

AN ANALYSIS ON THE ENGAGEMENT OF STUDENT TEACHERS FROM EDUCATION DEGREE COLLEGES

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Abstract

The main purpose of the study was to investigate the engagement of student teachers from Education Degree Colleges. The differences of the student engagement across their socio-demographic variables were also examined. Quantitative study and descriptive survey method was conducted. A total of 800 student teachers from 17 Education Degree Colleges were selected by random sampling method. Student Engagement Scale (Lam et al., 2014) with 5-point Likert scale was utilized. Confirmatory factor analysis was conducted to examine the factor validation of the student engagement scale. Descriptive statistics, independent sample *t*-test and analysis of variance were used to explore the objectives of the study. The student teachers had high ability in engaging in academic works and cocurricular activities. The participants had greater affective and behavioral engagement than the cognitive engagement. Female student teachers actively participated in classroom and class-out activities than male student teachers. And, the younger student teachers were more enjoyable in involving educational activities. First year student teachers were more engaged than the second-year student teachers.

Keywords: Engagement, Student Engagement, Affective Engagement, Behavioral Engagement, Cognitive Engagement

Introduction

Today, the world we live in is rapidly changing and this consequently forces to enhance our capacity. Individuals also experience with high requirements for their qualifications. In recent decades, education has become regarded as important for human development, especially for adolescents. For the student teachers, they have been motivated for their education in many reasons and the demands and requirements for their professional development have been increased.

As the student teachers, they are being exposed with various professional requirements for the development of the education. In this process, they need to pursue different goals and to obtain broaden professional competencies. Moreover, with the changing world, they need to try to fulfill their qualities, especially the 21st century skills and social-emotional growth. At the same time, scholars, educators, and policy-makers are becoming increasingly aware of the importance of education for addressing social-emotional development.

Ensuring the students do not withdraw due to their inability to manage the academic tasks positively impact the academic achievement of students, and also contribute to retention efforts. At this point, engagement of individuals evolves as the important concept. Besides, students at all points on the academic spectrum can benefit from adaptive motivation and engagement. Student engagement becomes an important study field of educational psychology.

Therefore, some research programs focused on assessing the role of positive psychological constructs and pay attention to the numerous factors affecting the students' academic progress. Accordingly, the students' experiences and behaviors encountered during their transition period were fewer and effective investigation about the issues highlighted above

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were also required. The present study reports the results of analyzing the engagement of student teachers.

Purpose of the Study

The main purpose of the study is to examine the engagement of the student teachers from Education Degree Colleges.

Specific Objectives of the Study

The specific objectives of the study were as follows:

- (1) To determine the engagement level of the student teachers.
- (2) To investigate the engagement of student teachers across their socio-demographic variables.

Definition of Key Terms

Engagement: Engagement means the description of an individual's expression behaviorally, emotionally and cognitively in their role (Kahn, 1990).

Student Engagement: Student engagement refers to the state of curiosity, attention, interest and passion to learn and progress in education (The Glossary of Education Reform, 2016).

Affective Engagement: Affective engagement includes the students' responses to the teachers and peers, attitudes, interests and values, sense of belonging to college and feeling oneself to be a member of a group (Bryson & Hand, 2007).

Behavioral Engagement: Behavioral engagement includes students' participation in class, efforts and their attendance (Gunuc & Kuzu, 2014).

Cognitive Engagement: Cognitive engagement involves investment in learning, value given to learning, learning goals, self-regulation and planning (Gunuc & Kuzu, 2014).

Review of Related Literature

Nature of Engagement

Engagement is a multi-dimensional construct and highly affected by specific factors such as family background and school expectations and represents the fusion of behavioral, emotional, and cognitive behavior under the idea of engagement (Fredricks, Blumenfeld, & Paris, 2004). Key determinants of student engagement involve class participation, identification with school, academic performance, and personal investment in learning.

Bomia and colleagues (1997) defined student engagement as students' willingness, needs, desire and success in the learning process. Many investigations revealed that engaged students were found to be more successful in school. Students who attend the class regularly, concentrate on learning, adhere to the rules of the college, and avoid undesirable behaviors generally get better grades and perform better on educational works. Students of every gender, and religion can benefit from the engagement activities (Kinzie & Gonyea, 2009).

Fredricks, Blumenfeld and Paris Model of Engagement

Fredricks, Blumenfeld and Paris (2004) described engagement as a developing, and multidimensional construct. It consists of three dimensions, namely: behavioral, cognitive, and emotional.

Affective Engagement

Affective engagement has been usually identified as the motivational engagement, psychological engagement, and emotional engagement. Affective engagement includes indicators such as the presence of interest and happiness and the absence of boredom, anxiety, and sadness. Further, students who express affective engagement have a sense of belongingness and identification with college or school, values on the school outcomes, and feelings of supporting by their peers and teachers (Alrashidi et al., 2016).

Behavioral Engagement

Behavioral engagement refers to the actions, behaviors and practices of students toward their school and learning (Wang & Holcombe, 2010). Behavioral engagement is constituted of salient performance or engagement and it is usually investigated through the observation of a student's positive conduct, efforts and contributions (e.g., participation in curricular and extracurricular activities, attendance, and work habits) (Ashkzari et al., 2018).

Cognitive engagement

Cognitive engagement refers to students' investment in learning, and involves the aspects of willingness and thoughtfulness to expend the effort required to understand and master difficult tasks, the use of appropriate learning strategies, flexibility in problem solving, challenge preference, and self-regulation (Fredricks et al., 2004).

Method

Quantitative study and descriptive survey method was conducted.

Participants of the Study

Student teachers from 17 Education Degree Colleges were involved as the participants of the study. The data were collected from not only online survey but also the survey questionnaire. A total of 800 student teachers (Male = 278, Female = 522) participated in the study and selected by random sampling techniques.

Instrumentation

The student engagement scale is a self-report instrument and developed by Lam et al. (2014). Originally, it consists of 33 items with three factors: (1) affective engagement (12 items), (2) behavioral engagement (9 items), and (3) cognitive engagement (12 items). The items were rated on 5-point Likert Scale (1 = never, 2 = sometimes, 3 = usually, 4 = often, 5 = always). It took about 15 minutes to complete all the items.

Firstly, the 33 items student engagement scale was examined for the factor structure by conducting the confirmatory factor analysis. As a proposed model, the model fit indices did not reach adequate values (RMSEA = 0.069, CFI = 0.86, TLI = 0.85, $p = 0.000$). So, the model was

re-specified and the 3-items with R^2 values of less than 0.2 were removed from the study. A new confirmatory factor analysis with changes yielded the fit indices (RMSEA = 0.06, CFI = 0.90, TLI = 0.89, $p = 0.000$). Hu and Bentler (1999) recommended that the maximum cutoff value of 0.8 for RMSEA and the minimum cutoff value of 0.9 for TLI and CFI and a p -value for the Chi-square less than 0.05 can be considered as the model is a good fit. The three factors 30 items student engagement scale: (1) Affective engagement (9 items), (2) Behavioral engagement (9 items), and (3) Cognitive engagement (12 items) was found to fit the data. The internal consistency reliability for the total scale was 0.85 and the Cronbach's Alpha values for each subscale were within 0.85, 0.84 and 0.92, respectively. Thus, the student engagement scale was assumed as a valid instrument to measure student teachers' engagement.

Data Collection Procedures

Student engagement scale (Lam et al., 2014) was used in the study. Firstly, the items were translated into Myanmar language and content validity for the instrument was reviewed by the 10 experts in the field of educational psychology. As a pilot study, the instrument was administered to the 400 student teachers from Education Degree Colleges. A confirmatory factor analysis was conducted to assess the psychometric properties of the scale. After validating the factor structure of the scale, the data were collected from May 2020 to March 2021. A total number of 800 student teachers involved in the study. The data obtained were analyzed by using SPSS software (Version 26).

Data Analysis and Findings

1. Descriptive Statistics of Engagement of the Student Teachers

Firstly, the collected data were analyzed to examine the engagement levels of student teachers. Descriptive statistics was conducted and the results were described as follows.

Table 1 Descriptive Statistics of Engagement of Student Teachers

	<i>N</i>	Minimum	Maximum	Mean	Mean %	Std. Dev
Affective	800	9	45	36.59	81.31	6.287
Behavioral	800	9	45	35.69	79.31	5.973
Cognitive	800	12	60	43.99	73.32	8.259
Engagement	800	30	150	116.27	77.51	17.920

The results in Table 1 described that the mean percentage of affective engagement scale was the greatest and the value of the cognitive engagement scale was the lowest. It can be said that the participants in this study have good feelings about their college and their academic life but they have low cognitive engagement. It may be the cause of facing the teaching-learning environment and teaching methods which differ from their basic education school life. Moreover, the mean percentage of engagement of the student teachers was 77.51. Therefore, the engagement level of the student teachers was high.

2. Comparison of Engagement of Student Teachers by Their Socio-demographic Variables

In this step, the engagement of student teachers was investigated to explore whether there is a significant difference according to their demographic factors.

First of all, the independent samples t -test was utilized to find out the differences of engagement by their gender. The results are described in the following Table 2.

Table 2 Descriptive Statistics of Engagement by Gender

Variable	Gender	N	Mean	Std. Dev
Engagement	Males	278	113.76	19.834
	Females	522	117.61	16.678

The results of Table 2 showed that the mean score of males and females were slightly different. To get specific information, the independent samples *t*-test was conducted. The results are in Table 3.

Table 3 Result of Independent Samples *t*-test of Engagement by Gender

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Engagement	-2.910	798	-3.854**	.004

Note: ** $p < 0.01$

Based on the results in Table 3, it was found that there is a significant difference in engagement according to their gender ($p < 0.01$). Female students are more likely to be engaged in their academic life than the males. The result agreed with the study of Olpak and Korucu (2016). It stated that students' mean scores of engagement scale can vary according to their gender type. Moreover, it is also consistent with the results of Manikandan (2018) expressed that girl students are more engaged in their studies compared to the boys. But the result is inconsistent with Casuso-Holgado and colleagues (2013) who reported that there is no significant difference in engagement based on gender.

Next, the mean difference of students' engagement for each subscale by their gender was also examined. At first, the means and standard deviations for each subscale were examined by descriptive statistics.

Table 4 Descriptive Statistics of Engagement Subscales by Gender

Variable	Gender	N	Mean	Std. Dev
Affective	Males	278	34.92	6.924
	Females	522	37.48	5.731
Behavioral	Males	278	35.08	6.759
	Females	522	36.02	5.488
Cognitive	Males	278	43.77	8.794
	Females	522	44.11	7.966

The means and standard deviations of each subscale pointed out that female students pay attention and are more interested in their educational functions than the males.

After that, independent samples *t*-test analysis was utilized again to obtain more detailed information.

Table 5 Result of Independent Samples *t*-test of Engagement Subscales by Gender

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Affective	-5.586	798	-2.56***	.000
Behavioral	-2.137	798	-.946*	.033
Cognitive	-.568	798	-.349	.570

Note: * $p < 0.05$, *** $p < 0.001$

The results in Table 5 indicated that females have positive emotions and behaviors concerning their college and also in their study and they feel belongingness. But males have lower ability level ($p < 0.001$ and $p < 0.05$, respectively). However, their cognitive engagement was not significantly different between them. It may be due to the teaching-learning process unlike their previous basic education school. And also, they are in the period of the transition from basic education to higher education. They may have some difficulties in studying with the learner centered approach and classroom activities that focus on their critical and creative thinking skills.

After that, the mean differences of engagement by their age groups were also investigated.

Table 6 Descriptive Statistics of Engagement by Age

Variable	Age	N	Mean	Std. Dev
Engagement	Below 18	327	121.03	16.424
	18 and Above	473	112.98	18.186

Table 6 displayed that the mean values of the younger group were greater than that of the older group. To identify these differences are significant or not, independent sample *t*-test analysis was carried out.

Table 7 Result of Independent Samples *t*-test of Engagement by Age

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Engagement	6.401	798	8.015*	.016

Note: * $p < 0.05$

According to Table 7, the younger students are more engaged in their learning process and it is significantly different at the 0.05 level. Most of the younger students are from first year. They have to learn with the practical learner centered approach in their class and all of them have to participate in the classroom activities because of their class participation marks. They have no chance to leave behind these activities. Thus, the younger students had the higher engagement comparing with the older students.

Consequently, the differences for each subscale of the engagement were also examined since the total engagement scale was different. The results were described as follow.

Table 8 Descriptive Statistics of Engagement for Each Subscale by Age

Variable	Age	N	Mean	Std. Dev
Affective	Below 18	327	38.19	5.568
	18 and Above	473	35.48	6.520
Behavioral	Below 18	327	37.30	5.453
	18 and Above	473	34.58	6.068
Cognitive	Below 18	327	45.54	7.914
	18 and Above	473	42.92	8.331

The mean values of each age group were found to be slightly different according to the above Table 8. Younger age group had high mean score of engagement than the elder group in all subscale.

To see these differences significantly, independent samples *t*-test was analyzed. The results can be found in the following table.

Table 9 Result of Independent Samples *t*-test of Engagement for Each Subscale by Age

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Affective	6.116	798	2.705***	.000
Behavioral	6.502	798	2.723**	.007
Cognitive	4.467	798	2.623	.287

Note: ** $p < 0.01$, *** $p < 0.001$

The results of independent samples *t*-test explained the engagement level of the younger students in affective and behavioral subscales are greater than that of older students. But not significantly different in cognitive engagement. The younger students have more opportunities to meet with the subject teachers and have friendly relationship because of learning period allocation and the teaching learning styles unlike the older students. So, they feel warmth and also think they are safety in their class. Consequently, they can participate actively in their classroom duties and responsibilities happily and enjoyable for their performance.

Then, the descriptive statistics and independence sample *t*-test was performed again to find out whether there is a significant difference in engagement by their college locality.

Table 10 Descriptive Statistics of Engagement by College Locality

Variable	Locality	<i>N</i>	Mean	Std. Dev
Engagement	Region	634	115.92	17.944
	State	166	117.64	17.816

The mean and standard deviation values of engagement were described in Table 10. For specific information, independent samples *t*-test was conducted.

Table 11 Result of Independent Samples *t*-test of Engagement by College Locality

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Engagement	-1.102	798	-1.722	.271

According to Table 11, no significant difference was found in total engagement. It is because the students from any colleges have the same learning opportunities and need to do the same learning activities. Therefore, their engagement ability is not different.

Furthermore, the differences among college locality for each engagement subscale was also investigated.

Table 12 Descriptive Statistics of Engagement Subscales by College Locality

Variable	Locality	N	Mean	Std. Dev
Affective	Region	634	36.43	6.428
	State	166	37.19	5.695
Behavioral	Region	634	35.47	5.928
	State	166	36.54	6.086
Cognitive	Region	634	44.02	8.203
	State	166	43.91	8.495

The mean values from Table 12 suggested that there will be a little difference in each subscale concerning their college locality. The student teachers from colleges located in States have greater mean scores in affective and behavioral engagement although the mean scores difference for cognitive engagement scale was not found significantly. To gain more detailed information, independent samples *t*-test analysis was performed.

Table 13 Result of Independent Samples *t*-test of Engagement Subscales by College Locality

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Affective	-1.394	798	-.764	.164
Behavioral	-2.048	798	-1.065*	.041
Cognitive	.147	798	.106	.883

Note: * $p < 0.05$

The above analysis pointed out that the behavioral engagement of student teachers from the colleges located in state are higher than those from the region. The difference is significant at the 0.05 level.

Moreover, the student teachers involved in the study are from different college year. Therefore, the differences of their engagement were also examined among their college years.

Table 14 Descriptive Statistics of Engagement by College Year

Variable	College Year	N	Mean	Std. Dev
Engagement	1 st Year	400	121.22	16.524
	2 nd Year	400	111.33	17.918

The mean scores of each college year were slightly different. First year student teachers have higher mean value than the second-year student teachers. To gain detailed information, independent samples *t*-test statistics was analyzed.

Table 15 Result of Independent Samples *t*-test of Engagement by College Year

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Engagement	6.109	798	9.883*	.031

Note: * $p < 0.5$

The mean difference of engagement by their college year was found at 0.01 significant level. The significant level is 0.05. The student teachers' emotions, manners, attitudes towards their college and classroom environment and, performing learning activities are different according to their college years. First year student teachers are more engaged in their academic settings.

Hence, the mean differences for each subscale were inquired as well. The results are presented in the following Table 16.

Table 16 Descriptive Statistics of Engagement Subscales by College Year

Variable	College Year	N	Mean	Std. Dev
Affective	1 st Year	400	38.23	5.435
	2 nd Year	400	34.94	6.648
Behavioral	1 st Year	400	37.28	5.493
	2 nd Year	400	34.10	6.017
Cognitive	1 st Year	400	45.70	8.035
	2 nd Year	400	42.29	8.137

Table 16 the mean scores of engagement subscales with the level of their college years. The mean values of first year student teachers are greater than the second-year student teachers. The student teachers from first year are more actively involved in class activities than the second-year student teachers. Moreover, to acquire the significant difference, independent samples *t*-test was utilized.

Table 17 Result of Independent Samples *t*-test of Engagement for Each Subscale by College Year

Variable	<i>t</i>	<i>df</i>	Mean Difference	<i>p</i>
Affective	7.663	798	3.290***	.000
Behavioral	7.806	798	3.180*	.010
Cognitive	5.968	798	3.413	.755

Note: * $p < 0.05$, *** $p < 0.001$

Table 17 indicated that first year student teachers' affective engagement is higher than that of second year student teachers ($p < 0.001$). In addition, there is significant difference in behavioral engagement with 0.01 significant level. But the cognitive engagement does not differ by their college year although first year students have greater mean score than the second year. As mentioned in the above section, it may be the differences of teaching-learning environment, teaching styles and the learning activities between them.

Hence, one-way ANOVA statistics was performed to investigate whether there is significant difference in engagement of student teachers according to their parents' education levels and occupational status.

At first, the mean values for fathers' education level and mothers' education level were analyzed and these scores were not significantly different. To obtain the detailed information, one-way ANOVA was also conducted. The results from the ANOVA analysis indicated that there were no significant differences by their parents' education level concerning their engagement, ($F = 2.122, p = .06$ for fathers' education level and $F = .856, p = .510$ for mothers' education level). This means that the active performance of the student teachers is not differed by their parents' education level. The study of Truta and his colleagues (2018) also pointed out that parents' education does not relate with any of engagement variables.

Although the difference in total engagement scale by parents' education level was not shown, the difference in affective engagement scale across their fathers' education level was found. The results of the ANOVA analysis indicated that the student teachers' affective engagement was influenced by their fathers' education level. ($F = 3.009, p = 0.01$). Therefore, Post Hoc Test was conducted by Tukey HSD Method to get detailed information about which student teachers had the highest affective engagement among their fathers' education level. According to the Tukey results, the significant differences among their fathers' education level was not found.

Comparing with not only father's job but also mother's job, it can be seen that there is no significant difference in engagement of the student teachers ($F = 0.487, p = .786$ for fathers' job and $F = 0.588, p = .709$ for mothers' job). From the analysis of parents' education level and occupational status, it was found that there is no significant difference in their engagement ability. Parents' education and occupation cannot influence their execution of classroom activities. Because they are free from the parental control and they have opportunities to do something themselves.

Conclusions, Discussions and Suggestions

As the results of the study, the student teachers' engagement in their colleges was enough to perform in their academic activities. They have high level in involving in their educational works. The participants' affective and behavioral engagement were greater than cognitive engagement. If looking over the classroom situation, most of the students can be found to be more favorable and enjoyable to do other routines rather than their academic works. And in the college environment, the activities and competitions that can make them happy are usually held. These may be the reasons of describing their higher engagement in behaviorally and emotionally.

Moreover, the analysis of the engagement of the student teachers described that their engagement level is influenced by their gender, age and college years. Female students are more engaged in academic life. And first year students and younger students had higher engagement level than the second year and older students. It may be because of the teaching approach in their class. First year students have been taught by the new curriculum and learner centered approach. But second year students were learnt with the old curriculum which focus on content-based curriculum and most of the teachers use the traditional teaching methods. Therefore, first year or younger students have to do many activities themselves and more actively participate in the educational activities. However, their engagement was not different by their college locality. Because all students have to learn and participate in the school activities and the same contents in all colleges and taught by the same teaching methods as described in teacher guide.

After that, no significant differences in engagement were found among their parents' education level and occupational status. This may be because all of the sample who participated in this study are college students and stay in hostel life. Besides, most of them are free from their parents' supervision and control and they can decide and solve anything themselves. And, their performance in college environment and the matters faced in academic life depend on their life. Therefore, their engagement in academic setting is not influenced by their parents. They had to try their best.

From the current study, it was found that the class out and classroom activities such as co-curricular activities and competitions were a good cause for increasing student engagement in the entire college. Therefore, learning activities should be structured around the student interests and preferences. It should be aware of openness and responsiveness to students' questions, perspectives and opinions. And their teaching styles and teaching methods should support for their student teachers' learning engagement. They should not forget to give praise, encouragement and advices concern their students' learning. Moreover, encouraging them by words or actions and building a strong relationship with them are important factors that should be considered. Emotional, social and motivational support may also be provided.

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