



AN ANALYSIS OF ENGAGED LEARNING IN LOW STAKES AND HIGH-STAKES ASSESSMENT CONTEXTS IN DISTANCE EDUCATION: A CASE OF ENGLISH FOR SPECIFIC PURPOSES TESTS

Razieh Rabbani Yekta^{1†} --- Nima Alighadr²

¹Assistant Professor in TEFL, Payame Noor University, Iran

²M. A Student of TESOL, Texas A&M University, Texas, USA

ABSTRACT

So far, much research has been conducted on the students' motivation in the low-stakes situations but there has been very limited research that has focused exclusively on the impact of students' perception of the stakes of the tests on different components of engagement especially in distance education system. The purpose of this causal-comparative study is to compare student engagement levels between low-stakes and high-stakes assessment contexts in Payame Noor University in Iran. The results showed that the difference between the two groups was significant only in behavioral engagement but at emotional and cognitive components, students showed a relatively similar level of engagement under both low- stakes and high- stakes assessment conditions.

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Keywords: Achievement goal questionnaire, Cognitive engagement questionnaire, Behavioral engagement, Cognitive engagement, Emotional engagement, Student opinion scale.

Contribution/ Originality

This study is one of very few studies which have investigated the students' engagement level in low- and high- stakes exam situations in distance education.

1. INTRODUCTION

Student learning and academic progress are a matter of concern to many higher education institutions. In other words, higher education institutions, as an evidence of the efficacy of their academic programs, design some ways to assess students' learning and academic progress (Smiley and Anderson, 2011). In Iran distance education system (Payame Noor University, PNU), such undertaking is done by giving both mid-term (decentralized) and final (centralized) exams.

† Corresponding author

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Regarding the non-compulsory nature of midterm exams, hence their low-stakes character, the question is: To what extent can midterm exams measure PNU's students' engagement level?. In other words, how can those test scores and representative scales provide a valid inference about students' learning? Something that makes this issue more acute in distance education is that in such a system, due to the limited classroom attendance of the students, a few remediation sessions which are held are mostly test-based, that is, inclining to be just the preparatory sessions for final exams. Moreover, as [Smiley and Anderson \(2011\)](#) pointed out, classroom attendance is not a good indicator of the student's engagement in learning. In such a situation, how our high and low-stakes tests should be developed so that the students test-motivation in those tests makes them engage more deeply in their learning? In psychological terms, what factors can boost the assessment scale of students' engaged learning ([Handelsman et al., 2005](#); [Schreiner and Louis, 2011](#)) and lead to higher academic achievement? Unfortunately, not much research has already been conducted on the relationship between test features and students engagement components (i.e. behavioral, emotional and cognitive engagement).

Given the importance of English for specific Purposes (ESP) in non-English major students' curricula, especially in PNU, these courses are among the most failed courses and both their midterm and final exams are high-stakes. This research aims to identify how PNU students' perception of their exams as high- or low-stakes can make a difference in their emotional, behavioral, and cognitive engagement level. To this end, a causal comparative study was designed with the components of student engagement as the categories of dependent variable and low and high-stakes groups as the independent variable. This design was selected because the group differences already exist between the participants by the common divisions among students of PNU into those who are the active participants in the remediation sessions and voluntary formative assessments like midterm exams and those who prefer other learning options as self-instruction and office –hour meeting with the instructors and only taking some summative exams. The following research questions and hypothesis will be addressed:

A 1. Is there a significant difference in the behavioral engagement levels of students in high-stakes and low-stakes exam situations?

A 2. Is there a significant difference in the emotional engagement levels of students in high-stakes and low-stakes exam situations?

A 3. Is there a significant difference in the cognitive engagement levels of students in high-stakes and low-stakes exam situations?

Ha 1. There is no significant difference in the behavioral engagement levels of students in high-stakes and low-stakes exam situations.

Ha 2. There is no significant difference in the emotional engagement levels of students in high-stakes and low-stakes exam situations.

Ha 3. There is no significant difference in the cognitive engagement levels of students in high-stakes and low-stakes exam situations.

2. LITERATURE REVIEW

Recently, researchers, practitioners and policy-makers in education, are more than ever emphasizing student engagement as a solution to the major problems in education such as poor academic performance, high level of student apathy, high rates of failed courses and dropouts (Fredricks *et al.*, 2004). (Fredricks *et al.* (2004) cited in Fredricks and McColskey (2012)) defines student engagement as a "meta construct" comprising three components: behavioral, emotional and cognitive engagement. Behavioral engagement is developed from the concept of participation and is considered involvement in academic, social, and extracurricular activities; it is a significant factor in achieving favorable academic results and averting dropouts (Finn, 1989; Connell and Wellborn, 1991). Emotional engagement focuses on the extent of positive (and negative) reactions to teachers, classmates, academics, or school (Sundre, 1999). Cognitive engagement is the extent to which students put effort into stimulating intellectual growth by developing effective learning strategies (Ravindran *et al.*, 2005).

With regard to the factors increasing the students course engagement, the previous research have indicated that in addition to the type of the classroom activities, student-student and instructor-student communications are clearly strongly correlated with higher student engagement with the course (see for example, Dixon (2010)).

As to the influences of engagement on students' achievement, Green and Miller (1996) suggested a "causal model in which perceived ability and learning goals influenced meaningful cognitive engagement, which in turn influenced midterm achievement". They also indicated that "shallow processing, which was influenced by performance goals, negatively influenced midterm achievement" (1996).

In the context of distance education, also, Mazloomian *et al.* (2013) reported that factors like "task value, academic self-efficacy, and achievement goals have indirect effect on mathematics achievement through the mediatory role of superficial and deep learning strategies".

2.1. Academic Performance in the Light of Engaged Learning

The research showed that there is a strong inter-correlation between the components of engagement and students academic performance while these three components are themselves highly related. Wang and Holcombe (2010) for example, argue that behavioral and emotional disengagement "could lead to a decline in the students' motivation to be cognitively engaged in their academic work, particularly if they are doing very well in their classes".

On the other hand, Zimmerman (2000) reported that the students showed a high perception of metacognitive engagement, "when they were becoming increasingly able to use such strategies". From the emotional perspective, also, emotional disengagement from the learning situations, lead to an increase in school absences and decreased effort on their academic subjects; these factors will demotivate the students to continue their studies and will have a negative effect on their achievement (Eccles, 2009; Hughes *et al.*, 2009) moreover, if students don't use those metacognitive strategies which regulate their attention, their academic performance will decline to a great degree (Eccles and Roeser, 2009).

2.2. Students Engagement in Testing Situation

One of the issues that have been seriously neglected in the literature is the relationship between assessments and different components of engaged learning. At 2003 annual meeting of the American Association of Higher Education Assessment Conference which was held in Seattle, Wise and DeMarse presented a paper on examinee motivation in low-stakes assessments. In this paper which was later published in Educational Assessment, they point out that when low-stakes assessment tests are used, low student motivation can lead to substantial underestimation of student proficiency (Wise and DeMars, 2005). Under the motivation model they presented, student effort is a function of perceived expectations of success, perceptions of the amount of effort needed to complete the test, the perceived importance of the test, and affective reactions to the test. Smiley and Anderson (2011) also, in another work tried to modify an existing cognitive engagement scale to be used for measuring the students' cognitive engagement in low- stakes test contexts. Not any research, however, was done on the relationship between different components of engaged learning and the stakes of the test. When it comes to distance education, the gap in the literature appears to be wider and the need for more in-depth investigation is found to be urgent. The present study is an attempt in this regard.

3. METHODOLOGY

This study involves a causal comparative research which utilizes the quantitative survey results in its data analysis.

3.1. Participants

The population for the present study consisted of all students of Psychology and at Payame Noor University of Isfahan, Iran, who had enrolled in the ESP course II during the autumn 2014 and spring 2015 semesters. The total number of students is about 260 of whom 112 students returned the questionnaires. In order to assess the relationship of the students' perception of the stake of midterm exams as one of the variables and their behavioral, emotional, and cognitive engagement indices, they were told (as the common practice in PNU) that their midterm grades would be calculated both through classroom activities and midterm exams, three points for each (low-stakes group). And for those who did not attend the classes or did not participate in classroom activities the total six points would be calculated based only on their performances in the midterm exam (high-stake group).

3.2. Instruments

In addition to answering the midterm exams' questions (all in the form of multiple choice items which measured both vocabulary and reading comprehension knowledge of the students) , each participant had to respond to three questionnaires on student engagement components: Cognitive Engagement Questionnaire (Green and Miller, 1996) Student Opinion Scale (Sundre, 1999) and Achievement Goal Questionnaire (Finney *et al.*, 2004; Pieper, 2004; Elliot and Murayama, 2008). The above questionnaires were tailored to PNU's education system and ESP courses. The content validity of the adopted questionnaires was checked by an expert in the field of

psychology and an expert in ESP. The reliability of the instruments was also acceptable with the Cronbach alphas 0.74, 0.76, and 0.86 for each of the questionnaires respectively.

3.3. Procedure

In Iran PNU, the national syllabus for the ESP courses lasts for 6 to 8 sessions at the undergraduate level. In the field of psychology, students should take three English courses with General English and English for Psychology I as the prerequisite for English for Psychology II. The main objective in all these three courses is enhancing the vocabulary knowledge (in both general and technical level), reading and translation. Classroom activities and assignments are, therefore, geared to the same objectives. For the purpose of the present study, the questionnaires were given to the students of English for psychology II when they had already passed all the language courses and had an almost clear perception of their performance in their learning, in general, and language learning, in particular. The midterm exam was given at the end of the fourth sessions. Immediately after the completion of the exam, students were asked to show their level of engagement by answering the number of 36 questions. The first 12 questions measured their achievement goals or behavioral engagement on a 5-point Likert scale from A (strongly disagree) to E (strongly agree). The second questionnaire consisted of 14 items which measured students' cognitive engagement on a 3-point Likert scale (Almost never, sometimes, almost always), and the last questionnaire which measured student opinion on emotional component of the engagement was comprised of 10 items, again on a 5-point Likert scale. Students were told that the participation in this survey would not have any effect on their scores. Among the number of 112 students who took part in this survey, 70 students had already participated in the classroom activities, quizzes and games and had been doing their assignments regularly, while those who wanted to have their midterm score simply by taking the midterm exam consisted of 42 students. After the initial coding of the responses, data were put to SPSS for further analysis.

4. ANALYSIS AND THE RESULTS

Using SPSS for each of the 36 items related to 3 components of students' engagement, the Mann Whitney U test was used to determine whether there were significant differences between the medians of the two groups of low-stakes and high-stakes.

To test the first hypothesis stating that there is no significant difference in the behavioral engagement levels of student engagement in high- stakes and low-stakes exam situations, the results of Mann-Whitney U test are indicated in table 1:

Table-1. Mann-Whitney U test (behavioral component in Low- and high-stakes groups)

Groups	N	Mean Rank	Mann-Whitney	Z	P
Low-stakes	70	115.13	3440.500	-20.414	0.001
High-stakes	42	95.87			

As indicated in the table 1, with the Z value of -30.414 and $p < 0.05$, there is a significance difference between low-stakes and high-stakes group in their behavioral component with the low-stakes group as the more behaviorally engaged students. The first hypothesis, therefore, is rejected. As to second hypothesis, another Mann-Whitney test was done and the results are as follows:

Table-2. Mann-Whitney U test (emotional component in Low- and high-stakes groups)

Groups	N	Mean Rank	Mann-Whitney	Z	P
Low-stakes	70	351.45	4750.67	-26.751	0.067
High-stakes	42	300.73			

In this analysis, the difference between the two groups is not significant with the Z value of -26.751 and $p > 0.05$ and the second hypothesis which stated that there is no significant difference in the emotional engagement levels of student engagement in high-stakes and low-stakes exam situations, was supported. But something is worth mentioning regarding the reported results in this table. Although the difference between the two groups is not statistically significant, but low-stakes group showed a much higher level of emotional engagement than the high –stakes group which has been reflected in the mean ranks of the two groups.

And finally, as the answer to the last research question, the table 3 shows the results of the Mann-Whitney U which was conducted to test the third research hypothesis:

Table-3. Mann-Whitney U test (cognitive component in Low- and high-stakes groups)

Groups	N	Mean Rank	Mann-Whitney	Z	P
Low-stakes	70	140.27	3985.007	-22.1268	0.451
High-stakes	42	139.03			

According to the results obtained, with the Z value of -22.1268 and $p > 0.05$, the third hypothesis which states that there is no significant difference in the cognitive engagement levels of student engagement in high-stakes and low-stakes exam situations, is supported and the answer to the third question is no.

5. DISCUSSION AND CONCLUSIONS

The results of analysis reported in the previous section suggest that the students who conceive the stakes of the test as low, are more behaviorally engaged in their learning. Such a pattern was quite consistent with the answers that the students had already given to the achievement goal questionnaire with about 70 to 90 percent of the respondents in the low-stakes group showing their agreement or strong agreement with the statements like: " *It is important to me to outperform other students academically*", or " *I would like to learn the subjects of all my courses as much as possible.*" This was in contrast to the high-stakes group in which the percentage of the students who showed disagreement or neutrality almost in all the items was higher than the low-stakes group. On the other hand, the result was consistent with the expectancy theory of motivation when higher probability of success (Silm *et al.*, 2013) leads to more engagement for achieving the goals. In this study, when doing course assignments and classroom activities lower the stakes of the test and

increase the chance of success, students in the low-stakes exam situation, students become more involved in academic, social, or extracurricular activities and is considered crucial for achieving positive academic outcomes and preventing dropping out (Finn, 1989; Connell and Wellborn, 1991).

As to emotional engagement, results showed that the change in the stakes of the test does not have a significant impact on the students' engagement. According to the definition of emotional engagement as the positive (and negative) reactions to teachers, classmates, academics, or school (cited in Fredricks and McColskey (2012)) one important requirement for a high level of emotional engagement is the student-student and student-teacher interactions in the classroom which in the context of this study, due to the limited classroom sessions, is absent even in the low-stakes situation. The relatively high mean rank in low-stakes group, however, can be taken as evidence that altering the stakes of the test with activities and assignments can drastically influence the students' willingness to be involved in activities inside and outside of the classroom even in the distance education situation.

To answer the last question on the cognitive engagement level on the mid-term exam, the participants' responses to the Student Opinion Scale (the last 10 questions) were analyzed. The results of the Mann-Whitney U test (see table 3.) indicated that again, the difference between the low-stakes and high-stakes groups are not significant, though the mean rank of the low-stakes group was a little higher than the high-stakes group. This finding was somehow contrary to what Sundre and Moore (2002) expected when they designed the Student Opinion Scale. They argued that when the assessment instrument is used with student samples for which "high-stakes" testing is being conducted, all students report consistently high levels of total motivation, effort, and importance. But reviewing the responses to the questionnaire, it can be observed that the low - stakes group agree with the statements like "*the effort I put into this exam was well worth it*" to the approximately same extent as their classmates in the high-stakes group. This finding is consistent with what Smiley and Anderson (2011) mentioned in their article. They believed that "if students are more engaged the costs associated with taking the test (i.e. effort, time, etc.) will be reduced and students should get more out of the test, boosting the value they place on the assessment". As Wigfield and Eccles (2000) pointed out, "value is a tradeoff between what students get out of the test and the costs associated with taking the test. This increased engagement and the resulting boost in value placed on the assessment may result in increased effort" (cited in Smiley and Anderson (2011)).

6. IMPLICATIONS

This study will help enhance the educational policy and procedures of PNU's education system. The outcomes of this study will present an outlook on changing PNU's students' attitude toward learning by improving their behavioral, motivational and cognitive engagement levels. As a result, students' learning and academic progress will be considerably improved through displaying higher achievement in their final exams. This will provide a solution to the major problem of high rate of failed courses in PNU.

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