

DE LA SALLE UNIVERSITY

ABSTRACT

This descriptive-correlational and predictive research is an attempt to investigate and explain the relationship between the academic performance of engineering students and selected cognitive and affective factors. This study also sought to find out which of the specific cognitive and affective factors best predict the academic performance of engineering students. Specifically, the cognitive factors are the four learning styles as measured by the Learning Style Inventory of Kolb (1981), namely, accommodators, divergers, convergers, and assimilators. The other cognitive factors are intelligence, English aptitude (Language Usage, Comprehension, Reading) and math aptitude (math A, math B, Algebra), which are all measured by the College Entrance Test of De La Salle University. The affective factors are the 16 academic motivators as measured by the Academic Motivation Inventory of Moen and Doyle (1984).

Respondents were selected via stratified random sampling using proportional allocation procedure. Data gathering was done on the second and third terms of SY 1994-1995.

One-Way Analysis of Variance using Pair Wise Comparison was utilized in finding out if the academic performance of engineering students differs significantly according to learning style as a cognitive factor per year and for the college as a whole. Pearson r was employed to detect if intelligence, English aptitude, and math aptitude as cognitive factors significantly correlate with the academic performance of engineering students per year. Pearson r was also used to find out if there is a significant relationship between academic motivation as an affective factor and academic performance of engineering students per year and for the college as a whole. Multiple correlation using stepwise procedure was employed in finding out which of the cognitive factors (excluding learning styles) and affective factors best predict the academic performance of engineering students per year for the cognitive factors and per year and for the college as a whole for the affective factors.

Academic performance differs significantly between:

1. second year accommodators and convergers, divergers and convergers, divergers and assimilators.
2. third year divergers and assimilators, and convergers and assimilators.
3. all divergers and convergers, and all divergers and assimilators of the college as a whole.

There is a significant correlation between the academic performance and:

1. intelligence of second, third, and fourth year engineering students.
2. language aptitude of second, third, and fourth year engineering students.
3. reading comprehension aptitude of second and third year engineering students.
4. math A scores of first and terminal year engineering students.



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5. math B scores of first, second, third, and fourth year engineering students.

There is a significant relationship between the academic performance and:

1. Achieving Motives of second, third, fourth, and terminal year engineering students.
2. Debilitating Anxiety of third year engineering students.

Achieving Motives among the 16 academic motivators is the best predictor of the academic performance of second, third, fourth, and terminal year engineering students. Achieving Motives is the best predictor of the academic performance of all the respondents taken as a whole. Math B scores is the only predictor among the cognitive factors treated as predictor variables of the academic performance of first year engineering students. Language Aptitude is the best predictor of the academic performance of second year engineering students and Math A scores of the CET is the second best predictor. Intelligence is the best predictor of the academic performance of third year engineering students and Math A scores is the second best predictor. Math B Subtest scores of the CET is the best predictor of the academic performance of fourth year engineering students and intelligence is the second best predictor.

The research concludes that learning style as a cognitive factor influences the academic performance of engineering students to varying degrees. Its influences in the academic performance of first, fourth, and terminal year engineering students lie with the fact that not one of the learning styles is superior to the rest. Its influences in the academic performance of second, third, and fourth years is in the form of significant differences in their CGPA brought about by learning style differences. The other cognitive factors, namely intelligence, English Aptitude (Language Usage, Comprehension, Reading), and Math Aptitude (Math A, Math B, Algebra) affect the academic performance of engineering students in different capacities in different year levels. The research also concludes that except for Achieving Motives, no academic motivation is more powerful than the other to be able to exert a significant relationship with academic performance.

