Values Affecting Student Motivation: A Case Study

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Abstract

Motivation is an important element that affects students' learning experiences. Instructors should, therefore, labor to find out values that affect the motivation of their students so that necessary actions can be taken to ensure students' successful and enjoyable learning experiences.

This paper reports results of a case study conducted at KFUPM regarding values that affect students' attitude towards learning. A questionnaire of a dozen questions was used in the case study to obtain input from a sample of about 200 undergraduate students who are at various levels of their studies. The results show good teaching, grades and job consciousness to be the major motivators for our students.

1.   Introduction

High motivation and engagement in learning have consistently been linked to reduced dropout rates and increased levels of student success (Blank, 1997; Dev, 1997; Kushman, 2000; Woods, 1995). Yet, keeping students interested in school and motivating them to succeed are challenges that present themselves year after year to even the most seasoned teachers. There are many factors that contribute to students' interest and level of engagement in learning, and teachers have little control over many of those factors (Lumsden, 1994). However, research has shown that teachers can influence student motivation; that certain practices do work to increase time spent on task; and that there are ways to make assigned work more engaging and more effective for students at all levels (Anderman & Midgley, 1998; Dev, 1997; Skinner & Belmont, 1991).

Motivation is generally considered being *intrinsic* or *extrinsic*. A student who is intrinsically motivated undertakes an activity "for its own sake, for the enjoyment it provides, the learning it permits, or the feelings of accomplishment it evokes" (Mark Lepper 1988). An extrinsically motivated

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student performs "in order to obtain some reward or avoid some punishment external to the activity itself," such as grades, stickers, or teacher approval. This paper seeks to find out how certain motivational values play a role in the study life of KFUPM students. A questionnaire on motivational elements was designed for this purpose and distributed to a sample of undergraduate KFUPM students at various levels in their studies. There were twelve questions in the questionnaire covering a range of motivational factors. The respondents in the case study were mainly students from the college of computer sciences & engineering. There were some students also from the college of industrial management. The students involved were those studying the following courses:

ICS 201: Introduction to Computer Science

ICS 202: Data Structures

ICS 342: Computer Network Technologies

ICS 252: Discrete Structures

ICS 491: Machine Learning

About 30% of the respondents completed the questionnaire online and the remainder completed a hard copy of the questionnaire.

Section 2 of this paper discusses the results of the case study question by question. Strategies for enhancing student motivation are presented in Section 3. Section 4 summarizes the paper and Section 5 concludes the paper with acknowledgement.

2.   Students' survey

Our case study was based on a survey containing one dozen motivational questions. Each question has five options numbered 1 to 4 with some reverse semantic differentials as shown in Table 1.

Response tag	Response
0	No response
1	Strongly agree
2	Agree
3	Disagree
4	Strongly disagree

Table 1: Responses and their Tags

Questions for which there were no responses have a tag of zero. A respondent was required to make a single selection for each question. In cases where more than one selection was made, the first selection was taken

for use in the analysis of the survey results. We discuss results of the survey in the next twelve subsections.

2.1 Teaching quality value

The main intent of this question is to probe students on the significance of quality of teaching to their motivation in academic courses. The question goes as follows:

> Q1: Quality of teaching by an instructor is a major reason that makes me like a course and put more effort in the course.

It is expected that students who are more intrinsically motivated would be more likely to withstand low-quality teaching than students who are more extrinsically motivated. Figure 1 depicts results of our students' responses to this question. The results show that about 63% of the respondents strongly agreeing and about 30% agreeing that they are motivated by quality of teaching.

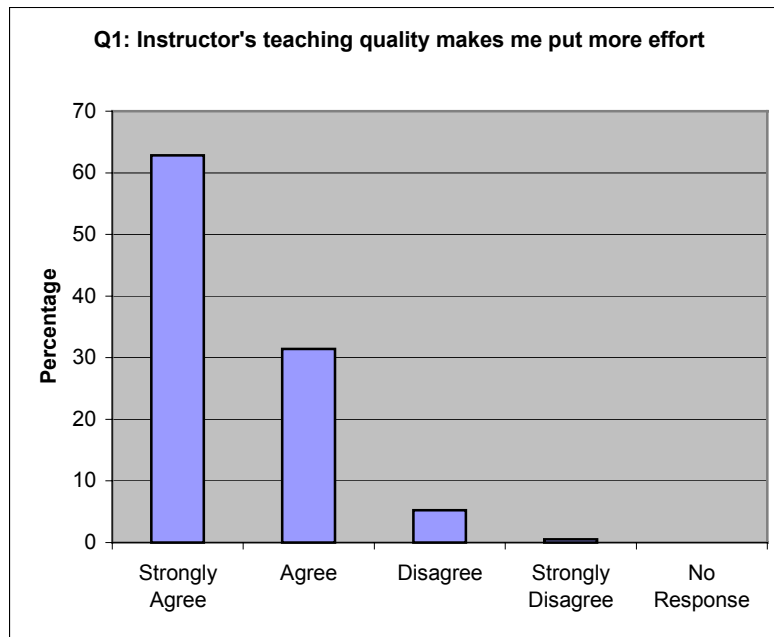**Q1: Instructor's teaching quality makes me put more effort**

Figure 1: Effect of Teaching Quality on Student Motivation

These results suggest that instructors should spend more time explaining why they teach what they teach, and why the topic or approach or activity is important, interesting and worthwhile. Similarly, instructors should ensure that assignments are clear, achievable and challenging.

2.2 Caring value

The second question in the survey asks students about the role of instructors' care and concern of their welfare on their interest in the instructors' courses. The statement of the question is:

Q2: I easily lose interest in a course if the instructor does not show that he cares about students.

The results show that about 47% of the respondents strongly agreeing and about 34% agreeing that they easily loose interest due to uncaring instructor behavior. About 13% of our sample disagrees and about 5% strongly disagree to this question. These results are shown on Figure 2.
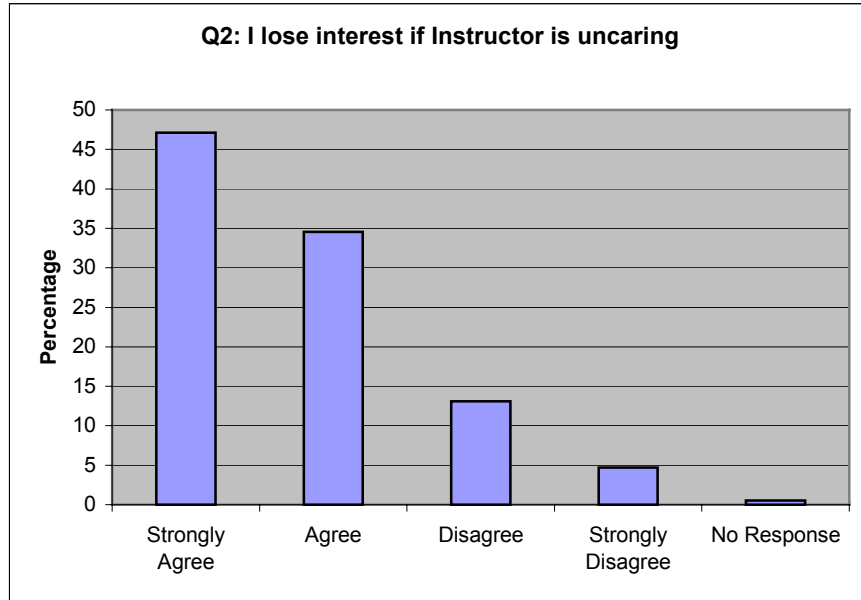

Q2: I lose interest if Instructor is uncaring

Figure 2: Effect of Uncaring Instructor Behavior on Student Motivation

Motivation literature shows that students respond with interest and motivation to instructors who appear to be human and caring (Harris, 1991). Instructors can help produce these feelings by sharing parts of themselves with students, especially little problems and mistakes they made either as students or even recently. Such personalizing of the student/instructor relationship helps students see instructors as approachable human beings and not as aloof authority figures.

2.3 Grade value

Students who do not yet have powerful intrinsic motivation to learn can be helped by extrinsic motivators in the form of rewards. For university students, the most valuable rewards are, arguably, grades. This question asks students the role that grades play towards their motivation:

Q3: A major reason that makes me put extra effort in a course is to get a good grade.

Figure 3 shows our students' input on how grades play a role in their studies.

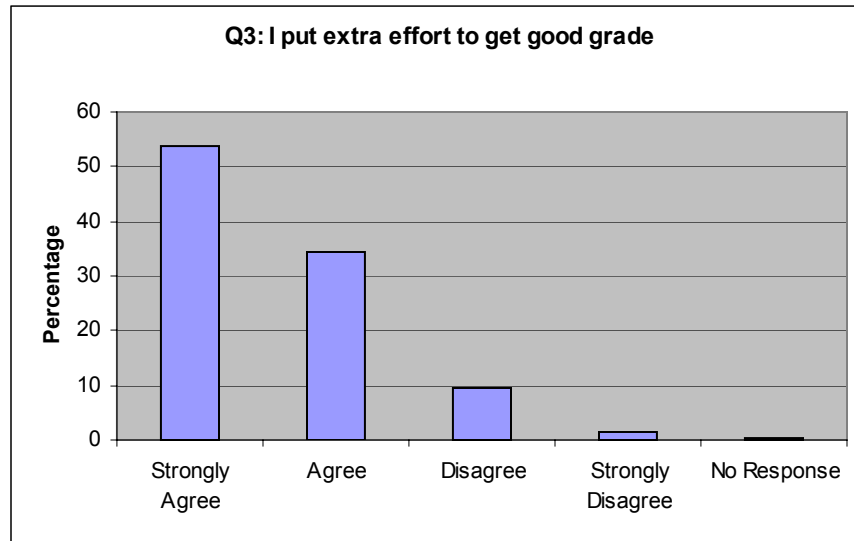**Q3: I put extra effort to get good grade**

Figure 3: Effect of Grades on Student Motivation

The results show that about 88% of the sample strongly agree or agree that they put extra effort in a course in order to get good grade. About 11% of the surveyed population disagree that they put extra effort mainly to earn grades.

An important point to note is that extrinsic motivators can, over a brief period of time, produce intrinsic motivation. Everyone, not only students, likes the feeling of accomplishment and recognition; rewards for good work produce those good feelings.

2.4 Competition value

While some students may be motivated more by grades value, others may be motivated more by the love of overcoming challenges, ego involvement and/or competition with their peers. Here we ask the following question:

> Q4: I always want to do better than other students in my class. This is a strong reason that makes me work harder in my courses.

Majority (about 70%) of the respondents here, as in the preceding three questions, show that the joy of doing better than others adds to their motivation. After all, this question has a direct consequence to the question on grades value because class average is a popular criterion for assigning grades to students. Thus, a student's relative performance among his peers in a course is inextricably linked to his grade. Figure 4 shows the responses on this question.

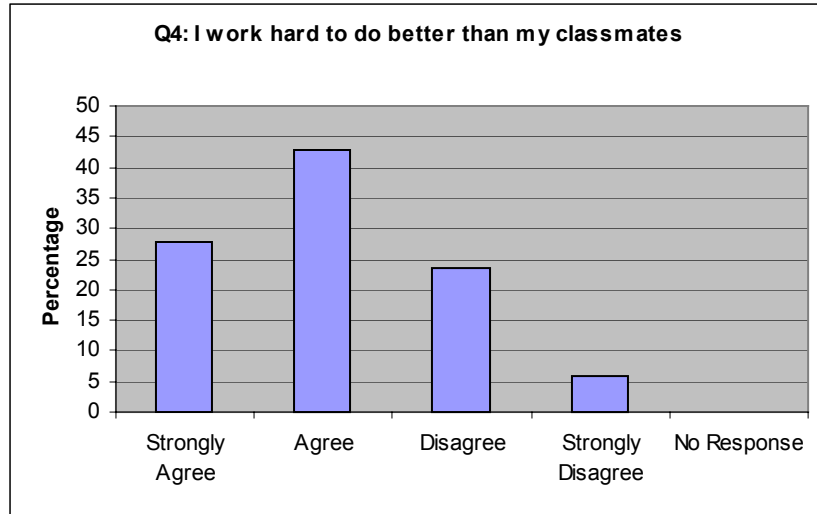**Q4: I work hard to do better than my classmates**

Figure 4: Effect of Peer Competition on Student Motivation

This figure shows that a sizable number (about 30%) disagree or strongly disagree that competition with their peers gives them a strong push to study. Motivation literature is also emphatic about the need to place more emphasis on task involvement rather than ego involvement (Eccles, Midgeley and Adler, 1984). Following a standard grading scheme, as opposed to an averaging scheme, can be used to place more emphasis on task involvement.

2.5 Failure value

Fear of failure is another delicate value that can have a strong effect on students' motivation. Some students may take the negative side of this value and add more grease to their elbows while others, though motivated, may take the negative aspect of it and become apathetic.

Q5: I'm always afraid of failure. This is why I work very hard in my courses.
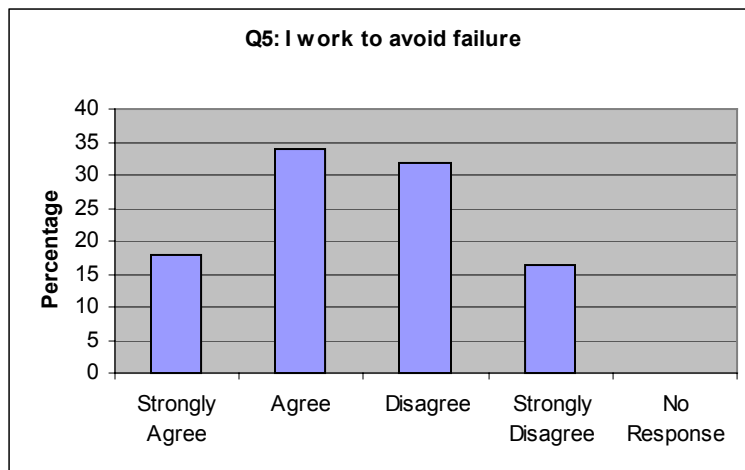
Q5: I work to avoid failure

Figure 5: Effect of Fear of Failure on Student Motivation

Results on this question, as shown in Figure 5, are almost evenly divided with about 18% strongly agreeing that they work harder to avoid failure and about 16% strongly disagreeing. Also about 34% agree to this question while about 32% disagree.

Raffini (1988) argues that students caught up in a system that dooms them to failure channel their motivation into behaviors that cover up that failure and thus protect their sense of self-worth. The philosophy of such apathetic students becomes "Nothing ventured, nothing failed." Educators (parents, administrators, instructors) should therefore devise strategies that would remove motivational barriers and help students redirect their behaviors away from failure-avoiding activities toward academic applications.

2.6 Job value

Just as an overwhelming percentage of students said they study for grades, perhaps as an end in themselves, about 83% (about 33% strongly agreeing and 50% agreeing) indicated that that they are motivated to get good grades as a stepping-stone toward better job prospects. The question asked is as follows and Figure 6 shows the responses.

Q6: I work hard to get good grades so that I can get good job with the help of my grades.

Q6: I work hard to get good grades to help me get good job
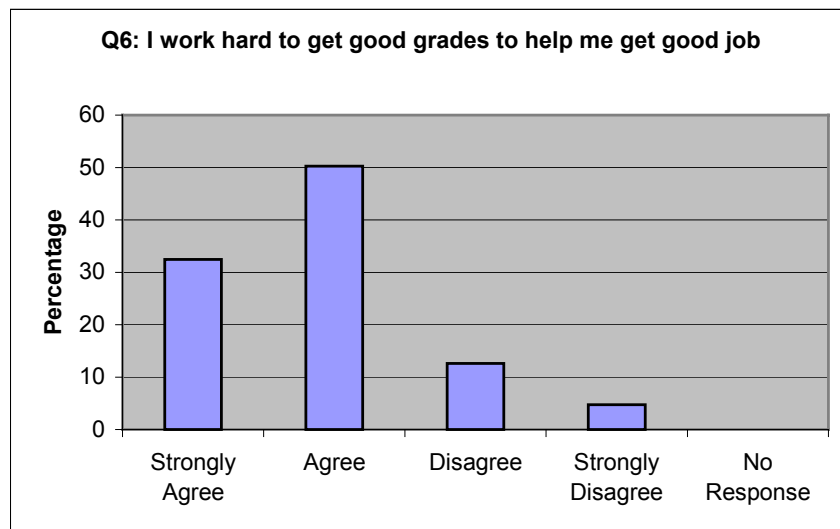
Figure 6: Effect of Grades on Job Prospects on Student Motivation

On the other hand, about 17% of the respondents disagree or strongly disagree that the effect of their grades on their job prospect is not a motive for them to work harder.

2.7 Parents value

The desire to make parents happy seems to be a major motivator amongst our students. This desire is, in a number of cases, triggered by some form of extrinsic motivator like holiday trip, new car etc.

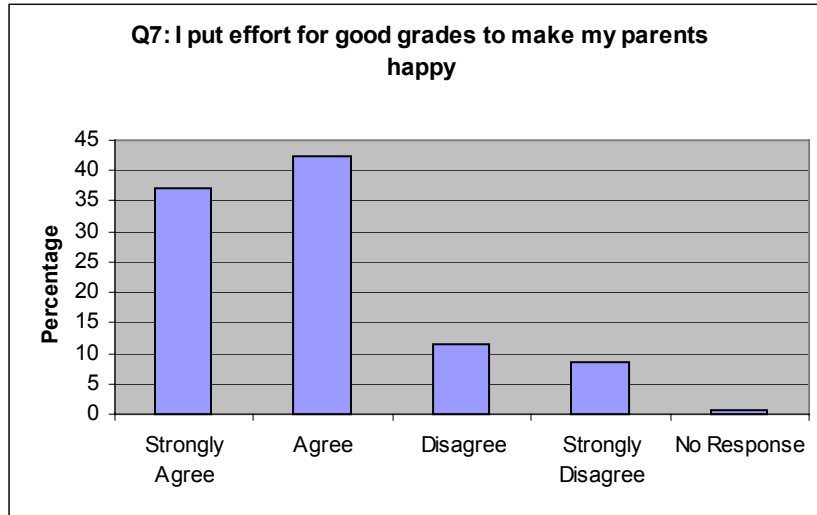**Q7:** I put a lot of effort to get good grades to make my parents happy.

Figure 7: Effect of Parents on Student Motivation

Figure 7 shows that about 37% strongly agree, 42% agree, about 12% disagree and about 8% strongly disagree that they are motivated to work hard for the purpose of making their parents happy. One student had no opinion on this question. We should make efforts to redirect our students' motivation more towards intrinsic values.

2.8 Self-esteem value

Peer praise is another form of extrinsic motivator. Certain students consider this as a vital need and work hard to actualize it.

Q8: My friends know me as a good student. I work hard to maintain that.

Figure 8: Effect of Peer Recognition on Student Motivation

As with Question 5 above, Figure 8 shows that students' opinion on the motivational value of this question is almost evenly divided. A total of 94 students agree that peer recognition is a major motivator for them (21 of them strongly agreeing). On the other hand, 97 students disagree (34 strongly disagreeing) that they are motivated to maintain their self-worth in the eye of their friends.

2.9 Interest value

In this section we are asking a question that essentially probes students' intrinsic motivation. The question is straight:

Q9. I have a strong interest in learning. This interest is the main push for me to work hard in my courses.
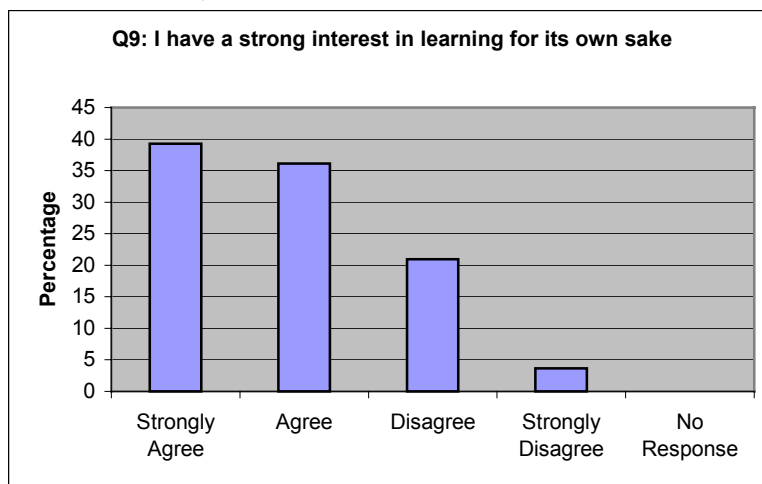

Figure 9: Effect of Love of Leaning on Student Motivation

A total of 75 students (about 40%) strongly agree and 69 students (about 36%) agree that the love for learning is a major motivator for their learning. On the other hand, 40 students (about 21%) disagree and 7 students (about 4%) strongly disagree that love for learning is a major motivator for them (Figure 9). These figures together with students written comments on Question 11 are encouraging; only one-quarter of our sample disagreed that they learn for the enjoyment of learning. We should put extra efforts to reduce this number further.

2.10 Need value (Relevance)

One of the many issues students always raise, in my experience talking to students freely, is the relevance issue. A common concern is that students fail to appreciate the wisdom of requiring them take courses outside their field of major.

Q10: I'm only interested in courses that I know I need later during my job experience.

Figure 10: Effect of Course Relevance on Student Motivation

About 56% of the respondents say they agree or strongly agree that they are motivated to put effort in courses they believe they need later in their jobs. About 40% of the sample holds the opposite view. There were 3 students that did not respond to this question. The percentage of those disagreeing with this statement is much lower than what I expected because many seem to express the same concern that they are not motivated in courses that they believe do not belong to their program major.

2.11 Other values

In this question the respondents were requested to write down other values that affect their motivation. Some of the respondents emphasized on one or more of the values already discussed in the previous subsections. Table 2 shows other statements collected from the completed questionnaires[1].

Q11: Other reasons that make you like or dislike learning in the university.	
Motivators	**Demotivators**
- Instructor mastery of subject - To make a (positive) difference in our Muslim brothers' lives - Making learning enjoyable and challenging - Because I'm a Muslim and I have to work hard for my nation - Money	- Pressure of work; many instructors think that we have only their course to study! - Major exams, hard exam questions - Unhelpful instructors during their office hours - Instructors giving low grades - Standard grading policy rather than grading policy based on averaging system

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[1] Some of these statements were edited to correct grammar while preserving the message of the respondents.

	• Number of students in a class
	• Homeworks
	• Grade-centered evaluation rather than creativity-based evaluation
	• Taking courses not directly related to my major. For example, I cannot see the relation between Java and my COE major.
	• Quizzes during exam times
	• Poor instructor accents, uncaring instructor attitude
	• Making a course online
	• Difficulty of getting good grade in this university
	• Theoretical courses that require memorization like ICS 313
	• Old (ancient) courses like some 3rd and 4th level courses

2.12 Values ranking

This question requested students to rank the values that affect their motivations the most.

Q12: Which of the above factors affects your interest in study most?
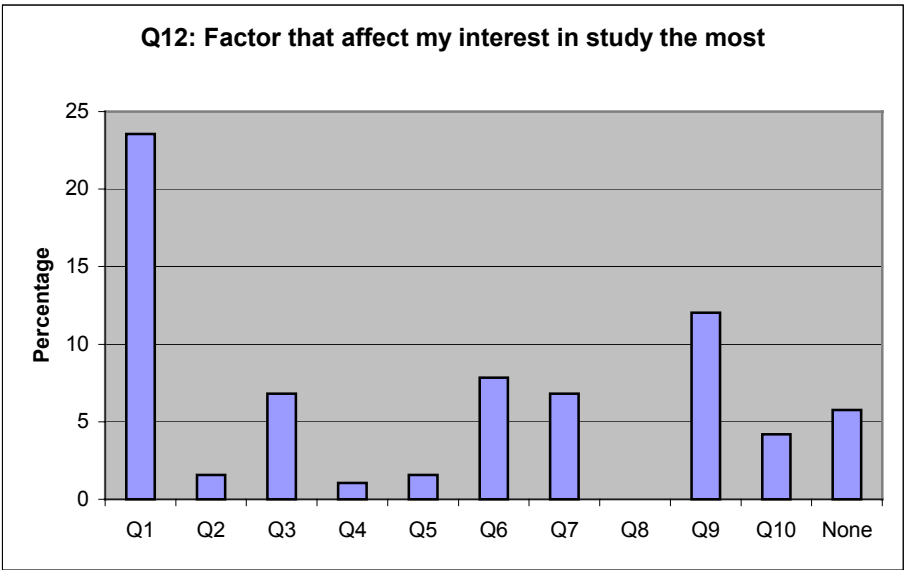

Figure 12: Ranking the Motivators

Figure 12 shows clearly that the strongest motivators are Question 1 (Section 2.1), followed by Question 9 (Section 2.9), Question 6 (Section 2.6) followed by Questions 3 and 7 with an equal score. On the other hand, the weakest motivators are Question 8 (Section 2.8), followed by Question 4 (Section 2.4) followed by Questions 2 and 5 with an equal score.

3. Fostering student motivation

Results of this case study show that our students are highly motivated. However, a major part of this motivation is due to extrinsic values. We therefore have to invest to redirect their motivation more towards intrinsic factors.

It should be emphasized that effective student motivation can best be fostered by recognizing the need for a collective and collaborative effort of the major stakeholders--administrators, parents, instructors and students. This section collects common strategies found in the literature that educators can exploit and create, nurture and sustain the motivation of their students for successful academic experience.

- *Instructor enthusiasm and energy*: An instructor's enthusiasm is a crucial factor in student motivation. When an instructor is bored or apathetic, students tend to become bored and demotivated. In addition, being energetic in your teaching is a motivating factor in itself; adding energy to ideas you want to convey will further enhance learning and commitment to the ideas. Instructors should use positive emotions to make impressions on certain concepts and make those concepts memorable. Enthusiastic instructors would be creative in creating emotions, for example, by doing something unexpected or even outrageous in order to create excitement for learning. Such activities make students learn readily and the learning will last much longer.

- *De-emphasizing grades*: Researchers recommend de-emphasizing grading by eliminating complex systems of credit points; they also advise against trying to use grades to control nonacademic behavior (for example, lowering grades for missed classes) (Forsyth and McMillan, 1991; Lowman, 1990). Instead, we should emphasize mastery and learning rather than grades. This can be achieved, for example, by assigning ungraded work and assisting students to complete such tasks through continuous feedback. Students will see their mistakes as acceptable and something to learn from. Basing everything on grades,

however, tends to make some students give up rather than risk low evaluation of their abilities—risking their self-worth.

- **Active learning**: One of the major keys to motivation is the active involvement of students, both mentally and physically, in their own learning. One strategy is to get students actively and physically engaged in the lesson like helping the instructor to complete a task on the board. Such activities tend to boost students self-esteem and, consequently, increasing their motivation. On the other hand, passivity dampens students' motivation and curiosity.

- **Satisfying students' needs**: Attending to need satisfaction is a primary method of keeping students interested and happy (Harris, 1991). Students' basic needs have been identified as survival, love, power, fun, and freedom. Students' need for power and freedom could be as simple as allowing them choose from among two or three things to do like choosing between writing an extra paper and taking the final exam. Many students have a need to have fun, for example by being noisy and becoming excited. Instructors should avoid suppressing such needs. They should, instead, design educational activities to fulfill these needs.

- **Team work**: Human beings are gregarious in nature and like being around each other (Harris, 1991). We should promote team culture among our students by designing more team assignments. We can exploit the benefits of teamwork, where weaker students will learn by having others help. And, of course, since teaching someone something is the best way to learn, the students who teach each other will learn better than if they were learning alone. Such a cooperative environment will be especially useful to students who find competitive environments unpleasant or even demotivating.

- **Attribution retraining** (Brophy 1986). This requires senior and experienced faculty mentoring and helping (unmotivated) students respond to frustration by tracing their steps to find mistakes or figuring out alternative ways of approaching a problem instead of giving up. Discouraged or apathetic students should be helped to attribute their failures to insufficient effort, lack of information, or reliance on ineffective strategies rather than lack of ability.

- **Caring environment**: Educators should strive to create a caring and supportive environment where students feel valued and respected, and, where learning is expected, respected and recognized. In addition

to being excellent teachers, instructors should be active socialization agents (Brophy 1987) in order to stimulate students' motivation to learn. Instructors should be approachable personally. They should care about students' concerns and goals like asking what students like most and what their future academic plans are.

- *Contextualizing learning*: Helping students see how skills can be applied in the real world (Lepper 1988). Verbally noting the purposes of specific tasks when introducing them to students is also beneficial (Brophy 1986). Instructors should spend more time explaining why they teach what they teach, and why the topic or approach or activity is important, interesting and worthwhile.
- *Goal-setting*: Instructors should help students define tasks in terms of specific, short-term goals in order to assist students to associate effort with success (Stipek 1988). In other words, breaking learning content into small packages that can be conquered and that will in some way produce a feeling of accomplishment and success will help motivate students to go forward, even through very difficult material. Doing so prevents students from becoming overwhelmed and discouraged by lengthy projects.

  Failure to attain unrealistic goals can disappoint and frustrate students. With careful plan, instructors can give achievable but challenging tasks to students to stimulate their curiosity and hence, motivation.

4. Summary & conclusion

This paper presented the result of a case study on values that affect students' motivation at KFUPM. About 200 undergraduate students of the college of computer sciences & engineering were surveyed for their opinions on the motivational values in a questionnaire of twelve questions. The results show that the strongest motivators are quality of teaching, love of learning for its own sake (intrinsic motivation), value of good grades toward job prospects. The lowest motivators were peer respect, competition with peers in the same course and uncaring instructor attitude. In conclusion, the paper provided some strategies for enhancing student motivation.

5. Acknowledgement

I appreciate KFUPM's initiatives for sustaining their efforts of putting in place programs for advancing teaching and learning in the university. Finally, I thank the students who took their time to provide honest inputs on the questionnaire. I also thank the referees for their actions on the paper.

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7.   Appendix: Questionnaire

Factors that affect my interest in learning in the university	Strongly agree	Agree	Disagree	Strongly disagree
1. Quality of teaching by an instructor is a major reason that makes me like a course and put more effort in the course.				
2. I easily lose interest in a course if the instructor does not show that he cares about students.				
3. A major reason that makes me put extra effort in a course is to get a good grade.				
4. I always want to do better than other students in my class. This is a strong reason that makes me work harder in my courses.				
5. I'm always afraid of failure. This is why I work very hard in my courses.				
6. I work hard to get good grades so that I can get good job with the help of my grades.				
7. I put a lot of effort to get good grades to make my parents happy.				
8. My friends know me as a good student. I work hard to maintain that.				
9. I have a strong interest in learning. This interest is the main push for me to work hard in my courses.				
10. I'm only interested in courses that I know I need later during my job experience.				
11. Other reasons that make you like or dislike learning in the university.				
12. Which of the above factors affects your interest in study most?	Write the number here:			