Telling the Truth to Students

Based on an article by Stephen Zucker,
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published in the AMS Notices.

I hear it over and over from college professors: “One of the biggest stumbling blocks holding my students back is the mistaken impression that college is simply a continuation of high school.”

It is essential that the difference between high school and college be explained to students early in their coursework.

There are two primary differences between college and high school.

1. In college, learning no longer takes place primarily in the classroom.
2. The student, and not the instructor, is now primarily responsible for how much is learned.

Where does learning take place at a college or university? Think about it. In dorm rooms? The library? Computer labs? Group meetings? In quiet, out-of-the-way places of individual study, reflection, and practice?

Yes, some learning may still take place in the classroom. But the majority must now take place in other environments, especially at the upper division. There simply isn’t time in three hours per week for fifteen weeks to learn even a significant minority of the material that must be mastered in a college course.

So, given point number one, point number two is obvious. The student must now assume primary responsibility for seeing that learning takes place.

From these two primary differences, we can derive four operational postulates for functioning in the college environment.

A New Level of Responsibility: While guided by instructors and advisors, the student is responsible from now on for his or her own education. The student determines how much study time to devote, how much effort to expend, and how much repetition, practice, and review is needed for mastery of the material. The student must periodically self-assess and adjust the amount of time and effort accordingly. The student can not expect the instructor to assign enough, and only enough, reading & homework to facilitate learning and mastery.

New Use of Peer Group: Most students are no longer well above the majority of their classmates, as they were back in high school. This initially might disappoint some high-ego students, but they should realize that this new peer group can contribute significantly to the educational process. These new peers, if properly utilized, can be a powerful tool in achieving a good education.

New Level of Learning: The goal of college is to learn flexibly, so that you can judge what applies in new situations, and be able to use your learning. It is no longer sufficient just to acquire new knowledge, although that will still be expected. You must also learn to apply knowledge & understanding to new situations, situations never encountered before. A good college exam will surprise you by asking for a solution to a problem that has not been demonstrated in the classroom, the textbook, or anywhere else for that matter. It is this new level of learning that gives the college education its worth in the world.

New Roles for the Student and Instructor: In college, the instructor’s role is to guide the students’ learning. It is not to “cover the material”. It is not to “go over everything you need to know”. It is not to show students how to solve all the problems. It is not to teach everything to the student. Teaching in college becomes a cooperative effort between the instructor and the student. Thus, there is a corresponding change in what is expected of the student. Students must recognize that they are now expected to take the initiative. Instructors no longer “hound” students to study, do homework, do extra out-of-class reading, etc. If a student doesn’t take the initiative, then the student doesn’t pass. Discovery, repetition, practice, and mastery move out of the classroom and into the students’ individual purview. A student who recognizes this can truly tailor and optimize the learning process.

By understanding the fundamental differences between high school and college, students can better adjust, take charge of their education, make the best use of their time, and get more for their education investment.