

A Proposed Motivation Programme for Underachieving Students at the Faculty of Engineering, University of Malaya

S. F. Siraj¹, N. Md. Ali^{*1}, W. N. L. Mahadi¹, N. Soin¹, S. Z. Dawal²

¹ *Department of Electrical and Telecommunications Engineering, University of Malaya, Malaysia*

² *Department of Mechanical Engineering Design and Manufacture, University of Malaya, Malaysia*

Abstract This paper proposes a motivation programme in arresting the problems of low achievement of some students in the engineering faculty, University of Malaya, Malaysia. Even though the majority of students come up with above average performance, the occurrence of students failing to perform well has caused a lot of concern among the teaching staff. Some major factors have been investigated and through years of monitoring samples of students who came up and seek advice from the authors, it was found that through this programme, the student's academic performances improved tremendously. It is then agreed that the motivation programme may just be the best solution in upgrading the student's academic abilities. This paper attempts at drawing out a proper motivation programme which will be effective in addressing the problems of underachieving students.

1. INTRODUCTION

Students who are qualified for university entrance are supposed to be the cream of the crop, having done well throughout their earlier stages of education. In Malaysia they represent only about 10% of their peers due to insufficient places at the local universities. These are young people with potential, who are expected to possess scholarly talents and should achieve good academic performance at the end of their university life. Whilst many carry on to fit the bill, graduating with good results, there remain an alarming number of students whose performance are far from satisfactory, struggling each semester to stay in the system. Efforts have been made by the staff at the faculty in trying to understand the characteristics of these underachieving students and the factors contributing to their problems. However no conclusive strategies can be drawn up largely due to insufficient information and the fact that none of the academic staff themselves are educational specialists.

Research into this problem shows that there are various theories and point of views on the problems put forward by psychologist and educationists but these are mainly concerning school children in general. Coleman (1966) investigated the factors effecting academic performance among school children [1]. Among others, the socio economic status of the student has been listed as one of the most important factor. Brown & Langer (1990) found that there are factors which are not easily modified such as socio economic standing, parents' involvement and home environment, while others such as educational intervention and psychological activity may be easily modified [2]. These are precisely the factors which should be worked on by the teaching staff in particular and the Faculty administration in general [3].

Through years of experience the authors have come to the same line of thought as a certain amount of motivation effort has proven to upgrade the performance of some underachieving students in the past. It is the purpose of this paper to introduce a proper motivation scheme for underachieving students.

2. MOTIVATION AND SOME CASE STUDIES

The motivation for this proposal arises mainly from previous experiences of the authors over twenty years of monitoring students' progress in the department. Campus life is exciting, but may sometimes be highly stressful. Many students encounter problems they are not prepared and have no knowledge to resolve. Their previously protected lives are suddenly exposed to difficult challenges, their usual ways of handling problems are not working well for some reason. They may have found, for example, that talking to friends or relatives about their concerns is impossible or unsatisfying as many simply cannot understand their situations. These problems start a cycle which eventually spiral into a crisis which in turn adversely affects the academic performance of these students. However, when some of these students came forward to discuss their problems with the authors and their subsequent performances monitored, significant improvements could be observed.

In about 90% of the students who came forward for these informal motivation sessions, they have failed badly in one or more subjects pulling their grade point average (CGPA) so low that some have gone under observation and not allowed to take more than twelve credit hours in the next coming semester. This has caused them to feel distressed and lose confidence of ever completing their courses. In the meetings the authors would try to make the students feel comfortable and they have the chance to talk over their problems, their fears and anxieties. The authors would normally relate their own experiences as students themselves, the hardships that they went through and assure them that when there is a will, everything can indeed be solved. We do not try to solve all their problems but help them look at the problems in a new objective ways so that they will be more capable of solving their problems in future.

In order to support the motivation plan, three case studies are presented here, involving three engineering students who went through some informal motivation and have now graduated. The first is of the year 1998 intake, the second a 1999 intake while the third is a 2000 intake. The first case did not fail any subject in the first year, with the grade point average (CGPA) maintained at around 2.7. However she failed two subjects in her second year, pulling the CGPA to 1.51. It is at this time that the author met the student who was then facing a personal problem. With the help of motivation, support from friends and family members as well as a great faith in God, she managed to overcome her problems and garnered a 2.85 pointer in the next semester. A few interactions, discussions and motivational sessions with the authors transformed the student into a confident and positive thinking lady with her pointer surpassing the 3 marks during her final year. She is now doing her masters at the department and is always willing to help the juniors getting through the same problem.

The second case presents a more difficult situation as the student is much weaker than the first one discussed above. Since the first year she had just enough point to stay out of probation ranging from 2.19 to 2.37 but worse were still to come. She failed two subjects in two consecutive semesters and was under probation for two semesters. Unlike the first case, her problems were not apparent, neither personal problem nor financial one was cited, but deep down it was a general feeling of being inferior and lack of confidence of her abilities. She used to believe that she was not good enough to study engineering. A lot of encouragements had to be pumped in to the student, identifying her fears, boosting her confidence and outlining study

techniques which best suited her. Even though she took longer time to graduate, hers is an awakening journey to find her true strength which she also attributed to divine help, to finally empower her inferiority complex and emerged a successful graduate currently holding the post of trainee engineer at a large company.

The third case is again a variation from the previous two as this particular student entered the university with impressive results from her matriculation (refer to Fig. 3). It was not surprising then that her pointer for the first year remained above 3 (refer to Fig. 3). What was surprising was her failure of two subjects in the second year. The motivation sessions for this case were mainly to regain her study rhythm; she had been complacent and let herself be distracted from her studies due to some conflicts within herself. It did not take too long to put this student on the right track again, all that was needed was a little encouragement, a lot of faith and assurance that she was doing a noble cause by seeking higher knowledge which she could then use for the goodness of mankind. She graduated in time with flying colors and subsequently offered a tutorship to further her studies at a private institution.

The above three cases are picked at random but they are by no means isolated ones as there are more cases of similar tones. These cases highlight the need for some form of motivation where the students may turn for help when things seem to go bleak. Indeed motivation sessions had helped them see the light not just to pull through at the university but also to prepare them for greater challenges in the future.

3. FACTORS CONTRIBUTING TO STUDENTS PROBLEMS

One of the factors contributing to underachievement arises from the student themselves. This may also be considered as personality dysfunction or attitude problem of the students which can be properly guided through motivation. The problems confronting students involves lack of motivation, low self confidence and lack of self control or discipline. According to Philips, students with low academic achievement are those who are too dependent on others and always have a negative outlook [4]. Their thoughts are immature, their self-esteem is rarely elevated hence they form their own negative perception that they can never perform academically. Pellicano reasons being weak students may indeed possess academic potential and ability to study and perform, but their own negative attitudes hinder their progress towards success [5]. They are always apprehensive, anxious, distressed and therefore unable to focus their ability and energy to climb the academic ladder.

Another prominent problem among the under achievers is their severe lack of discipline. This leads to failure in managing time, procrastination and overall disorganization in carrying out their tasks. They tend to keep putting off their academic assignments for a later date, or spending too much time socializing with friends. The rest of the time when they should sit down and study is spent worrying about the exams or the deadline of assignments rather than actually completing the tasks.

Besides the attitude problems, there are concerns involving financial and personal problems. On these matters the advisors may not be able to contribute directly but lending an ear and offering good advices may prove to be more effective than lending them a lot of money to solve the financial problems.

4. CASE STUDY IN THE ENGINEERING FACULTY, UNIVERSITY OF MALAYA

Twenty under observation samples in the faculty were randomly chosen. Figure 1 shows a common pattern for underachieving student without undergoing any motivation programme through out the four-year course. The definition of a weak student is when his results fall below a cumulated grade point average (CGPA) of 2.0. The system is such that a student is under observation when his results fall below a CGPA of 2.0. Graph 1 shows students sample taken from the year 2001/2002 intake. The monitoring was made over a period of 4 years. This sample was taken for students in an engineering course without any motivation. During the first year, the average CGPA obtained are in the range of 1.7 to 2.5. As the years progress, the results fluctuate a little. However, there is no significant improvement achieved in terms of the overall CGPA for all students.

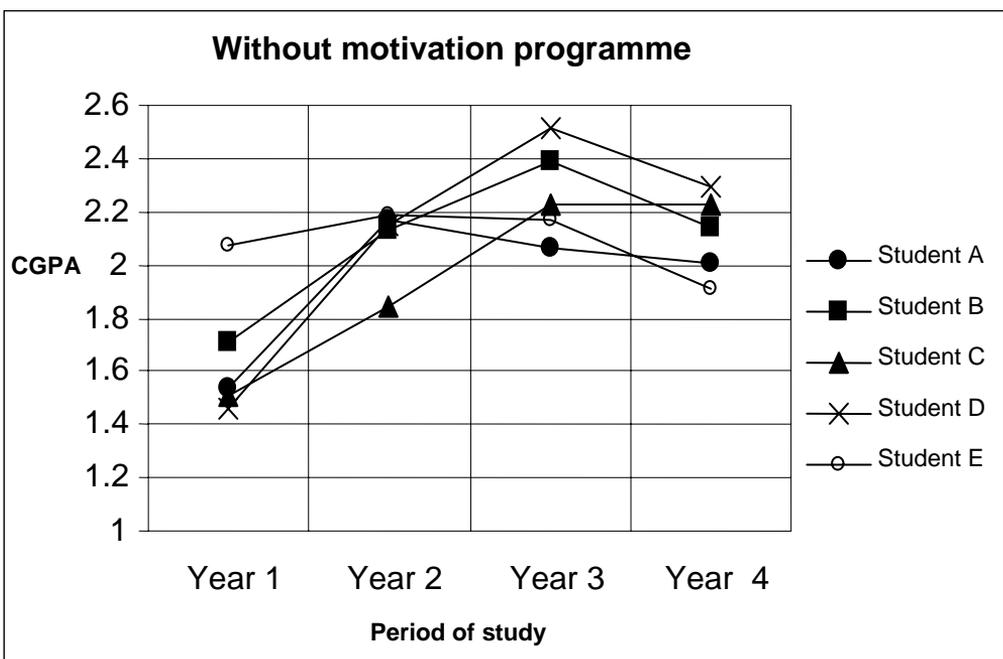


Fig. 1 Results for underachieving students without undergoing any motivation programme throughout the four-year course.

Figure 2 shows samples of the performance of three initially weak students. After Year 1, the students were given motivation programme by their respective academic advisors. Student f was an academically weak student in his first year with a CGPA of only 0.5, before motivation programme. While student j and k with an initial CGPA of 1.5 managed to top the CGPA of 2.0. It is sufficient to say that after undergoing motivation programme, the CGPA of students f, g and h increased to 1.5 and 2.5 respectively. It was observed that better academic progress was achieved in the third and fourth year of the course. Hence the results show that there was a marked improvement to the academic performance of the students even after being subjected to motivation programme.

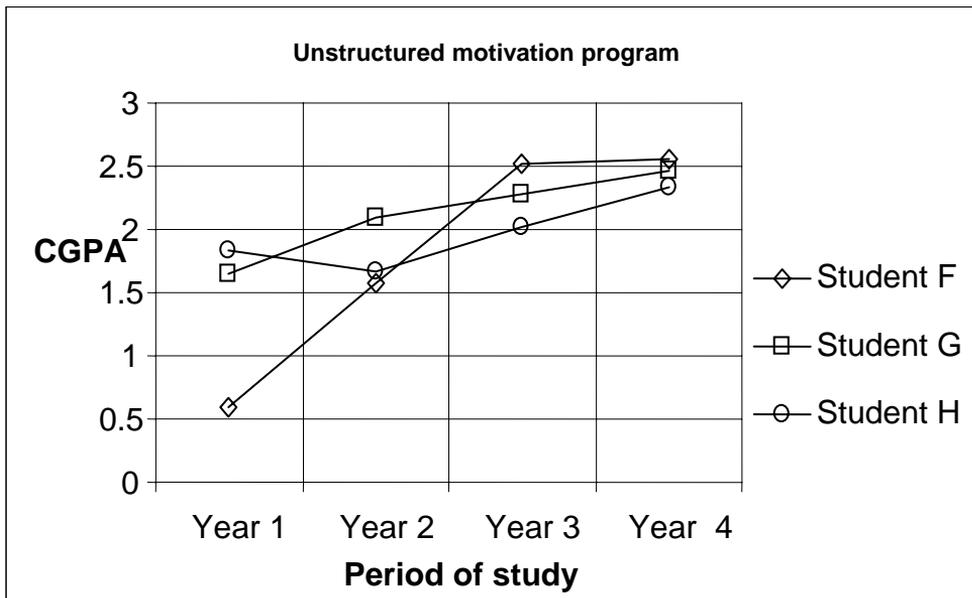


Fig. 2 Results for underachieving student undergoing unstructured motivation programme throughout the four-year course.

Figure 3 shows the performance of students I, J and K after being subjected to structured motivation programme over a four-year period. It is evident from the graph that the students made significant progress with a final CGPA of above 2.5. The analysis on the students' performance indicates the importance of motivation programme on initially weak students at the start of their course.

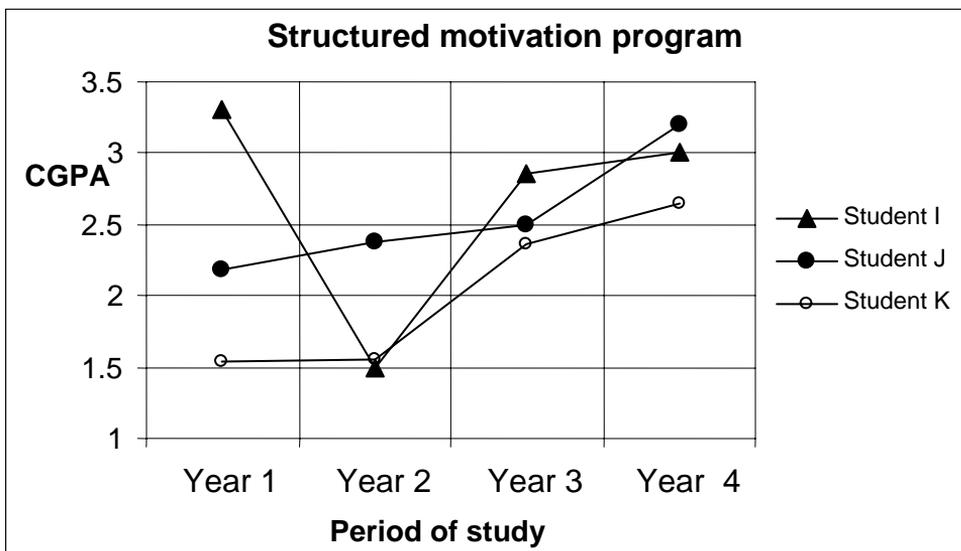


Fig. 3 Results for underachieving student undergoing structured motivation programme throughout the four-year course.

5. PROPOSED STRUCTURED MOTIVATION PROGRAMME

The proposed motivation programme is a platform for the students to talk over what is on their mind with an objective person. The students can benefit from experienced people who will advise and help them change their attitude and look at negative situations in a new and more positive ways. The academic staff should always try to understand the students and rid them of their initial anxiety before proceeding to discuss their problems and ways to solve them.

Since most of the staff at the department are not trained counsellors, it is proposed that before the programme is implemented, a motivation workshop is organized for interested academic staff to prepare them with the necessary motivation skills. Even though such initiative has been attempted in the past, it was agreed that randomly picking the staff for the workshop is the factor contributing to its eventual failure. Indeed only interested individuals with a strong interest in helping the students should be encouraged to participate. The number may not be significant but then again, the motivation programme is not for every student, it is aimed at the lower performance group whose number is not expected to be too big. An academic advisor who is basically an informal motivator assigned to each student is an important component in the role of academic motivation. This component can be affected by different factors that include time availability, knowledge of specific details of courses offered, and access to updated student records. In the workshop, the academic staff will be given the necessary basic skill in the motivation programme which includes:

- Recognising self-defeating problems such as anxiety, difficulty in concentrating, poor time management, indecisiveness, procrastination, and absenteeism in lectures.
- Motivating the students:- imparting the students with the right positive attitude towards course materials and living skill.
- Improving study skills:- which includes regular class attendance, studying for daily lectures and text, seeking instructor's assistance when needed.
- Dealing with problems:- personal problems which includes time management, social, financial and others.
- Nurturing self-confidence:- positive attitude on one's achievement and ability.
- Acquiring positive thinking and mental attitude and spiritual strength in one's faith.

The proposed motivation programme outlines are as follows:

- i. Students are assigned to specific lecturers (academic advisors) where once a month a meeting is held. This student should open up and discuss problems and how to overcome these problems. Attitude adjustment, basically for students to work harder and more efficiently. Assigned academic advisors are to give realistic advice to students. It should be stressed that different students require different perspective and approach.
- ii. Proper filing/documentation of each motivation session where confidentiality is ensured and assured
- iii. After the exams, academic advisors involved have to scrutinise results of students. Positive action taken on students with poor performance. The concerned students are summoned and closely monitored to avoid further failure.

- iv. When a student loses interest in his/her respective course or by failing his course, options were given, either he repeats the semester or allowed to change the course of his choice in the university which also depends on the severity of his failure and availability of places in other courses. The programme starts when each student's performance in his first year is monitored and evaluated by the academic advisor. A student under observation with CGPA below 2.0 is put under the motivation programme. At the same time there is also continuous monitoring and evaluation of performances of the other students until the final year.
- v. This programme also includes guidance to the student on career decision-making.

The motivators are trained to address the psychological aspects of individuality development of the students which include the application of the chain of activities using counseling skills [6] shown in Figure 4. The application of this counseling skills model is shown in Figure 5 [6]. Motivation also represents a socio-cultural environment to understand the inner world of a student. The approach to student's individuality can be viewed in terms of cognitive, affective and communicative elements.

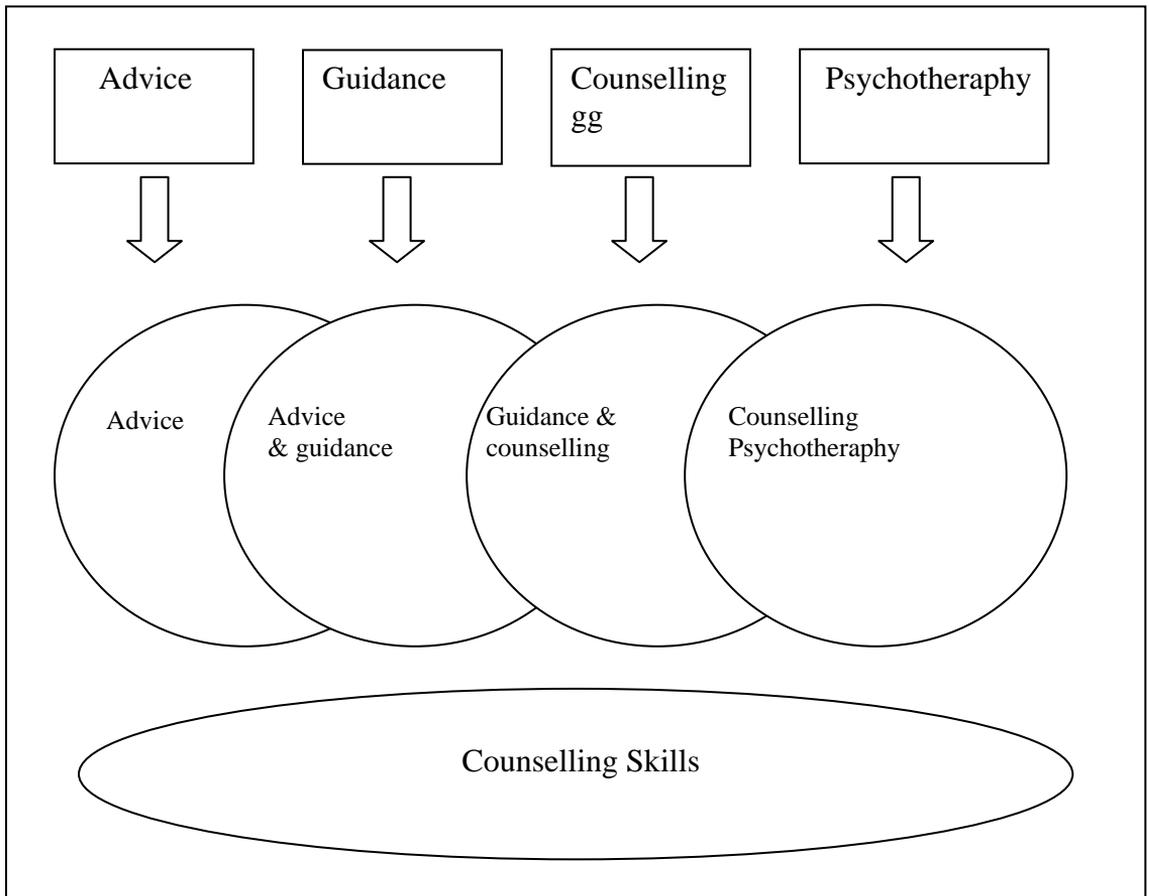


Fig. 4 The chain of activities using counseling skills [6]

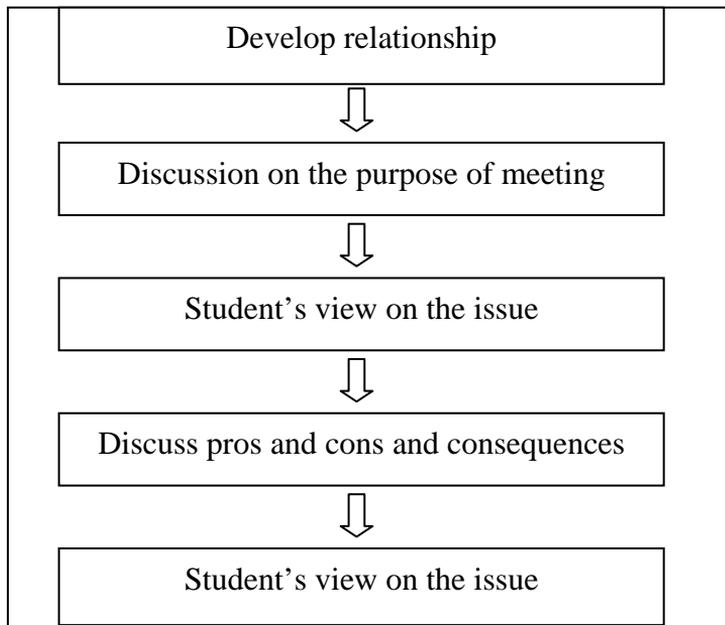


Fig. 5 Application of counseling skills model [6]

6. CONCLUSIONS

The paper has discussed the problems of under achievement of engineering students and a motivation programme which is proposed to overcome this disturbing phenomenon. Three case studies highlighted the various situations in which structured motivation programme was seen as the best aid for the students to solve their problems of under performance. It is hoped that the structured motivation programme would enhance student's academic performance as well as shaping them into more capable, discipline, competent and responsible professionals.

REFERENCES

1. J. Coleman, "Equality of Educational Opportunity", US Government Printing Office, 1996
2. J. Brown and E. Langers, "Mindfulness and intelligence: A comparison". *Educational Psychologist*, 25 (3&4), 303 – 309, 1990
3. J. A. Philips, "Metacognitive training for helping poor readers in the content area" *Jurnal Pembacaan*, 1:11 – 17, 1992
4. J. A. Philips, "Pengajaran Strategi Kognitif: Ke arah peningkatan Pencapaian Akademik Pelajar yang Lemah" *Pendidikan di Malaysia: Arah dan Cabaran*, Penerbitan Khas sempena ulang tahun ke 30, Fakulti pendidikan, Universiti Malaya 1993
5. R Pellicano, "At-risk: A view of social advantage" *Educational Leadership*, 44:47 – 50, 1987
6. N.S. Nystul, "Introduction to Counselling: An Art and Science Perspective". Needham Heights, MA: Allyn Bacon. 1999