

Motivating students at quantitatively oriented classes.

How to encourage to learn using new software and how to handle students with different level of skills.

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Motivation of the students is very important but often not that easy. In this paper, I would like to share my experience with solving two problems with motivation I have struggled with. They are teaching students to apply new software and moreover teaching a group of students with different level of knowledge and skills.

I currently teach my fourth semester at the University of Economics in Bratislava .As a full-time PhD. student I teach seminars which follow lectures of quantitatively oriented classes. Until now, I have taught three different types of courses. All of these courses involve mathematics and in some of them students have to use computers with special software. The seminars have been attended by students from different faculties and departments. As every faculty has a different level of acknowledges of mathematics and computer using I always start the first lesson with checking from which faculty or department students come to my lesson.

Using new software

When teaching Econometrics we use software most students have not applied before. Students usually feel passionate at the beginning as they can learn something new by using new software. Except for that, they see they can save much time when calculating large amount of numbers. But their enthusiasm is soon over when I tell them, that during their exam they will be not allowed to use computers. Instead, they have to compute manually which is due to high number of students who make this exam (usually between 150 and 200) and limited number of computers in the school labs.

The interest of students about the new software falls down sharply and from this moment it is very difficult to work with them and to motivate them. They refuse working with the computers as they just wish to practice for their exam.

Nevertheless, my task is to show the students, how the software is working. Fortunately, except for passing an exam, another requisite for passing the course is handing out a project elaborated by applying the software. Because of the project, students normally

accept the software and wish to learn how to work with it. This is a kind of motivation, but I do not welcome such kind of encouragement very much. I would like to provide some positive motivation. So I try to explain the students that working with the software will save much of their time in the praxis although not all the companies have special software for econometrics or optimal programming. Still, students do not take this as a really encouraging.

So I try to provide some more arguments. I always stress that different types of software are mostly very similar. So if students learn to work with one of them it is always easier to get used to working with the others. Furthermore, I make a test with the students. At first we make exercise with a calculator without using the computer. Then we make the same exercise with using standard office program and finally we make it with our special software. I always build on the fact that students wish to complete their work as fast as possible. And the special software is the fastest, for sure. After this, most students accept the software and for the beginning it is enough.

Besides, in my argumentation in favor of the new software it helps me that the students can take home its test version. This shareware version normally works for one semester and with it students can practice their exercises also at home. I always provide students with a “tip” for easier learning. They can calculate the exercise at first “by hand” and then they can check up their results with the software. It is benefit able especially because in most cases the examples in the exercise book do not have partial results. So if the students make some mistake during their computing, it is really difficult to find it out.

Students with different level of knowledge

My next experience does not touch working with computers but teaching students from different majors and grades in one class. This semester, I teach the course of Quantitative management. This course includes the essentials of the management, mathematics and optimization and it is attended by students from third till ninth semester of their study. Some of them are re-taking the course.

For this course it is not required from students to attend seminars. But I know from my previous student experience, that it is very difficult to pass the course just after studying at home. Therefore I try to motivate students to attend my seminars. It is even in my competence to require their attendance and to make it mandatory but I do not wish this kind of motivation. So firstly, I have to positively encourage students to come to my lessons. As they are different kind of students I differentiate my motivation techniques as well. Firstly, I divide all the

students into two or three groups. In the first one they are usually second year students. They normally do not have enough knowledge, experience and skills for this lesson as at our University students unfortunately can assign for a course without prerequisites. In the second group there are higher grade students from our faculty or from another one. These students mostly have some experience with optimization and they are better in mathematics. And finally, in the last group there are students who failed at the exam previous year and they have to take the course again. Together, the number of all the students at my seminar is 25 to 35 and they come to the lesson at once.

One can easily imagine that these three groups have different reasons for attending the lessons. To motivate the first group is the easiest. They always come only to hear how to deal with problems they did not understand before, for example how to calculate the different algorithm. With the second group it is not that simple. They know why they have to use algorithm, and they mostly wish to argue why it is not suitable. So it is my task to provide excellent arguments and to provide proper answers to their questions. My experience is that if I have such good arguments, they will come also for next lesson. The third group is the most difficult. All students from this group know the algorithms and types of exercises which we shall do. For them I have to think up something new. I do this through new kinds of exercises, especially such that can not be found in the exercise book. In consult that with my colleagues asking them which exercises they already made with students. When the students experience that we do not make the same as they did with my colleagues a year before, they are coming to classes.

This was my experience with motivating the students. I am not sure, if it works all the time, but I hope applying these methods I help students to prepare better for the exam. I hope also, that after more practice they gain more experience and improve their skills.