

## ACADEMIC PROBLEMS AND NEGATIVE ATTITUDE OF ENGINEERING STUDENTS TOWARDS ENGINEERING PROGRAM

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### ABSTRACT

*This study aims to determine the academic problems and negative attitude towards engineering program of the engineering students at the Lyceum of the Philippines University (LPU), Batangas City, Philippines. The descriptive survey type of research was utilized in the study. The study found out that the Engineering students generally have low level of negative attitude towards engineering program but with moderate level in finding their subjects too difficult for them to pass at the end of the semester and losing their patience in subjects they cannot really understand. Students with academic problems have also higher negative attitude towards the engineering program.*

**Keywords:** Academic Problems, Attitude, Engineering, College Student, Computer Engineering

## Introduction

Some students don't have a clear vision regarding their reason for being in college. Perhaps they are here at their parent's insistence while not feeling that they are doing what they really want to do with their life. Sometimes courses and majors are chosen to please others, but have little or no relationship to the student's true interests. Many students just aren't sure about that they really want to do in their future career. It takes a fairly clear purpose to motivate a student to successfully engage in the lengthy and difficult process of higher education (Sirswal, 2008).

Furthermore, apart from time management skills, it is known that a large proportion of students entering college have not had much in the way of useful instruction or assistance with specific study methods. Social distraction is another factor. Love and friendship are the most important things in the lives of most people, especially college students. It is often difficult to find the needed balance between socializing and studying.

Academic problems of college students come in various forms such as difficulty in math subject, lack of motivation and study habits, strict teachers and failed major examinations. Identifying these problems along with their negative attitude towards the engineering program would provide better understanding of students' situation and behaviour inside the classroom. Academic problems can be very common and range from difficulties with study to anxieties about exams. In all cases, you should first speak to your Personal Tutor as soon as the problem arises. If this is not possible or proves unsatisfactory then you should take it to someone else in the department, for example, the Director of Undergraduate Studies or the departmental Senior Tutor ([www.warwick.ac.uk](http://www.warwick.ac.uk)).

Some students did very well in high school but some are less successful in their college courses. Some students have clear evidence that they are doing poorly; they receive low grades on exams or other coursework. Others just suspect or fear that they are doing poorly. For example, they may have difficulty understanding reading assignments, or they may feel confused by instructors' lectures ([www.weinberg.northwestern.edu](http://www.weinberg.northwestern.edu)).

It is not uncommon for students to experience some academic difficulties during their transition to college or at other points in their educational career. Though this often reflects a

normative developmental transition, there are times when academic difficulties are more concerning and reflective of emotional and/or learning disorders. Professors are often essential in identification of students who are struggling ([www.wlu.edu](http://www.wlu.edu)).

Analyzing the attitude of BS Computer Engineering (BSCoE) and General Engineering (GE) students towards their course would somehow define their academic performance and participation in school activities. Identifying the cause of their problems would help the teachers and program administrators to assist the students in coping with these academic challenges.

### **Objectives of the Study:**

This study aimed to determine the academic problems and negative attitude of Engineering students towards engineering program.

Specifically, this study was guided by the following objectives:

1. To determine the level of negative attitude of Engineering Students towards Engineering Program.
2. To determine the level of academic problems of First Year and Second Year Engineering students.
3. To determine if there are significant differences between first year and second year as well as between BSCoE and GE students.
4. To determine if there is a significant relationship between negative attitude towards the program and academic problems of engineering students.

### **Hypothesis:**

This study was guided by the following hypotheses:

1. There are no significant differences between First year and second year as well as between BSCoE and GE students.
2. There is no significant relationship between negative attitude towards the program and academic problems of engineering students.

**Methods:**

The descriptive survey type of research was utilized in the study. Descriptive survey method is appropriate for data derived from simple observational situations, whether these are actually physically observed or observed through the use of a questionnaire or poll techniques (Zulueta & Costales, 2003). The respondents of the study were 24 BSCoE First year, 6 BSCoE Second year, 33 GE First Year and 22 GE Second year enrolled during 2<sup>nd</sup> Semester of SY 2011-2011 in the College of Engineering at Lyceum of the Philippines University (LPU) in Batangas City. Data were collected using researcher-made questionnaire in terms of negative attitude and academic problems. Survey questionnaires were administered personally by the researcher to his students one month after the opening of 2<sup>nd</sup> Semester SY 2011-2012. The respondents were informed regarding the main purpose of the study. The data were collected, classified, tabulated and coded for analysis. The following statistical tools were applied in interpreting the data obtained from the instrument used in the survey, including the weighted mean, rank, Pearson Product Moment Correlation Coefficient and t-test.

**Results and Discussion:**

Table 1 presents the comparative level of negative attitude of first year and second year engineering students towards engineering program

**Table 1**  
**Comparative Level of Negative Attitude of First Year and Second Year Engineering Students**  
**Towards Engineering Program**

Negative Attitude Towards Engineering Program	Course			Year Level			Total		
	CpE	GE	Sig.	1.00	2.00	Sig.	Mean	VI	Rank
I don't have clear objective or plans as of now for my future career.	2.20	2.40	.353	2.42	2.14	.203	2.33	L	3
I'm still confused regarding what	2.57	2.16	.090	2.44	2.04	.096	2.31	L	4

degree program to take in college that will suit my interest.

I find my subjects too difficult for me to pass at the end of the semester.

I'm losing my patience in my courses that I cannot really understand.

I cannot perform very well in class due to lack of interest to learn engineering skills.

I think my intellectual capability is not suited for this program.

I'm planning to shift to another degree program when the result of my grades comes worst.

I'm not happy anymore facing the challenges of this program.

I have no freedom to do things I want because of too many requirements of this program

. I cannot see yet the benefits and advantages of this program for me in the future.

<b>Composite Mean</b>	<b>2.25</b>	<b>2.23</b>	<b>0.89</b>	<b>2.35</b>	<b>2.01</b>	<b>0.01*</b>	<b>2.24</b>	<b>L</b>	
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\* - significant at 0.05

Majority of Computer Engineering and General Engineering students have moderate negative attitude in terms finding their subject too difficult for them to pass at the end of the semester. First year students have significantly higher negative attitude in terms of this indicator than second year students.

First year students have significantly higher negative attitude than second year students in terms of losing their patience in the subjects that they cannot really understand. When they are grouped according to their programs, they have no significant difference. It means that engineering students from both programs are experiencing moderately this negative attitude.

Majority Engineering students have low negative attitude towards engineering program in terms of having no clear objective or plans as of now for their future career as manifested by the total weighted mean score of 2.33. Either Computer Engineering or General Engineering and either first or second year students have the tendency to obtain low and high negative attitude on this variable.

Computer Engineering obtained moderate negative attitude towards the program in terms of their confusion regarding what degree program to take in college that will suit their interest as indicated by the weighted mean score of 2.57 but it is not significantly different with the obtained mean of General Engineering students. When they are grouped according to year level, both First and Second year students have low negative attitude towards this indicator and they have no significant difference between the two year levels.

Engineering Students have low negative attitude in terms of having no freedom to do things they want because of too many requirements of this program as manifested by the total weighted mean score of 2.28 with no significant difference between two programs and between two year levels. They are commonly experiencing this negative attitude.

Respondents have also low negative attitude in terms of thinking their intellectual capability is not suited for this course and they cannot perform very well in class due to lack of interest to learn engineering skills as indicated by the total weighted mean scores of 2.19 and 2.07, respectively. Engineering students have possibilities of obtaining either high or low negative attitude on these indicators.

General Engineering and Computer Engineering both first and second year students have low negative attitude in terms of not seeing yet the benefits and advantages of this course for them in the future and planning to shift to another degree program when the result of their grades comes worst as

manifested by the total weighted mean scores of 1.99 and 1.91, respectively. The respondents have no significant differences in terms of course and year level.

First year students have significantly higher weighted mean score against second year in terms of being not happy anymore facing the challenges of this program as indicated by the weighted mean scores of 2.02 and 1.54, respectively. This signifies that the null hypothesis of no significant difference between First and Second year students is rejected in terms of this indicator. But majority of the responses of the engineering students are low negative attitude. This implies that engineering students were still happy on meeting the challenges of engineering program.

First year engineering students have relatively higher negative attitude than Second year students towards engineering program as manifested by the composite mean score of 2.35 and 2.01, respectively with computed significant value of .01 which is less than the 0.05 level of significance. Although negative attitude towards the program is verbally interpreted as low, the majority of the responses of First year students are significantly higher against second year students. First year students still need more time for adjustment to appreciate the nature of this program.

Table 2 shows the comparative level of academic problems of first year and second year engineering students.

**Table 2**  
**Comparative Level of Academic Problems of First Year and**  
**Second Year Engineering Students**

Academic Problems	Course			Year Level			Total		
	CpE	GE	Sig.	1 <sup>st</sup>	2 <sup>nd</sup>	Sig.	WM	VI	Rank
Solving math problems is not the nature of studies I want to deal with in college.	2.33	2.53	.349	2.60	2.18	<b>.045*</b>	2.46	L	4
There are too many math related subjects in engineering which I hated most.	2.30	2.35	.826	2.54	1.89	<b>.001*</b>	2.33	L	6
I don't have enough motivation to study my lessons.	2.20	2.15	.781	2.25	2.00	.216	2.16	L	8
I have difficulty of understanding lessons in mathematics and other related subjects.	2.53	2.65	.517	2.81	2.21	<b>.001*</b>	2.61	L	3
I can't see the concern and support of teachers to enhance my academic performance.	1.80	2.20	.051	2.11	1.96	<b>.049*</b>	2.06	L	9
Examinations are very hard to answer.	2.63	2.78	.412	2.95	2.29	<b>.000*</b>	2.73	M	1
I feel lack of energy to answer and do my projects and home works.	2.37	2.38	.934	2.46	2.21	.193	2.38	L	5
I don't have good study habits.	2.83	2.58	.242	2.88	2.25	<b>.003*</b>	2.67	L	2
No matter how I tried to study my lessons it seems not working during exams.	2.33	2.22	.546	2.46	1.86	<b>.001*</b>	2.26	L	7
I don't exert much effort in studying because cheating could be done during exam without being caught.	1.63	1.73	.638	1.67	1.75	.682	1.69	L	10
Composite Mean	<b>2.30</b>	<b>2.36</b>	<b>0.64</b>	<b>2.47</b>	<b>2.06</b>	<b>0.001*</b>	<b>2.34</b>	L	



First year engineering students have significantly higher academic problem than second year in terms of difficulty of answering examination with moderate level as perceived by the respondents while both programs have no significant difference on this indicator.

Freshman Engineering students have relatively higher academic problem than second year students in terms of without having good study habits with total weighted mean score of 2.67 and low level verbal interpretation on this indicator as perceived by the respondents. Freshmen must be given enough inspiration and encouragement to learn the basics of having good study habits both at home and in school. They also have significantly higher problem than second year in terms of having difficulty of understanding lessons in mathematics and other related subjects as manifested by the computed significant value of 0.001 which is less than the 0.05 level of significance with low verbal interpretation and 2.61 total weighted mean score on rank number 3.

First year engineering students obtained relatively higher academic problem than second year in terms of solving math problems is not the nature of studies they want to deal with in college with computed significant value of 0.045 which less than 0.05 level of significance. This indicator also obtained low level of academic problem among students.

Feeling lack of energy to answer and do their projects and home works as well as without having enough motivation to study their lessons obtained low level in academic problems among students as indicated by the total weighted mean scores of 2.38 and 2.16, respectively with no significant differences among respondents .

First year engineering students hated most significantly than second year of having too many math related subjects in engineering as indicated by the computed significant value of 0.001 which less than the 0.05 level of significance. This indicator generally obtained low level in academic problems among engineering students. They also have relatively higher problem than second year in terms of the indicators “No matter how they tried to study their lessons it seems not working during exams” and “They can’t see the concern and support of teachers to enhance their academic performance with computed total weighted mean scores of 2.26 and 2.06, respectively. The null hypothesis of no

significant difference between the responses of first year and second year students in terms of these following indicators is rejected.

Engineering students have low academic problem in terms of without exerting much effort in studying because cheating could be done during exam without being caught obtained the lowest weighted mean score of 1.69.

The computed composite mean score of First year engineering students is relatively higher than second year. This implies that First year students have higher academic problems than second year students. There is no significant difference in terms of two programs between BSCoE and GE. It shows that they are experiencing these academic problems with either high or low level.

Table 3 reveals the significant relationship between negative attitude towards the program and academic problems of engineering students.

**Table 3**  
**Significant Relationship Between Negative Attitude towards the Program and Academic Problems of Engineering Students**

	r-value	p-value	Remarks	Decision Ho
Negative Attitude and Problems	.773	.000	Significant	Reject

The computed p-value of 0.00 is less than the 0.01 level of significance, therefore the null hypothesis of no significant relationship between the negative attitude and academic problems of first year and second year Engineering students is rejected. This signifies that the higher the negative attitude of engineering towards the course, the higher their academic problems and the lower their negative attitude towards the course, the lower their academic problems.

#### **Conclusion and Recommendation:**

Engineering students generally have low level of negative attitude towards engineering program but with moderate level in finding their subjects too difficult for them to pass at the end of the semester

and losing their patience in subjects they cannot really understand. They generally have low level of academic problems but specifically with moderate level in the difficulty of major examination. First year engineering students have significantly higher academic problems and negative attitude towards engineering than second year students. Students with academic problems have also higher negative attitude towards the engineering program. The College of Engineering will closely supervise and monitor the attitude and academic performance of first year engineering students and they will be given seminars related to study habits and time management.

Since first year engineering students are still in the period of adjustment, faculty members must be considerate enough in giving them adequate and reasonable time to prepare for examination and submit their assignments and projects. First year engineering students must be given enough encouragement and motivation to increase the level of their interest towards engineering program. Higher level of difficulty in major examinations of engineering is already the nature of the program. Teachers may be advised to provide the students more exercises and assignments to practice during their spare time in the library or at home. Related researches may be conducted to follow up the attitude and academic problems of first year engineering students during their second year in the university.

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