

*Find out what motivates students and teachers in the process of learning and teaching as the authors discuss **Student Motivation/Teacher Motivation** in this issue of CDTL Brief.*

Motivation for Mandatory Courses

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Introduction

University students are often required to take mandatory courses with contents that few students look forward to. As a result, students experience 'negative motivation'—a situation where teaching strategies need to be developed to motivate the students to learn and perform beyond the minimum requirement to pass. In such a situation, teachers need to create a teaching and learning environment that will help students relate the success back to their original motivation for being in school and re-energise them to learn the material. This article attempts to identify some of the negative motivations that students bring to classes, discusses the importance of turning the negative motivation into a positive drive and suggests how to develop teaching strategies that create a positive learning environment.

Negative Motivation

Students in mandatory courses are often motivated to succeed in the class only because they need to pass the module as a part of the programme's requirements; it is the fear of negative results that motivates them rather than the expectation of learning something useful. The anxiety and panic created by the complex subject matter and the pressure to pass the course seriously

interfere with the students' memory, attention and concentration. This can be emotionally draining for the students. As a result, there is a lack of motivation to engage with the course material even though the students have the ability to learn it. When students fail to engage actively with the material, they fail to internalise the concepts and later, do poorly in the assignments, thereby reinforcing the feeling of incompetence at the core of the cycle. The teacher's mission then, is to turn the negative motivations around to inspire students to do well.

From Negative Motivation to Positive Motivation

Stipek (1993) stated that individuals learn best when they see themselves engaging in learning for their own intrinsic reasons (i.e. learning because they want to rather than they have to). When learning is enjoyable, it results in more learning. The following are four perspectives on intrinsic motivation:

- **Competence.** Individuals engage in learning activities, in part, for the purpose of developing competence and experiencing the positive feeling of successfully mastering the material.

- Curiosity. Individuals are naturally curious about activities that are somewhat discrepant from their expectations. People seek situations that challenge their current level of skills, and then strive to master the challenge and experience feelings of competence or understanding.
- Autonomy. Human beings need to feel that they are in control. They want to believe that they are engaging in activities at their own discretion rather than for some external reward.
- Internalised motivation. Individuals engage in academic activities that are not intrinsically interesting because they have internalised achievement values. They want to be well-informed and see its value in the society.

Duch, *et al.*, (2001) also indicated that students can be motivated in learning material by providing a real life situation, setting a goal and action plan for learning, and relating learning to student needs. Teachers can also increase students' extrinsic motivation by providing clear expectations, giving corrective feedback and providing a valuable reward especially to students who did well. The challenge to teachers, therefore, is to create teaching methods that incorporate the intrinsic and extrinsic motivational behaviours in order to encourage the students to learn in their classes.

Creating a Positive Learning Environment

My teaching approach is based on active learning principles and is designed to create a dynamic and effective learning environment where students' motivation is increased. This approach can be applied to teaching complex subject matters and teaching mandatory courses.

1. Help students set a goal and action plan for learning.

I structure each class around one set of notes and display them on an overhead projector so that I can easily direct students' attention to key points and transitions, which they can highlight on their copies. Within the notes I provide a graphical overview of how each section fits with what has gone before and what is to come as the class proceeds.

Simultaneously in each class, but separately from the overhead notes, I use PowerPoint presentations to illustrate specific concepts and provide solutions of examples. I also use visual props to aid students in gaining a better conceptual understanding of the subject. As a result of the combination of notes, PowerPoint illustrations and visual props, students spend most of the class time listening to my explanations and reflecting on what is being taught. This stimulates their critical thinking skills and hence, their curiosity about the subject matter. As a result, students become motivated to learn the subject.

2. Help students overcome a passive approach to the subject.

I encourage students to engage actively with the material. My practice includes strategies that give students a sense of autonomy, so that students can be engage in activities by their own discretion. To help the students internalise their motivations, I apply the following strategies in my class:

- a) The simulation capability of easily-created Java applets enables hands-on practice outside class time. The applets allow students to assess their understanding and offer visual reinforcement of the concepts. Students' competence in mastering the material is increased, thereby motivating them to learn the subject.
- b) The frequent formation of discussion groups in class for problem-solving and responding to open-ended questions encourages students to move beyond listening towards actively asking questions and participating in critical thinking.
- c) A problem-based learning (PBL) project based on real-life research examples encourages engagement with the concepts and relates the concepts back to the students' original motivations for being in school.

3. Help students increase their sense of competence.

Frequent success is the best way to begin building a sense of competence. If students succeed in following what is going on in class and in participating in the class, then they will begin to believe they are competent. I give them opportunities to correct their mistakes so that they

gain confidence in their ability to do so. I also choose evaluation methods that provide frequent feedback because success is more likely in small units. This also helps students to increase their extrinsic motivation.

Sources of Teacher Motivation

I work on the principle that teachers can motivate students by:

- Communicating clearly.
- Setting tasks that encourage active engagement with the material.
- Creating situations that allow students to make and correct mistakes without undue penalty.
- Displaying enthusiasm for the subject matter.

Harry Murray (1997) of the University of Western Ontario has observed that teacher enthusiasm is associated with both course success and motivation for further study. It is a great reward to see students become motivated to learn the material and master a subject successfully. This creates a positive environment for teachers, thereby motivating teachers to show their passion and enthusiasm for

teaching the subject. Students are then inspired by it to draw upon all their energy and talents, thus creating a cycle of positive motivation.

Conclusion

Negative motivation can be turned into positive motivation if teachers can recognise what motivates students and create a learning environment that supports these motivational factors. By understanding the roots of motivation, teachers can create positive motivation and facilitate effective learning for all their students.

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Driven to Teach

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"First figure out why you want the students to learn the subject and what you want them to know, and the method will result more or less by common sense" (Feynman, 1995, pp. xx).

Richard Feynman (1918–1988), winner of the 1965 Nobel Prize in Physics, was an inspiring teacher. He brought his own idiosyncratic style—a passion for the subject and a mixture of irreverence and disrespect for received wisdom—into teaching. "What came to Feynman by "common sense" were often brilliant twists that captured the essence of his point" (Feynman, 1995, pp. xx). His engaging manner endeared him greatly to the students,

especially the younger ones, many of whom idolised him!

Feynman's lectures were brilliant, deploying all his sparkling wit, penetrating insight, and irreverence that he brought to bear on his research work. When faced with the task of designing a series of lectures to deliver over two years, first to freshmen and then to sophomores, Feynman spent more than two years trying to revolutionise the way beginning physics was taught (Feynman, 1995, pp. xxi).

What was Feynman's motivation and how did he handle his students' apathy? Why did he devote

so much time to change the way beginning physics was taught? One was that Feynman loved to have an audience (Feynman, 1995, pp. xxii). His passion for the subject and sheer joy from the experience of teaching spurred him on. For Feynman, the lecture hall was a theatre and the lecturer a performer:

“I remember when I was his student, how it was when you walked into one of his lectures. He would be standing in front of the hall, smiling at us as we all came in, his fingers tapping out a complicated rhythm on the black top of the demonstration bench that crossed the front of the lecture hall. As latecomers took their seats, he picked up the chalk and began spinning it rapidly through his fingers in a manner of a professional gambler playing with a poker chip, still smiling as if at some secret joke. And then—still smiling—he talked to us about physics, his diagrams and equations helping us to share his understanding. It was no secret joke that brought the smile and sparkle in his eye, it was physics. The joy of Physics! The joy was contagious” (Feynman, 1985, pp. 9–10).

The other reason was that Feynman genuinely cared about his students and regarded teaching freshmen as an important thing to do. The third and perhaps the most important reason was the sheer challenge of reformulating physics according to his understanding, so that it could be presented to young students (Feynman, 1995, pp. xxii).

There are hurdles that are inherent in any educational system. For example, there has always been consensus among lecturers that students are turned off rather than spurred on by compulsory modules. In addition to the challenge of motivating a (often) large class of disinterested audience who take the module because it is ‘required’, the teacher is faced with the daunting task of inspiring the students to learn. The situation becomes even more demanding if the module only awards a ‘pass’ or ‘fail’ mark instead of grades. The teacher may also lose the motivation to teach if he/she has to teach the same courses repeatedly.

Neither Feynman nor any of us may have a solution. However, I believe effective teaching can take place when the teacher has a direct, individual relationship with the students. An opportunity to interact with students on an individual level often allows the teacher insight into reasons for non-motivation, which may or may not be linked to a lack of interest in the subject. Further, a student’s mental barriers regarding one’s capabilities, personal problems, interpersonal issues with the working team, personality and communication issues and learning styles become increasingly clearer. Once surfaced and tackled, managing the students’ motivation and commitment to the subject could be easier.

The following are some teaching strategies that I have used in my teaching of a compulsory module to motivate the students. My first class is usually spent building rapport with the students. I devote adequate time in the first session to get to know my students by asking them to tell me something about themselves and their expectations of the course. When the students talk about themselves, the topics are endless—final year projects, interests in reading, sports, movies and food. I make it a point to take note of what they say. Through such conversations, I discover amongst my students, writers who willingly share their work with me, enthusiasts of computer games who share websites and projects that stimulated my interest in such games. I usually prefer such a session to icebreakers. Though the latter may bring more laughter, no one is any wiser about the other person at the end of it.

Knowing the students’ expectations of the course gives me an idea about how I may need to conduct my classes. This term (Semester II, AY 2003/2004), almost the entire class said that they had no expectations and all they wanted to do was pass. The students’ comments dampened my spirits. However, I challenged them spontaneously: “How can we give something 13 weeks of our life with only a sense of submission and apathy? We all know it’s a compulsory course, but let’s give it our best shot so that we can really learn something that we can carry with us well beyond this classroom”!

When I am involved in something, I believe in giving my 100% and nothing less. It is an attitude. Time is precious. Thus, if one is giving away a chunk of it for a course, we might as well do it with grit and excel rather than flow along indifferently with the tide of compulsion. These may be ideals but I believe in them and I make sure that they are conveyed to my students. As the course progresses, my passion and interest in the subject gradually 'infect' the students.

The experience of teaching is a two-way process. With every new class of students, it's a new set of vibes, dynamics, challenges and thrills. Looking back at Feynman, his insatiable curiosity, a questioning mind and a strong drive to tackle any subject to the best of one's ability may be reasons to stay motivated in teaching. Therefore,

by keeping the fundamentals of one's teaching objectives in mind and by striving to explain complex issues in simplified understandable terms in a fresh and dynamic way, one could keep one's sense of purpose, motivation and commitment alive. However, I am not saying that I have defined a generic formula for teachers to stay motivated. The teaching methods and strategies described above to motivate students are those that have worked most often for me.

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On Graduate Students and Teaching

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Professor Charles M. Knobler, former chairperson of the Department of Chemistry at UCLA, once spoke during the opening address of a graduate student orientation week about preparation for teaching. In his speech, Professor Knobler emphasised the anticipation of a change of roles—from being a student to being a teacher and from taking examinations to writing them. These changes could be sudden and significant transitions especially for some younger graduate students who have just completed their first degrees and have never been involved in any form of teaching. Having this psychological readiness does help to ease the transition somewhat. Nevertheless, teaching is not an easy task for any graduate student because it requires massive investment of time, energy and resources, which graduate students likely cannot afford. It must not be forgotten that the graduate students' primary function in a graduate institution is to carry out research. Asking the graduate students to teach seems to suggest that they would need to make

some difficult decisions regarding the use of limited resources such as time and energy.

A surprising majority of the graduate students, at least those with whom I have interacted during my department's graduate orientations in recent semesters, stated that they would enjoy teaching. In a survey which I conducted early in the orientation programme, as many as 33 from a batch of 36 students answered 'yes' or 'definitely yes' to the question: 'Do you think you would enjoy teaching?' These graduate students were motivated to take on teaching tasks because they felt that teaching offered an excellent opportunity to learn communication skills and gain experience in real-life problem solving. They also regarded teaching as a chance to do something different—to 'escape' from their research work, especially from the surroundings of a hectic scientific laboratory, and to interact with and help students (human beings), to 'make friends' and to 'feel good'. One respondent wrote:

“I’d enjoy teaching, because I believe study is not just to work hard, but also to enjoy, to discover and to create. I learn [by teaching] to stimulate and activate students’ creative abilities; [this is] not to tell them to remember, but to understand, and to create. This will bring me pleasure.”

Though the affinity for teaching is yet to be determined for a larger graduate student population, for my department’s graduate students, teaching serves as a refreshing alternative to an often isolated, research-intensive environment and lets them feel the human touch. A few graduate students see teaching as an opportunity to sharpen their communication skills before entering the teaching force or academic world.

If the expectation of graduate students to teach in the conventional formal sense can perhaps be removed, it may make more sense to promote graduate teaching. Removing this component does not mean lowering the graduate students’ involvement and responsibilities in teaching. Rather, it means asking the graduate students to teach in a way and from a perspective that is more conducive to their role as graduate students. Graduate students are *students* themselves and hence, it is important that they feel like students even in the context of teaching. For example, they can think of themselves as students who have taken and succeeded in the courses that they are *teaching*. Undergraduate students taking courses taught by the graduate students may be more motivated to learn if they feel ‘helped’. Thus, it is necessary for graduate students to effectively convey the key ideas, study tricks and other relevant information on the courses in their teaching. However, we do not encourage poor and irresponsible teaching that imparts only what matters for doing well in examinations. In fact, what graduate students teach should be holistic, comprehensive, concise and accurate to make the undergraduate students feel that they have learned something meaningful and relevant. Such is the basis of good teaching. ■



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