

Innovative Teaching Techniques for Improving Academic Performance - Key to Transform Excellent Engineers

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ABSTRACT

This paper is designed to examine the possibility of counseling through audio / visual training, feedback devices, study tips, cultural activities, physical fitness, time scheduling, preparing course material, fixing priorities, conduct of periodical tests etc. would result in positive changes in improving academic performance of students. Wellness is a framework within which children develop a productive and enjoyable life, much of which is developed within the teaching community during their education process. Thus step by step counseling to students makes complete & overall strength into them to perform social and globalized development for the society.

Keywords : Study tips, cultural activities, physical fitness, time scheduling, preparing course material

1. INTRODUCTION

SOME of the approaches to educational reform involve the carrot instead of the stick, such as environmental treatment rather than handling with strict administration. Thus, it is essential to look after the aspects of improving institute's climate, direct intervention and involving parents. Other factors to be considered to improve academic achievement are identification of student's progress for both satisfactory and unsatisfactory. Thus, specific identification of comprehensive wellness is a clear cut demarcation between students who have satisfactory academic achievement and students who have unsatisfactory academic achievement. Results are supporting a relationship between performance on all three academic tests and scores on social, physical, and coping wellness composites. Grade point average (GPA) is a commonly used indicator of academic performance. Test anxiety, time management, test competence, academic competence and study techniques are some of the factors that affect an individuals' academic performance [1].

Thus the primary objective of this paper is to explore the effect of academic competence by creating the academic environment within the institute,

make direct intervention on weak areas and involving parents to make them aware about their wards progress. It is also essential to examine, test competence, time management, strategic studying skills, and test anxiety on academic performance of engineering students. Differences in the level of these factors among students with low and high GPAs are analyzed. Early detection and understanding reasons of academic failure may help certain students to perform better if adequate guidance on improvement is provided efficiently. Students in their experiential years may have better study, analytical and critical thinking skills than students in their successive years. They may also be more confident in their test-taking ability than in their earlier years. This could be attributed to their experience in the program and lesser number of tests taken during their experiential year. Also, since the methods of learning during the experiential years are different from that in the following years; the differences in these factors among students enrolled in their first year as compared to passing out years can be evaluated.

2. ROLE OF EFFECTIVE COUNSELING

Institute counselors, like teachers and administrators, are expected to play an important role

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in the academic reform movement. One prominent role that counselors fill in many Institutes is to nominate mentors / coordinators. Paradoxically, the amount of time required to coordinate the increased strength of students resulting from Institute reform has decreased the amount of time that counselors can spend in their traditional roles. Although counselors are under pressure to make other types of contributions to the efforts to improve student's achievement. Recently, many countries have adopted a policy that requires each institute is counselor to identify 30 at-risk students and develop programs that will increase their academic achievement.

Some of the approaches to educational reform involve the carrot instead of the stick. The establishment of the National Board for Certified Teachers (NBCT) is a more positive approach. The NBCT, when it has completed its work, will formulate criterion aimed at improving the skills and knowledge of teachers, counselors, and others. University and local Technical Boards, Institutes then reward certified educators with significant pay increase. Another positive approach to promoting increased academic achievement involves rewarding the high performing Institutes, which in essence involves the introduction of merit award on the performance of the entire Institutes under the concerned university.

2.1 Improving Institute Climate

More often students who feel they have no place in Institute, disengage themselves psychologically, and often physically, from those Institutes. It results in lower achievement levels and higher dropout rates. Institutes with positive climates have teachers and others who are seen as warm and caring, have educational policies that foster educational and personal development, and recognize student's efforts and accomplishments. In-college suspension program- policies also benefit educational development, but out-of-college suspension programs provide no benefits to students and discourage their achievements. Educators who know students' names, recognize their efforts, and provide academic support encourage educational and student development. Those who do not care, fail to listen, and refuse to recognize individual differences in achievement potentials contribute to the alienation of students. Institute counselors can improve the climate of their Institute by advocating for policies that

promote rather than detract from the personal and educational development of students. They can do this by conducting in-service training of teachers and administrators to teach them basic communication skills, and methods of affirming students' importance and providing encouragement to them.

2.2 Direct Interventions

Institute counselors can improve the nature of the achievement climates in their institutes. They can also draw from a vast array of interventions that will help students to increase their academic achievements. One intervention that has been used for more than a two and half decades is setting example in behavioral domains. Unfortunately, such interventions are not properly applied therefore it is not showing good results for academic reforms. If behavioral aspects are made to be effective they must have specific objectives, set attainable short-term goals, be regularly monitored, allow for immediate reinforcement, and be adjusted when they are not promoting the desired change. Although they are somewhat more difficult to develop and monitor, behavioral aspects that involve groups instead of individuals, have great potential to influence student behavior.

Other direct interventions that are frequently employed by counselors include study skills groups, time management, training, classroom guidance, units aimed for improving test taking skills, and achievement motivation groups. Achievement motivation groups are led by the counselor, but involve input from the teachers and support for increased achievement from the students in the group. Institute's counselors also establish modular preparation courses, peer and volunteer tutoring programs, homework support networks, and refusal skills groups. Refusal skills groups are aimed at helping students resist the pressure often applied by low achieving students on achievers to minimize their academic achievements.

2.3 Involving Parents

It is known fact that parents' involvement is an important factor in student's academic achievements. Parents who have a high level of commitment to their children, set high standards, maintain a stable home environment, support achievement and become upset when grades are low. They also suggest to their ward

that academic achievement brings honour to the family, and monitor their children's progress continuously. It has been observed that such students give better performance in the institute. On the other hand, parents who accept the absolute authority of the teacher, maintain homes in non-hygienic neighborhoods, are poor and, are not proficient with the English language and achieve academic performance at a lower level than other students. Counselors can involve parents through Director or Expert Consultation, for making parents aware as to how they can support their ward in institute as well as influence their parenting skills by advocating to students when students are not treated fairly by the educational establishment. Counselors can also help the parents who are having difficulty in institute for getting apprised for their ward's progress by encouraging teachers to communicate telephonically more frequently with parents when the results of their ward is declared.

3 STUDY TECHNIQUES TO ENHANCE ACADEMIC PERFORMANCE

It is often seen that a few students are using some techniques of strategic studying. These students used techniques such as planning and studying in advance, anticipating the content of the test questions and studying accordingly, reviewing the course material, and summarizing it for examinations. Students develop their own habits and practice them as they progress through their curriculum. Extensive course load and comprehensive information in today's academic curricula necessitate effective study strategies for academic success. Many students found it hard to combine and organize their study and leisure time, which could be attributed to their perceived course load and stress associated with examinations or because many of them were also studying continuously for an average of 8-9 hours per day, which may create fatigue and overall exertion among students and lead to lower performance in examinations. A break time while studying is necessary for refreshing individuals mind and help them enhance their overall performance. The current engineering curriculum that impedes student's time management, skills emphasizes, and the importance of reassessing the amount of study material assigned for examinations.

Further, faculty members could consider holding quizzes / review sessions before examinations or

assignments to assist students in understanding and appropriately applying their course material. Students who do not study well in certain subjects could be identified using performance tests. The special classes could be conducted to help and facilitate learning in academically weaker students or workshops could be arranged by calling experts from industry or experienced guest faculty from renowned institutions / universities. It may be equally important to counsel students who do not use time management and study strategies.

Some of the study techniques covering topic of test anxiety, time management, test competence, academic competence are as mentioned below:

3.1 Study Load

It is associated with students' ability to manage their study load and is used to assess if students are able to manage the study material as per curriculum [2]. It also provides an indication of whether the curriculum is interesting enough for students to enjoy their classes.

3.2 Competence

A student with better academic competence would probably have better academic performance. Here academic competency is defined as the proficiency of students with respect to the content taught during courses over the past academic year and their ability to understand the course material [3].

3.3 Performance Test

It reflects competence, as to how students cope-up with the amount of study material for examinations. It refers to difficulties associated with managing the amount of study material for an examination and in preparing for them. Test competency is operationally defined as student's ability to manage and cope-up with the amount of study material for examinations and/or tests [4, 5].

3.4 Strategic Study

These techniques may help students to achieve a high GPA. Strategic studying is defined as the knowledge and application of effective study skills or techniques by students. These study strategies include:

- a. Know-Want-Learn (K-W-L)[6],
- b. Survey-Question-Read-Recite-Review (SQ3R)[7],
- c. Summarizing and note-taking [8, 9],

- d. Using graphics [10], and
- e. Self-questioning [11].

3.5 Time Management Skill

Time management has been defined as clusters of behavioural skill sets that are important in the organization of study/course load [12]. Time management skills include activities performed by students such as:

- a. Planning in advance,
- b. Prioritizing work,
- c. Test preparation, and
- d. Adherence of schedules [13].

Higher academic performance may be achieved by balancing time management and study techniques effectively [14, 15].

3.6 Extensive Course:

Such study loads and the comprehensive information in today's scenario necessitate the use of effective study for academic success [16].

4. THE QUESTIONNAIRE TO MEASURE COGNITIVE DOMAINS

Some of the questionnaire are given below to rate or grade the students for above study techniques.

4.1. Test Anxiety

For the following statements please rate yourself according to how well the statements describes you:

1 = Not at all typical of me; 2 = Not very typical of me; 3 = somewhat typical of me; 4 = fairly typical of me; 5 = Very much typical of me

1. Thoughts of doing poorly interfere with my performance on examinations
2. During an examination I frequently get so nervous that I forget facts I really know
3. While taking an important exam, I perspire a great deal
4. During examinations, I find myself thinking of things unrelated to the actual study material
5. I feel very panicky when I have to take an exam
6. After important tests, I am frequently so tense that my stomach gets upset
7. I usually feel my heart beating very fast during an exam
8. I usually get very depressed after taking an exam
9. I wish examinations did not bother me so much
10. Even when I'm well prepared for a test, I feel

very anxious about it

Please indicate your agreement or disagreement regarding the statements below using the scale provided by circling the number that best represents your opinion.

1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly Disagree

4.2 Academic Competence

- i. I am able to manage the academic course load in the curriculum so far.
- ii. I can easily understand course material taught in the curriculum.
- iii. I find the courses taught in the institute are interesting.
- iv. I am enjoying the classes offered in the curriculum.
- v. I always do my best to understand the course material taught in the institute.

4.3 Test Competence

- i. I can easily manage the amount of study material taught for an exam.
- ii. I do not find it difficult to prepare for examinations.
- iii. I can easily cope-up with examination tension.
- iv. I have great difficulty managing the amount of study material for examination

4.4 Time Management

- i. I find it very difficult to combine my study and leisure time.
- ii. I find it difficult to study regularly.
- iii. I usually end up "cramming" for examinations
- iv. I can organize my study and leisure time easily.
- v. I always start preparing for an examination well in advance.

4.5 Study Strategies

- i. While I am studying, I regularly try to find out what questions faculty may ask and how they may ask examination questions.
- ii. I plan well in advance for the best way of handling a study subject.
- iii. I review course material with my classmates while studying for examinations.
- iv. I test my knowledge before taking an examination by means of mock examinations, tests, quizzes etc.

- v. While studying I regularly summarize the course material in my own words.

5. CONCLUSIONS

Institute counselors are under pressure to assist in the effort to increase student achievements. They can respond to this challenge by working to improve the institute climate, using direct interventions such as teaching study skills and involving students in achievement motivation groups, and by increasing the involvement of parents in the educational process.

The importance of evaluating factors such as academic competence, test competence, strategic studying, time management, and test anxieties are very important in evaluating academic success. Specifically, test competence and academic competence were important factors associated with academic performance. Focusing efforts to understand these factors further would be helpful for students in enhancing their academic performances. Efficient counseling services regarding these techniques along with stress management programs could also assist students in achieving academic performance.

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