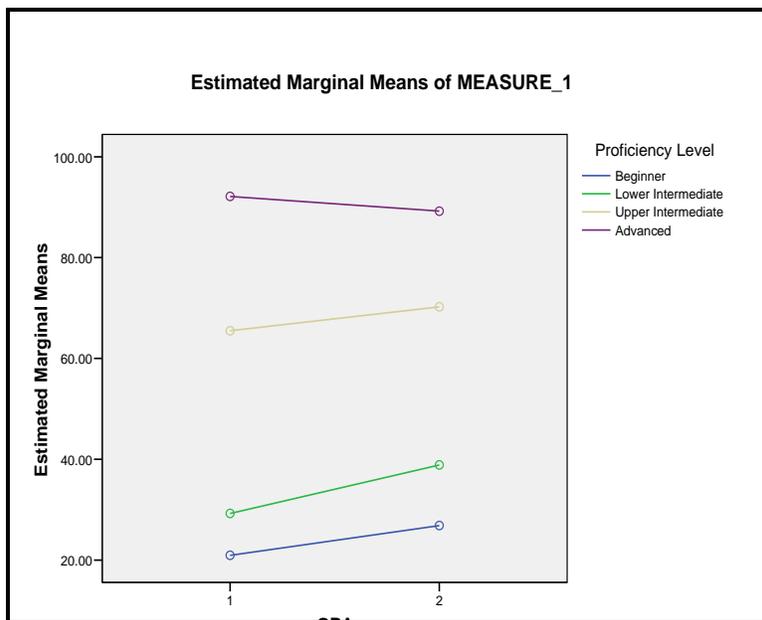


Figure 4.3. Comparison of gains in GPA across subject groups.

Furthermore, the value for Wilks' Lambda for time-proficiency interaction was 0.966, with a *Sig.* value of .082 (which means $p < .0825$). Because the p value was bigger than .05, it was concluded that there was no statistically significant effect for time-proficiency interaction. The partial Eta squared value for the interaction effect was 0.034. This suggests the existence of a small effect for time-proficiency interaction. This means that there was a very small change in GPA over time for the four proficiency groups indicating that the different groups did not achieve exactly the same gains in GPA across time. In other words, gain in GPA for the proficiency groups were not the same although the observed differences were very small in size. Figure 4.3. above visualizes this small difference in GPA gains across subject groups.

Figure 4.3. shows that the advanced proficiency group had, in fact, lost some points in GPA over time. His loss was, however, so small that it could be neglected. Table 4.11. presents the descriptive statistics for the four proficiency groups across time.

Table 4.11. Descriptive Statistics for Proficiency Groups across Time

	Independent Variable	Mean	Std. Deviation	N
Pre-test (GPA-1)	Beginner	20.9360	16.96979	58
	Lower Intermediate	29.2359	17.62185	43
	Upper Intermediate	65.4762	17.14117	48
	Advanced	92.1283	10.53873	49
Post-test (GPA-2)	Beginner	26.8473	17.56326	58
	Lower Intermediate	38.8704	20.75485	43
	Upper Intermediate	70.2381	17.39264	48
	Advanced	89.2128	11.85607	49

As table 4.11. indicates, the pre-test (GPA-1) mean for beginners was 20.93 while the post test (GPA-2) mean was 26.84; the pre-test mean for lower-intermediate was 29.23 whereas the post test mean was 38.87; the pre-test mean for upper-intermediate was 65.47 whereas the post test mean was 70.23; and finally the pre-test mean for advanced was 92.12 whereas the post test mean was 89.21. It was noticed that the advanced proficiency group had lost some GPA over time. The mean change was mathematically small but the researcher had to check it for statistical significance; to this end, the researcher looked at the data displayed in Table 4.12.

Table 4.12. Tests of Between-Subjects Effects

Source	Type II Sum of Squares	df	Mean Square	F	Sig.	Partial Eta²
Intercept	1146588.820	1	1146588.820	4530.253	.000	.959
proficiency	289386.810	3	96462.270	381.129	.000	.855
Error	49100.615	194	253.096			

Transformed Variable: Average Computed using alpha = .05

As table 4.12. indicates, the Sig. value for proficiency was statistically significant ($Sig.=0.000$). The Sig. value was less than the alpha level of 0.05. Therefore, the researcher concluded that the main effect for proficiency group was significant. That is, there was a significant difference in gains in GPA for the four proficiency groups across time. The effect size of the between-subject effect also supported this finding; the eta-squared value for proficiency level (or group) was 0.855. This is very large. It is therefore concluded that different proficiency groups had different GPA gains across time.

4. 4. Discussion

The results of data analysis presented above indicated that language proficiency was the most important factor in GPA gain across time. It can therefore be argued that neither Locus of Control nor major of study are indicators of GPA gain. That is, students gain better GPAs as they gain a greater level of language proficiency.

In the light of the findings, it was also noticed that advanced proficiency students has somewhat lost their GPAs. This indicates that other factors such as Locus of Control and/or major of study, if at all, interact with proficiency only at the advanced level. Moreover, their effect is negative in that their interaction with proficiency results in loss of GPA across time.

As such, the first and second null hypotheses of the study were not rejected. However, the last null hypothesis was rejected.

Chapter Five

Conclusion

5.1. Summary of the study

As the environment around you changes, you can either attribute success and failure to things you have control over, or to forces outside your influence. Which orientation you choose has a bearing on your long-term success.

This orientation is known as your "locus of control". Its study dates back to the 1960s, with Julian Rotter's investigation into how people's behaviors and attitudes affected the outcomes of their lives. Locus of control describes the degree to which individuals perceive that outcomes result from their own behaviors, or from forces that are external to themselves.

Moreover, finding better ways to help L2 learners in understanding how to learn and how to best benefit from their learning, has interested and engaged scholars for a long time. However, in the process of teaching/learning, situations are not always within control and if they are, they may be either internal or external forms of control. In cognitive psychology, Locus of control is one of the controversial subjects which attending and investigating it will contribute to the process of learning. The concept of Locus of Control enlightened the way learners view their own learning and suggests some functions through which teachers can help learners have a better understanding of their learning process.

The present study intended to find out if locus of control really affects students test performances. It was hypothesized that subjects' locus of controls affect their test and task scores in meaningful and significant ways. Therefore, the study specifically intended to investigate whether the kind of Locus of control had in any way, any relationship with the students overall achievements; that is, how internality or externality in Locus of control might affect students grade point average (GPA).

As mentioned before, these research questions had been rendered in the form of the following alternative and hypotheses:

H₁: Internality or externality of locus of control affects students' overall linguistic achievement (GPAs) differentially.

H_{0.1}: Internality or externality of locus of control does not affect students' overall linguistic achievement (GPAs) differentially.

H₂: Students' study major (i.e., TEFL, Literature, or Translation) affects students' overall linguistic achievement (GPAs) differentially.

H_{0.2}: Students' study major (i.e., TEFL, Literature, or Translation) does not affect students' overall linguistic achievement (GPAs) differentially.

H₃: Students' proficiency Level (i.e., Beginner, Lower-Intermediate, Upper-Intermediate, and Advanced) affects students' overall linguistic achievement (GPAs) differentially.

H_{0.3}: Students' proficiency Level (i.e., Beginner, Lower-Intermediate, Upper-Intermediate, and Advanced) does not affect students' overall linguistic achievement (GPAs) differentially.

To prove any hypothesis, a sample population of 198 university students studying in different branches of Islamic Azad University (i.e., Karaj, Takestan, Zanzan, and Bandar Abbas) majoring in Translation ($n_{Trans}=59$), Literature ($n_{Lit}=73$), or Teaching ($n_{TEFL}=66$), had been selected. On the other hand, to make the results of the study more dependable, the subjects of the study were treated in a systematic way.

These subjects had different proficiency levels. Freshman students were taken to belong to the 'beginner' level of proficiency ($n_{big}=58$), sophomore students to the 'lower-intermediate' proficiency group ($n_{li}=43$), junior students to 'upper-intermediate' group ($n_{ui}=48$), and senior students to the 'advanced' proficiency group ($n_a=49$).

At first, all the participants took the Rotter's (1966) locus of control personality test. Their scores on the Rotter's test revealed a total number of 78 ($n_i=78$), had internal locus of control and a total number of 120 ($n_e=120$), had external locus of control. Then, both subject groups took their ordinary courses and at the end of the semester, they were given their exams. Calculating the subjects' marks from different cognitive styles; either with internal LoC or external LoC to obtain their grade point average

(GPA) on the basis of their tests' raw scores, was the other step of the study. And at last, the GPAs of subject groups in each cognitive style were compared and matched to find the probable differences between internals and externals.

To analyze data, three sets of Mixed between-within subjects' analysis of variance (also known as SPANOVA) were conducted. The between subjects variables for this study were:

- Proficiency Level (i.e., Beginner, Lower-Intermediate, Upper-Intermediate, and Advanced),
- Loci of Control (i.e., External, and Internal),
- Study Major (i.e., TEFL, Literature, and Translation).

The within subjects' variable was:

- The subjects GPA at two time phases (i.e., GPA-1 for the previous semester, and GPA-2 for the present semester). This variable can be described as the time variable with two levels (i.e., time-1 or pretest, and time-2 or post-test).

The instruments used for subject selection and data collection included a personality test used to assess the extent to which an individual possessed internal or external reinforcement beliefs to assign subjects to two cognitive-style groups with: Internal, and External Locus of Control.

The results of data analysis indicated that language proficiency was the most important factor in GPA gain across time. It can therefore be argued that neither locus of control nor major of study are indicators of GPA gain. That is, students gain better GPA as they gain a greater level of language proficiency.

It was also noticed that advanced proficiency students have somewhat lost their GPAs. This indicates that other factors such as locus of control and/or major of study, if at all, interact with proficiency only at the advanced level. Moreover, their effect is negative in that their interception with proficiency results in loss of GPA across time.

As such, the first and second null hypotheses of the study were not rejected. However, the last null hypothesis was rejected.

5. 2. Conclusions of the study

The findings of the above mentioned data analysis indicated that language proficiency was the most important factor in gaining higher GPA across time. Therefore, it would be possible to argue that neither Locus of Control nor major of study are indicators of GPA gain. It means that as the students gain a greater level of language proficiency, the gain better GPAs.

On the other hand, it was also noticed that students with advanced proficiency level have somewhat lost their GPAs. This shows that only at the advanced level, other factors such as Locus of Control and/or major of study, if at all, interact with proficiency. However, their effect is negative because their interaction with proficiency results in loss of GPA across time.

All these indicate that the first and second null hypotheses of the study were not rejected. But, the last null hypothesis was rejected.

5. 3. Pedagogical implications of the study

Locus of Control has been a concept which has certainly generated much research in psychology, in a variety of areas. Usefulness of the construct can be seen in its applicability to fields such as educational psychology, health psychology or clinical psychology.

On the other hand, it appears that externality or internality of locus of control influence individuals' learning process. That is, internal learners who believe that they can affect their own learning process are more successful than external learners, who believe that their learning is controlled by people and the environment around them. After finding how internality/externality affects students overall achievements, by promoting and improving the influential factors, the findings of this research can be implemented:

- In state and private universities, public and private sectors and language institutes; wherein various majors of second language are taught; majors such as translation, literature, and teaching L2 and help students in better learning and understanding.
- Through language teachers and tutors in different language schools and institutes to take the most benefits from internality/externality of students in helping them be more successful in their achievements.

In the whole, possible applications of this study include:

- Psychology classes
- Personal development courses
- Corporate training
- Therapeutic / rehabilitation programs

5. 4. Suggestions for further research

Language is a complex phenomenon that nobody is able to cover all aspects of it. Specifically, in the case of achievement and whatever related to it there are ample of researches which no one is complete to cover all aspects of this specific problem. Therefore, always some new questions and statement problems arise, some of which are suggested here.

1. More studies are necessary to determine whether or not the present findings can be generalized to other populations.
2. Further research into this topic should consider using larger samples and more comprehensive assessment procedures than has been the norm in the past.
3. Further research should also consider extending the range of psychology patterns and locus of control beyond that looked at here. Longer period of time which contains more varied patterns within each observation might also be considered.
4. Comparison among different language groups and the possible effects of how differing L2 proficiency relate to the students' mother tongue and their kind of LoC offer considerable scope for further research.
5. This study does not distinguish between the genders, whether male students are successful in comprehension and production based on their kind of LoC or females, so further research in this domain is suggested.
6. The experiment focused on EFL students. A similar study can be carried out to investigate the effect of locus of control on students of other languages or high school students.

Locus of Control has definitely aroused much research in psychology, in different areas. There will probably continue to be debate about whether specific or more global measures of Locus of Control will prove to be more useful. Therefore, careful distinctions should also be made between Locus of Control (a concept linked with expectancies about the future) and attributional style (a concept linked with explanations for past outcomes), or between Locus of Control and concepts such as self-efficacy. The importance of locus of control as a topic in psychology is likely to remain quite central for many years.

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