

A TEACHING PHILOSOPHY INVOLVING TEAMWORK

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1. INTRODUCTION

As an avid fan of sports at all levels of competition for over 50 years, I have observed that the best, most successful, teams are those whose members work together effectively as a team. Some teams may have one, or even several, superstar-type players, but that does not ensure winning the championship. Even with one, or more, superstar athletes, the teams have to play together as one, coordinated, unit if they are to be of championship caliber. The great New York Yankee baseball teams of the 1950s were a good example of teamwork. They had several superstars, one of whom was Mickey Mantle, their great center fielder. Their old coach was Casey Stengel, who was a master at getting the team to work together. Even the great Mickey Mantle was occasionally required by Casey to bunt to sacrifice a runner into scoring position, when it was in the best interest of the team. Each year, near the end of the season, the Yankees would acquire the services of a player who was being released from another team. This would be the player to help them win another championship. When the player put on those Yankee pinstripes, Casey would say to him, "You are a Yankee now, and a winner. You are a member of this great team!" The player, cast off as "washed up" by his previous team, would then proceed to help the Yankees win another championship. There was just something about wearing those pinstripes that instilled a sense of pride into the players. They had a feeling of confidence that they could win, and they exhibited a remarkable ability to work together as a team.

Some of the most famous coaches in the country have also recognized the importance of teamwork in athletics. Tubby Smith, the great basketball coach at the University of Kentucky, says, "Individuals can win games sometimes, but it always takes a team to win the championship." Homer Drew, legendary basketball coach at Valparaiso University in Indiana, stresses the importance of teamwork to his players----both on and off the basketball court. Drew says, "Working together produces great things."

As a teacher of engineering for over 10 years, I have come to the same conclusion with respect to achieving success in the classroom. Success requires that the student and the teacher work together as a team. They must never become adversaries. They must develop a sense of mutual respect for one another. The teacher must move from behind the imposing desk at the front of the room so as to relate better to the students. The teacher assumes a role that is somewhat akin to that of a successful coach----motivating the students to learn and instilling the confidence that they can be successful. Of course, the student also has responsibilities as a member of this

classroom team. Let's discuss the responsibilities of both the student (team member) and the teacher (coach).

2. STUDENT RESPONSIBILITIES

The five primary responsibilities of the student are as follows: commit to work hard, study the assignments, do the homework, keep up, and strive for good understanding. The student should come to class having already studied the assigned lesson material and be ready to learn. Generally, the better prepared the student is for the classroom session, the more he, or she, will learn. Even if the student only has time to "look over" the assigned material prior to class, he, or she, will greatly benefit from this effort. If the student is just somewhat familiar with the terms used in the assignment, it will be helpful in following the teacher's presentation in the classroom. Most engineering courses are problem solving courses. This means that the homework assignments involve solving problems. This is how the student gauges his, or her, grasp of the material. If the student has successfully mastered the subject matter, he, or she, should be able to apply this knowledge to solving basic problems. Normally, the more problems a student solves, the more competent he, or she, becomes. The student will also become much more confident and efficient in applying the subject matter. This can be compared to shooting foul shots in basketball. After one masters the basics of foul shot shooting, it becomes just a matter of practicing. The more one shoots foul shots, the better the outcome. The same is true with respect to solving problems in a basic engineering course----the more problems solved, the better, more confident, one becomes at applying the material.

3. TEACHER RESPONSIBILITIES

The four primary responsibilities of the teacher are as follows: Be well prepared for each lesson, help the students grasp and understand the material, explain the theories and concepts clearly and logically, and motivate the students to learn and enjoy engineering. It goes without saying that the teacher must have a very deep, thorough, understanding of the subject matter of the course. Teachers must dig "beneath the surface" of the material and strive for an in-depth knowledge of every aspect of its significance to the student. Teachers need to encourage students to study and learn engineering for the joy of learning. Engineering should be fun, interesting, and exciting for the students. I tell my students that, as engineers, they will be working on projects that will benefit others and make the world a better place. That is what makes engineering such an exciting, rewarding career. They should not be motivated primarily by seeking a good grade in the course, although grades are important. Most of the time a student who is motivated to learn because he, or she, likes the course and the teacher will get a good grade in the course.

4. COMMITMENT REQUIRED

In my classes, I make the following commitment to the students at the beginning of the semester: I will meet you half way with respect to each of us completing our responsibilities. I promise that I will be working hard to fulfill all four of my responsibilities. I then ask the students to pledge

silently to themselves that they will do their part. I try to get the students to “buy into” the concept of our working together as a team throughout the semester. By working together, just as stated by Coach Drew, I tell them we can accomplish “great things” and probably win, at least, the equivalent of a conference championship. I might be the best teacher at my university; however, if the student does not come to class prepared, i.e. does not meet his, or her, responsibilities, we will not accomplish as much as we could otherwise. Conversely, if I am not well prepared for my classes, i.e. I do not meet my responsibilities, even if the student comes prepared, we will not accomplish as much as we could otherwise. However, if we both take our responsibilities seriously, and pledge to work together as a team throughout the semester, we can accomplish “great things” and maximize the learning experience for the student.

5. THE CHALLENGE

During the first, introductory, class for my courses each semester, I discuss my “teamwork philosophy” and then challenge the students to approach the course in this manner: Learn for the joy and satisfaction of learning; do not concentrate too much on your grade; strive for a thorough understanding of the material and how to apply what you are learning; and the grade will then take care of itself! Of course, not every student will respond to this concept of teamwork in the classroom and to these challenges. Some students approach the classroom experience from this standpoint: “Look, you are the teacher. It is your responsibility to teach me what I need to know. Do not expect me to learn this material on my own! This is your job. You are getting paid to teach me, now teach!” As a teacher, you simply have to accept the fact that you will probably be unable to establish a really good working relationship with these students. Hopefully, at some point in their academic careers, these individuals will learn to accept more responsibility for their own actions. Others, however, will respond as the idea of working as a team will make sense and appeal to them. Seeing these students become very successful in the classroom as they mature and develop their engineering skills during the semester is what makes teaching so rewarding. Working together as a team is a “win-win” situation for both the student and the teacher. Like those great Yankee baseball teams, you will both feel a sense of pride in being on a winning, championship, team.

6. SUCCESS OF THIS PHILOSOPHY

This approach to teaching has been discussed with most of my colleagues over the past five years. Whereas all of them are very supportive of the concepts and have implemented various portions of the philosophy, I am the only professor in the department who has fully implemented this approach to teaching. As mentioned above, not every student will respond positively to the idea that teaching involves teamwork between the teacher and the student. The overwhelming response, however, from my students has been supportive. Even students who do not respond enthusiastically to my challenge have shared with me that they support what I am trying to accomplish in the classroom. When students realize that you, as the teacher, are committed to this approach to teaching, they will be inclined to participate. Although I have not conducted a specific student survey to assess their feelings about the philosophy, their student evaluations at the end of each semester in my courses provide some measure of success. For the past two years,

as I have become more comfortable with the philosophy, as have the students, my overall evaluation for quality of instruction has been a 4.20 on a scale of 1 to 5, 1 being very poor and 5 very good. For the three previous years, my average evaluation was 3.70, as I was attempting to attain full “buy-in” from the students in my classes. I attribute this significant improvement in my student evaluations over the past two years to successful implementation of the teamwork philosophy.

7. CONCLUSION

So, if you want to be the teacher at your university who wins the “classroom championship”, try approaching your students with this philosophy of bringing teamwork into the classroom. Get as many of your students as you can to “buy into” this concept. It is a very simple philosophy, but you will be amazed at the results. Like many things in life, some of the simplest concepts are the most profound, powerful, and successful!