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Teaching Introductory Biology Courses: What Works and What Does Not Work!

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Abstract: Teaching undergraduate students is a challenging task that educators have to deal with properly, in order to prepare students for the future. There are many steps that educators may take to improve students' interest in learning, specifically introductory biology courses. Steps that are to be taken should center around the good of the student, while maintaining high academic standards. As any teaching environment includes three components; namely the presenter, the audience and the message. The present paper discusses ways to improve teaching biology courses in universities. One of the major impediments to students learning is asking questions in front of other peers, especially in front of large number of students. Introducing group learning may minimize the effect of such learning barrier. Group learning may be encouraged during the class period or while doing assignments outside the class period. This may improve students/instructor interactions while enhancing learning. The above could be achieved in regular as well as web-based classes. Moreover, the message and the method of course delivery are both crucial. One of the important components of course delivery is the message as it constitutes the core of academic learning. The message becomes more critically important in instances where the language of teaching is considered a second language. An example is English as a teaching language for the UAE University students. Even though a study indicated that in teaching the message can precipitate some cultural change, but the methodology used to nurture and reinforce a given message has a greater influence. Each class environment is different from any other class environment. Instructors are, therefore, to implement a variety of strategies depending on the specific circumstances. "One size fits all" does not work in teaching courses, including introductory biology courses.

Key words: *Missing*

INTRODUCTION

Teaching undergraduate students presents a challenge that educators have to deal with properly, in order to prepare our students for the future. There are many steps that educators may take to improve students' interest in learning, specifically Biology courses. Unfortunately, many courses are taught using the passive forms of university teaching [1]. As opposed to group learning as it has been proven effective in many facets of student learning.

Steps that are to be taken should center around the good of the student, while maintaining high academic standards. Any teaching settings includes three components; namely the presenter, the audience and the message. All three components are important, but more focus has to geared toward delivering the message in the best of ways, in order to keep students' interests.

The present paper discusses ways to improve teaching biology courses in universities. What works and what does not work in university learning will also be dealt with for the good of biology students.

GROUP LEARNING WORKS!

One of the major impediments to students learning is asking questions in front of other peers, especially in front of large number of students. Introducing group learning may minimize the effect of such learning barrier. Group learning may be encouraged during the class period or while doing assignments outside the class period. This may improve students/instructor interactions while enhancing learning. The above could be achived in regular as well as web-based classes. Students in web-based courses reported that the quality of interaction with the instructor was high, that they read the text more often and studied in groups more frequently [2]. Furthermore,

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performance on a post-course assessment test indicated that the course format was better or equivalent to the traditional course, especially the online assignments [2]. The aim would be to to improve team work as defined in Webster's New World Dictionary as "a joint action by a group of people, in which each person subordinates his or her individual interests and opinions to the unity and efficiency of the group." As teamwork brings about benefits beyond individual accomplishments, especially when team members work in harmony and contribute to a common goal. And that is a noble goal for educators to work for as the benefits for students goes beyond the academic environment to influence accomplishment during the tougher working environment.

The benefits for students to work in groups include (1) developing a variety of possible alternatives or solutions to faced problems; (2) providing students with opportunities to work on large assignment that may be difficult to tackle individually and (3) providing students with different backgrounds the chance to work together and bringing a variety of special views and skills.

THE MESSAGE AND THE METHOD ARE BOTH IMPORTANT!

One of the important components of course delivery is the message as it constitutes the core of academic learning. The message becomes more critically important in instances where the language of teaching is considered a second language. An example is English as a teaching language for the UAE University students.

A study by Brown [3] indicated that in teaching the message can precipitate some cultural change, but the methodology used to nurture and reinforce a given message has a greater influence.

TECHNOLOGY WORKS!

Today's technological advances present excellent opportunities to deliver courses and benefit a wider range of students. Millen [4] reported that the use of internet and multimedia has been a positive addition to teaching biology courses. In introductory biology courses, for instance, the use of interactive programs improves students' understanding and learning abilities. The use of such media also improves students' interest in biology as a field of work.

NOT "ONE SIZE FITS ALL"

But it is crucially important that a combination of what was discussed should be applied in a case by case basis. As each class presents a variety of factors that is difficult to encounter in the future. The bottom should always be active learning not the traditional way of teaching where the student listens to what the instructor presents. Many university teachers today want to use active learning, to find better ways of engaging students in the learning process. But many teachers feel a need for help in imagining what to do, in or out of class that would constitute meaningful active learning activities [5].

CONCLUSIONS

Teaching introductory biology courses presents a challenge for many educators; especially when the language of teaching is not the native tongue. But in any case, university teaching centers nowadays on active learning where the student learns on his/her own paste.

It is therefore important to focus on the Message as well as the Method of teaching university courses, especially introductory biology. This becomes more critically important in instances where the language of teaching is considered a second language. An example is English as a teaching language for the UAE University students.

The use of today's technological advances in teaching is needed in order to improve students learning. Today's technological advances present excellent opportunities to deliver courses and benefit a wider range of students. The use of such media also improves students' interest in biology as a field of work.

Last but not least, each class environment is different from any other class environment. Instructors are, therefore, to implement a variety of strategies depending on the specific circumstances. This may change from one semester to another or even from one section to another during the same semester. The motto of "one size fits all" does not work in teaching courses, including introductory biology courses.

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