

# University Students' Engagement and Academic Achievement in Ethiopian Public Universities

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**Abstract – Researchers indicated that university students' engagement is not to the expected level. The lacks of engagement among students have societal and individual cost. One of the cost is failure to succeed in academic work. The purpose of the present study was to investigate the status of university students' engagement and to assess the relationship between university students' engagement and academic achievement. To arrive at the stated objective, causal- correlation design was employed. Multi stage sampling was used to select and a sample of 530 students from three universities among second and third year batches were taken as a sample. Descriptive statistics such as mean and standard deviation and, regression analysis were used to analyze the data. The study found that mean score of emotional and cognitive engagement were found to be below the average. In addition, the relationship between university students' engagement and their academic achievements were found to be positively correlated. Specifically, behavioral engagement of students contributed strongest and unique in explaining of academic achievements. Conclusions were drawn based on the finding of the study.**

**Keywords: University, Students' Engagement and Academic Achievement.**

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## INTRODUCTION

According to Willms (2003), there are common approaches/controversies about the relationship between engagement and students' academic achievement. The first is that engagement precedes academic achievement, which means when students become less engaged in their school activities, academic performance begins to suffer. On the other hand, failure to succeed in academic work results failure in engagement among students and they withdraw from school activities. It may also happen that causal relationship between engagement and academic achievement depends on academic ability, family, school context and teachers teaching style.

Willms (2003) studied and found that the correlation between academic achievement and engagement is moderate and suggested that there are many students with high achievement who are not engaged and vice versa.

According to the study of Willms (2003) schools with high average levels of sense of belonging students also tend to have high average levels of participation. The correlations between the two engagement outcomes /emotional and behavioral/and the measures of performance are also moderately

strong. From this finding, it can be concluded that students with better emotional engagement have high behavioral engagement, since belongingness is mostly related to emotional engagement and participation is related to behavioral engagement. Furthermore this finding in turn indicated that the relationship of emotional engagement and behavioral engagement with academic achievement performance are in moderate correlation.

Willms (2003) further draw implication for his study. The weak correlations at student level suggest that teachers and guidance counsellors are likely to encounter students who have a very low sense of belonging/emotional engagement/, even though they participate in school activities, and their literacy skills/academic achievement/ are fairly strong. Students with low participation/behavioral engagement/ are likely to have somewhat poorer literacy skills /academic achievement/ than those who have attended most classes/behavioral engagement/; however, there are many students who miss school, skip classes and arrive late for school/less behavioral engagement/ who also show reasonably strong literacy skills/academic achievement/.One of the most surprising findings of this research is that in every country there is a

sizeable proportion of students who have high levels of literacy skills/academic achievement/ yet lack a sense of belonging at school /emotional engagement/or have low levels of participation/behavioral engagement/. Educators cannot thus presume that youths with average or above-average literacy skills/academic achievement/ necessarily feel they belong at school, or value schooling outcomes.

Generally researchers found that there are relationships between students' engagement and their academic achievement. However, the studies indicated some inconsistencies on the relationship between students' engagement and their academic achievement. There were significant relationships between the students' academic achievement and student engagement as well as between their academic achievement and especially the dimensions of cognitive engagement, behavioral engagement and sense of belonging (Gunuc, 2014, Sbrocco, 2009). These studies also found out that cognitive, behavioral and emotional engagements predicted academic achievement and explained with a rate of 10%. It was also found out that the students with high engagement scores higher levels of academic achievement scores and that those with low student engagement scores lower levels of academic achievement.

There are studies that indicate no significant relationship was found between the academic achievement score and the variables of valuing, peer relationships (emotional engagement). Jonas (2016) studied and found that the effect of students' engagement on academic achievement was found to be low after controlling of variables such as school support. This finding further indicated that there were positive correlations with achievement with no statistically significant correlation across the four scales of cognitive engagement (self-regulation, deep processing, shallow processing, and persistence. On the other hand, Fredricks et al. (2004) found and suggested that out of the three components of students' engagement, behavioral engagement is the strongest predictor of academic success. Hence, behavioral engagement indicators such as class attendance are strong predictors of low achievement and high dropouts in many education systems.

A positive relationship between students' engagement and critical thinking and higher grades was found. (Abbing, 2003). Here, it can be concluded that cognitive engagement, which consisted of critical thinking, is associated to more engagement and high grades than any other dimensions of engagement.

There are scholars who explained the relationship between students' achievement and engagement with theories and models. Finn (1989) studied the relationship between students' achievement and engagement in terms of theories and models. Finn

(1989) has come up with the Participation-Identification Model, which focuses on behavioral and emotional dimensions and tried to explain students' school drop-out. The model is based on the idea that successful students identify themselves with their schools and that the unsuccessful ones cannot do so. It was claimed that participation in school and class activities increases students' performance and their achievement and students' performance has influence on their feeling of identifying themselves with the school/emotional engagement/.

Based on the "quality of effort" model, Astin (1984) developed his theory called "theory of involvement". This theory assumes that the more students are involved in both academic and social aspects of their college experience, the more they learn. It can be called as student development theory based on student involvement. It refers to the amount of physical and psychological energy that the student devotes to the academic experience. A highly involved student is one who "devotes considerable energy studying, spends much time on campus, participates actively in student organizations, and interacts frequently with faculty members and other students. Astin (1999) involvement theory outlines basic assumptions. Astin's (1984) input-environment-outcome (I-E-O) model of student involvement and learning states that the quality and quantity of student interactions directly influences student levels of learning and development.

Scholars indicated that students engagement for their learning is now days getting deteriorating. On longitudinal study, Eva Van de gaer et ala (2009) found that an overall decline in school engagement across students of secondary schools. Senterre (2012) also indicated in his review of literature that one in four students are classified as having a low sense of belonging/affective engagement), and about one in five students has very low participation/behavioral engagement). This lack of engagement among students have both individual cost and societal and. Therefore, high level of university students' engagement is hugely important and key aspects of quality education as they determine the disposition towards meaningful learning at schools or universities.

Chalmers (2007) found that students' engagement is important for the quality of learning students earn for university education. This is because students who are committed to their learning have opportunity to actively participate in lifelong learning exposures, taking their engagement experience in their university education to other forms of purposeful activities. This indirectly benefits for personal life of the students and to country in general by making students to use their engagement experience to contribute positively for the community.

In addition, University education is considered as an instrument in bringing students to have deep knowledge, positive value and adaptive skill that make every citizen earn better life terms of stability, democracy and socio economic development. In line with this premises, Ethiopia have expended colleges and universities. On the other hand, Ethiopian higher education system is faced by challenges in bringing quality education among students, which it could be related to students' degree of engagement.

The relationship between students' engagement and academic achievement, which is a key for quality education, was not studied at all and hence the status and trend of university students' engagement in relation to academic achievement remains unknown. According to Meseret (2018), there are few studies related to methods of teaching at universities and these studies are about the general practice of teachers' method of teaching. It was difficult to get a research paper, government or nongovernment report that indicate the relationship of students engagement with academic achievement in public universities of Ethiopia.

Having the above mentioned issues as justification, the present study has the following specific objectives.

1. To investigate the status of students engagement at public universities
2. To investigate the relationship between dimensions of university students engagement and academic achievement

## METHODS

Causal –correlation research design was used to achieve the objectives of the present study. This was because causal correlation design is appropriate for studying to determine cause and affect relationships between events that have already occurred.

## POPULATION AND SAMPLE

Target population of this study consisted of second and third year undergraduate students at public universities of Ethiopia. Three universities were selected using simple random sampling technique. For the purpose of selecting the sample, the list of all colleges and departments were obtained. Using two-stage sampling, the researcher first randomly selected three colleges in each university, namely natural science and engineering, social science and business, health science. Next, four departments randomly selected in each college. Thus, a total of 12 departments from each three universities were part of the study. The second stage of sampling consisted of randomly selecting 15 students from 12 departments in each college to study the

relationship between student's engagement and academic achievement. This resulted in a total sample size of 530 students for the present study.

## MEASURES

The main measure of the study were undergraduate second and third year university students engagement teachers self-report questionnaire scale and academic achievement ,which was measured by cumulative grade point average(CGPA) .

### 1. University students' engagement:

Newman (1992) define students engagement as the students' psychological investment and effort directed toward learning, understanding and mastering knowledge, skill that academic work intends to promote. Most contemporary engagement theorists highlight behavioral engagement, emotional engagement, and cognitive engagement as central engagement indicators (Christenson, Reschly, & Wylie, 2012; Fredricks et al, 2004). In addition, most instruments employed for assessing students' engagement are self-report rating questionnaires (Veiga etal, 2014)

University students' engagement consisted of items that assess the level of engagement that are predictive for university students' success. This study examined three categories of students' engagement with University Student Engagement Inventory (USEI), consisting of 32 items (Maroco J et al, 2016). The three dimensions of students engagement were behavioral (11 items), emotional (10 items), and cognitive (11 items) engagement. They were rated on a '1=never', 2=on occasions, 3= sometimes, 4=most of the time and '5=always' on the response scale of students engagement inventory. The reliability coefficient of the instrument was found to be .74 for the behavioral engagement.88 for emotional engagement and .82 for cognitive engagement. (Maroco J et al, 2016). Higher scores in the dimensions of university engagement demonstrate high engagement and lower scores demonstrated low or poor engagement. The explanations of the three dimensions of university students' engagement were described as follows.

#### 1.1 Behavioral engagement:

University students' engagement that indicated students' involvement which ranges from effort and persistence to prosocial classroom conduct.( Veiga F. et al ,2014)

#### 1.2 Emotional engagement:

Emotional engagement consisted of higher interest and enthusiasm with low anxiety and boredom towards learning experience. (Veiga F. et al 2014)

### 1.3 Cognitive engagement:

Cognitive engagement is all about concentration, strategic thinking, sophisticated learning strategy and self-regulation in their learning process. (Veiga F. et al 2014)

## 2. Academic Achievement:

This refers to university students' grade point average for all semesters which was described as cumulative grade point average (CGPA) for the courses in which they were enrolled for years in their respective departments. According to Robbins et al. (2004), academic performance, as measured by Grade-Point-Averages (GPAs) is still the most widespread performance measure even though problems with grading reliability and department and institutional grading system differences exist.

Academic achievement, which was described by cumulative grade point average/CGPA/, were collected from registrar of each college in the year 2017/18 for each selected public universities of Ethiopia

## METHOD OF DATA ANALYSIS

Analysis of the present study involves descriptive statistics, like mean and standard deviation, multiple linear regressions. Descriptive statistics such as mean and standard deviation were employed to investigate the status of engagement among students. Finally person coefficient of correlation was used to investigate the relationship of students' engagement and academic achievement. To examine the contribution of each dimensions of university students' engagement, analysis of regression was computed. Analysis of regression examines which dimensions of engagement significantly explained university students' engagement for the present study.

## RESULT

### The Status of University Students' Engagement

The first objective of the present study was to investigate the level of university students' engagement at public universities. University students' engagement were assessed in line with three dimensions of engagement namely, behavioral, emotional and cognitive engagement. Accordingly, mean, maximum and minimum score of the three dimensions of university student engagement were computed and analyzed.

**Table 1:** Mean, Minimum and Maximum scores of University Students Engagement

Types of engagement	Mean	Minimum	Maximum
Behavioral	3.768	3.474	4.045
Emotional	2.335	1.836	2.934
Cognitive	3.026	1.908	3.789

The mean score of behavioral, emotional and cognitive engagement were found to be 3.768, 2.335 and 3.026 respectively. The highest mean score of university students' engagement was displayed for behavioral dimension. This indicated that university students were found to be moderately above average at involvement in effort (doing and submitting assignments and activities)persistence (following university rules , active in becoming group members when group assignments are given) and prosocial classroom behavior (having less problem with their classroom mates and teachers).

The next higher mean score of university students' engagement was observed for cognitive dimension. This indicated that university students were found to be moderate in terms of the level of cognitive engagement such as strategic thinking, self-regulation strategies, being thoughtful and purposeful in their learning tasks.

The least mean score of university student's engagement was observed for emotional engagement dimensions. This entailed that university students' level of emotional engagement such as interest, enthusiasm and concentration towards their learning was least when compared to any other dimensions of engagement and expected mean scores.

### The Relationship between Dimensions of University Students' Engagement and Academic Achievement

One of the objectives of the present study was to predict the effect of each engagement dimensions for academic achievement of university students. In addition, the relationship and contribution of each engagement dimensions to academic achievement, which was described by CGPA, were investigated. Accordingly, multiple linear regressions was computed and analyzed. The relationship between academic achievement/CGPA/ with each engagement dimensions were computed by person coefficients of correlation. In addition, model summary(R square), ANOVA and coefficients (standardizes beta coefficients) were computed and analyzed. To run all these, Preliminary assumptions and tests of independent errors, normality, homodscasity and Collinearity tests were checked. The assumptions were not violated.

**Table: 2** the Correlation Coefficient Among, Behavioral Engagement, Emotional Engagement, Cognitive Engagement and Academic Achievement.

Variables	1	2	3	4
1.behavioural	1			
2.emotional	0.072	1		
3.cognitive	0.105	.218	1	
4.Academic achievement	0.548**	0.217**	0.172**	1

\*\*Correlation is significant at the level of .05

As indicated on table 2, all engagement dimensions (behavioral, emotional and cognitive) were found to be positively and significantly correlated to academic achievement of university students. Specifically, the value of Pearson coefficient of correlation was found to be 0.548, 0.217 and 0.172 between behavioral engagement and academic achievement, between emotional engagement and academic achievement, and between cognitive engagement and academic achievement respectively. The relationship between behavioral engagement and academic achievement were found to be most strong and significant( $r=0.548$ ). This indicated that among all dimensions of engagement, behavioral engagement found to have strong and positive significant relationship on academic achievement.

**Table: 3** Model summary of R Square and adjusted Square for behavioral, emotional and cognitive engagement (N=530)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.581	0.338	0.334	0.36146

From the model summary above, R Square was found to be .338. This indicated that variance in academic achievement was explained by university students engagement. The regression model, which includes the dimensions of university engagement, explained 33.8% of the variance in academic achievement (which is represented by CGPA). 33.8% of variance in academic achievement was found to be explained by university students' engagement.

Next, the analysis of ANOVA of regression were computed to investigate whether university students engagement were found to be significantly explain academic achievement.

**Table 4:** ANOVA table for regression of university students' engagement to academic achievement

Model	Sum of squares	Df	Mean square	F	Sig
Regression	35.096	3	11.699	89.542	.000
Residual	68.722	526	.131		
Total	103.818	529			

On table 4 above, the multiple regression model with all engagement dimension predictors produced significant contribution to academic achievement of students at public university of Ethiopia .F (3, 526) = 89.542,  $p < .000$ .

As university students significantly explained academic achievement of students, further analysis of the contribution of each dimensions of engagement towards academic achievement were employed.

Next, the contribution of each engagement dimension was computed and analyzed.

**Table 5:** Contribution of each engagement to academic achievement (CGPA)

Dimension of engagement	Unstandardized coefficients		Standardized coefficients	t	sig
	B	Std. Error	Beta		
Behavioral	.026	.002	.527	14.767	0.000
Emotional	.011	0.003	.161	4.35	0.000
Cognitive	0.006	0.003	0.082	2.235	0.26

On table 7 above, it was displayed that university students engagement significantly predicted academic achievement , $B=.527, t(526)=14.767, P<0.000$  for behavioral engagement,  $B=.161, t(526)=.161, P<.000$  for emotional engagement ,and  $B=.082, (526)=2.232, p<0.000$  for cognitive engagement. To identify and compare the contribution of each engagement dimensions, it was referred to beta values in standardized coefficients. Accordingly, the largest beta coefficient was .527, which was for behavioral engagement of students. This means that behavioral engagement of university students made strongest unique contribution to explain academic achievement of students, which was described by CGPA. For a change in one unit of behavioral engagement score, there will be a change by 0.527 unit of academic achievement, which was described by CGPA. The next unique contribution was made by emotional engagement with beta value of .161. The least contribution for academic achievement of university students was made by their cognitive engagement with beta value of .082.

## DISCUSSION

The present study found that behavioral engagement of students was above the expected mean. The cognitive engagement was found to be on the expected mean. However, the emotional engagement was found to be below the expected mean. The finding of the present study was found to be indicated similar result to previous studies on the status of students' engagement on their learning. For example, Senterre (2012) studied and found that though there are students who are actively involved in academics and non-academics activities and develop sense of belongingness and valuing class /school activities, majority of them are not actively engaged for their learning. On longitudinal study, Eva Van de gaer et. al. (2009) found similar results that indicate an overall decline in school engagement across students of secondary schools.

The present study indicated that there were positive significant relationship between university students' engagement and academic achievement. The present study also found that, among the university engagement dimensions, behavioral engagement of university students makes strongest unique contribution to explain academic achievement of students. The reason could be that as far as the students came to the class regularly and submit the assignments on time, he/ she will be supposed to get some scores as a reward and the examinations prepared are mostly requiring rote memorization not critical thinking. Previous results indicated both consistencies and inconsistencies about the relationship between students' engagement and academic achievement. There were significant relationships between the students' academic achievement and student engagement, especially the dimensions of cognitive engagement, behavioral engagement and sense of belongingness (Gunuc, 2014, Sbrocco, 2009). On the other hand, Fredricks et al. (2004) found that only behavioral engagement is the strongest predictor of academic success. Hence, behavioral engagement indicators such as class attendance are strong predictors of low achievement and dropout themselves in many education systems. Willms (2003) also found that the correlation between academic achievement and engagement is moderate and suggests that there are many students with high achievement who are not engaged. Furthermore, the findings from Jonas (2016) suggested that student engagement has a positive but low association with academic achievement.

## CONCLUSION

Depending on the findings of the study, the following concluding notes were made

The mean score of behavioral, emotional and cognitive engagement of university student were found to be in various degrees. The mean score of

emotional and cognitive engagement were found to be below average and the mean score of behavioral engagement was found to be moderately average. This implied that university students' engagement was found to be low. This can be an indication that university education has to be designed in the way students engagement becomes high. Nowadays, it is accepted that teaching students for how to become better and independent learners should be the primary goal for higher education. Accordingly, all learning environments like teacher related issues should be designed to enrich the learning process with in each and every student.

This can be possible by implemented when the teacher's task is to show the wisdom of knowledge and enthuse, stimulate and encourage the student to be eager in search of new knowledge, value, skill and wisdoms across their discipline for use of themselves and their society. This could happen when varieties of teaching styles, active learning method and varieties of assessment tools are going to be employed. Therefore learning tasks that involve cognitive engagement such critical thinking, strategic thinking and problem solving ability for practical challenges can be practiced during teaching learning and assessment process. Designing programs that can make students contribute and involve in extra-curricular activities could improve emotional engagements like positive reactions to teachers, classmates, academics, and universities.

The relationship between university students' engagement and academic achievement was found to be positively significant and 33.8% of the variance in academic achievement was explained by university students' engagement. Among the university engagement dimensions, behavioral engagement of university students makes strongest unique contribution to explain academic achievement of students. This implied that improving students' engagement in general and behavioral engagement in particular significantly improves students' academic achievement. However, care has to be taken which engagement improves academic achievement. This was because academic achievement, especially in Ethiopian education system is highly related to examinations that mostly require rote memorization, which does indicate little emotional or cognitive engagement on the side of students. Furthermore, quality of university education should be mostly viewed on students' cognitive engagement like being thoughtful and purposeful in the learning tasks and being willing to exert the effort necessary to comprehend complex ideas or master difficult skills.

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