

class on her mobile phone; the student who works in healthcare and is finishing a double shift to come home to try to finish an essay for his English class; the student whose grandfather has suddenly fallen ill. These situations are not unique to this time, but they take on a new poignancy in a time of global pandemic. I have heard from many of my colleagues around the country about the extraordinary grace that they are extending to students at this time for circumstances beyond their control. What I ask is that we remember this: our new perspective on the lives of our students, our flexibility in meeting their needs, our capacity for grace—I ask that we remember all of this as we are planning our courses for the future. These situations are not unique to this time, and I hope that our extraordinary work to meet our students' needs in the spring of 2020 turns out not to be extraordinary at all.

As you look at your syllabus moving into the future, I hope that you question it critically and then recognize where you already shine. I hope that you dig into critique of your own practice as diligently as the participants in our conference panel dug into my terrible syllabus, then acknowledge the growth that this critique represents. I hope you consider how each piece of your course serves the broadest possible contingent of students. I hope that you write and rewrite and rewrite your assessment schema, considering carefully the student populations for whom that schema will be helpful and for whom it might be disenfranchising. I hope, most of all, that you do all of this with your students, our students, all students, in mind. We have, in the midst of this epidemic, the opportunity to do real, lasting, and meaningful work to provide a more equitable educational experience for our students.

The Role of the Professor in Adult Student Success: Teaching Today's College Students to Succeed

Dr. David Otts

In the first two decades of the 21st Century, higher education has faced several challenges including decreasing enrollments, emphasis on getting students through to graduation, remote teaching, and an increasing reliance on online teaching. These challenges raise three central questions: How has the role of the professor in student success changed? What characteristics does a teaching professor require? What influence does the professor have on student success?

Answering the role question requires examining the typical professor of the second half of the 20th Century. The role of the professor in the past derived from the three-fold requirements of higher educational institutions, research, service, and teaching, basically in that order. The role of faculty members revolved around research, presenting at professional conferences, publishing articles, and primarily lecturing for classroom teaching. Polya (1973, p. v) described this type of professor as depending on dull routine in the classroom. The result lessened interest and slowed intellectual development in students. This professor wasted the opportunity to engage the students.

Polya (1973) also described a second type of professor, the teaching professor, who answers the

characteristics question. Instead of routine drills, this professor engaged the students with challenging discussions and problems, sparking their curiosity. Further, the teaching professor enriched the students through directed activities and leading questions. Students were encouraged and stimulated to develop independent, critical thinking skills. Therefore, the students became empowered to present their own thoughts and showcase their own skills.

The answer to the influence question explains why professors need to improve their classroom teaching. As Boylan (2002) wrote, "The single most important contributor to student success is the quality of classroom instruction" (p. 68). True teaching professors teach actively; mentor; communicate in person, remotely, and online; provide nonacademic counseling (different from academic advising); conduct and guide research; serve the professional communities at campus, state, and national levels; and present and publish. The greatest change from traditional college lecture to teaching for student success involves direct engagement with students, whether on-ground or online.

A well-established body of literature attests to the effectiveness of active, engaged, student-centered

teaching and how the teaching professor contributes to student success. Both Carroll (1963) and Bloom (1968) identified the quality of teaching as one of the five main variables involved in Mastery Learning. In his 25-year retrospective, Carroll (1989) explained that teaching quality grew from the characteristics of the teacher, the preparation of teaching materials, and the use of mastery learning procedures. Casazza and Silverman (1996) wrote about the student-centric belief system and philosophic basis of a successful college teacher. Walker and Plata (2000) found confirmation in some research that the instructor is the factor most closely related to student success when showing sensitivity to the emotional needs as well as the subject area needs of the students. Tinto (2012, p. 5) wrote about the role for the professoriate to establish clear and high expectations, provide academic and social support, provide frequent assessment of and timely feedback on student progress, and actively involve students with others in the class. Supiano (2018, April 15) reported that two papers, presented at an annual meeting of the American Educational Research Association (AERA) about introductory courses, reached the important conclusion that academic departments should use their best, most experienced faculty to teach introductory and general education courses. The first impression students have of a discipline is the first teacher in the first course. A good impression leads to better completion and retention. The influence of teaching professors extends beyond classroom or online interactions. McMurtrie (2020) reported that the 20th anniversary of the National Survey of Student Engagement (NSSE) showed about a 10% increase in the number of first-year students who discuss career plans and additional topics with professors outside of class. Seniors who reported an increase in diverse (not limited to classroom) interactions rose 12% from 2004 to 2019.

Becoming a Teaching Professor

The two professor types identified by Polya (1973) can be categorized as the unengaged professor and the teaching professor. To clarify how the teaching of each type influences student success, a comparison of major characteristics of the two types follows. Practitioners may find value in adding a self-comparison to these.

First, the characteristics of the unengaged professor:

- Primary teaching style: lecture, drill, routine, uninspiring, wasted opportunity.
- Out-of-class engagement with students: minimal, distracted.
- Primary focus: self-centric; secondary concern for students and teaching
- Professional goals: primarily promotion, tenure, reputation, research, and publications.

Second, the characteristics of the teaching professor:

- Primary teaching style: engaging, encouraging, enriching, and empowering
- Out of class engagement with students: office visits, consultations (FaceTime and Zoom type meetings for online classes), phone calls, supporting student activities (sports, music, drama, other)
- Primary focus: student-centric; cares about the person as well as the student
- Professional goals: student success in and beyond the classroom, service to colleagues, promotion, and tenure.

The teaching professor works to achieve one main Teaching Goal: Take the students from where they are and move them to or beyond where they should be when the class is over as possible. To accomplish this goal, the teaching professor strives to meet the instructional, emotional, and personal needs of students. Goal attainment means helping students achieve their personal educational goals while contributing to institutional and departmental goal completion.

Principal Teaching Guidelines: The Four E's

No single method produces the same results for everyone. No one size fits most, let alone all. Therefore, as a practitioner of 30 plus years, I offer four guidelines as a scaffold for other practitioners to build their own teaching professor model. Each person should adopt, adapt, and modify these guidelines to personalize the specifics needed to grow into the best teaching professor possible.

Engage: meet the students where they are both in and out of class, on the academic and personal levels;

remember that students are people, too. Ask them to share something memorable on the first day. Attend a recital, a play, or a sporting event where the student participates.

Enrich: require active participation; ask and listen (let them teach each other and you); provide clear, essential, and direct instruction, scaffolds, and supports. Use formative assessment and guided instruction. Begin new concepts inductively, then model how to apply the concept deductively to similar situations. Provide opportunities for students to help themselves and each other. Use humor appropriately and set the standard high.

Encourage: use meaningful praise and provide timely, specific feedback (corrective, not punitive), say please and thank you often and with true feeling. Remember what being a student was like. Respond positively to students. Find something they can contribute to the class and let the other class members experience the contribution.

Empower: provide informal and formal opportunities for success; offer choices and a time to shine as individuals and in groups (See the Appendix for examples that I use in freshman mathematics classes).

What I have learned about the practice of teaching: 8 tips to adopt and adapt:

1. Meet them where they really are. Listen to what they say, as well as what they do not say but need someone to hear.
2. Provide a reason to learn. Use directed reading activities, challenges just within their grasps, and opportunities to shine.

3. Actively engage students in the learning process. Ask them what to do or what they see. Allow a student to answer another student's question.
4. Model the behavior expected. Show what to do when making a mistake; how to mess up, 'fess up, fix it, and learn from it.
5. Set high expectations and require stretch goals, then provide scaffolding and support so that students pursue and achieve them. Involve students singly and in small groups in class activities. Allow students to share insights and ideas.
6. Remember that students are people who sometimes struggle to overcome exterior obstacles (those outside of the classroom) and provide assistance. Know and direct them to the proper campus agency for help that exceeds the instructor's ability to provide. Lend an ear when a student needs someone to listen. Keep chocolate and peppermints on the desk.
7. Delegate a learning and reporting tasks to students in small groups and provide minimal direction. Give them their task and free them to accomplish it (the creativity is amazing).
8. Reduce the anxiety. Students need someone they can depend on. The need someone who will find a way for them to be successful at some personal level.

A personal goal I keep in mind: Become the teaching professor I would have wanted to have as a student.

References

- Bloom, B. S. (1968, May). Learning for mastery. 12 p. reprint from Evaluation Comment, Los Angeles, CA, Center for the Study of Evaluation of Instructional Progress. Available from Regional Educational Laboratory for the Carolinas and Virginia, Mutual Plaza, Durham, NC, 27701. Retrieved from: <https://eric.ed.gov/?id=ED053419>
- Boylan, H. R. (2002). What works: Research-based best practices in developmental education. Boone, NC: Continuous Quality Improvement Network with the Center for Developmental Education.
- Carroll, J. B. (Jan. – Feb. 1989). The Carroll model: A 25-year retrospective and prospective view. *Educational Researcher* 18 (1), pp. 26-31. Retrieved from: https://www.jstor.org/stable/1176007?seq=1#metadata_info_tab_contents
- Carroll, J. B. (1963). A model of school learning. *Teachers College Record*, 64, 723-733.
- Casazza, M. & Silverman, S. (2017). Student voices: We believe in you. Bloomington, IN: iUniverse.
- Davenport, J. & Davenport, J. A. (Spring 1985). A chronology and analysis of the andragogy debate. *Adult Education Quarterly* 35(3), 152-159.
- McMurtrie, B. (2020, February 20). More students report talking with their professors outside of class. Here's why that matters. Teaching Newsletter from The Chronicle of Higher Education.
- Mezirow, J. (1990). How critical reflection triggers transformative learning. *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*. 1-6.
- Polya, G. (1973). *How to solve it: A new aspect of mathematical method* (2nd ed.). Princeton, NJ: Princeton Paperback, Princeton University Press.
- Supiano, B. (2018, April 15). It matters a lot who teaches introductory courses. Here's why. The Chronicle of Higher Education, Teaching section, April 29 issue.
- Tinto, V. (2012). *Completing college: Rethinking institutional action*. University of Chicago Press.

Appendix

Group Guidelines and Topics for In-class Presentations (Dr. O)

General guidelines:

- All presentations must use a spreadsheet, Prezzi or PowerPoint presentation, a poster, or typed documents on the document camera.
- Each group member must verbally present some of the information during the presentation and identify the role he, she, or it had in crafting the presentation.
- Presentations must be at least 10 minutes and at most 20 minutes long.
- Dr. O determines any extra credit earned by the group. (Appropriate use of visuals, music, and humor will be rewarded)

Topics:

1. Forensics: Determining the relationship of limb bone lengths to height. You will measure the upper arm and lower arm bones and height of team members, then find a method to calculate the height when you know the length of the arm bones.
2. College costs: Determine the fees and tuition for a bachelor's degree at MTSU for BOTH a 4- and a 5-year bachelor degree program for a student attending full time (minimum of 12 hours per semester), plus compare in-state to out-of-state costs. You may use a standard 120-hour degree or a specific degree program for one of the group members. You need to decide whether you will complete your degree with or without taking summer classes.
3. Using Roman Numerals: Explain the what, when, and how of Roman Numerals and show at least 7 examples of modern uses, with evidence (photos from around town, or other evidence).
4. Probability: Define theoretical probability, then use it to calculate all the theoretical probabilities of rolling a sum of a one through a twelve inclusive on two fair dice. Explain how each one was calculated and present your results in a Table of Probabilities, including the odds in favor and against rolling each number. Point out interesting probabilities and patterns that you find (same probability for different sums, most likely sum, and least likely sum, for examples).
5. Sets: Use a standard deck of 52 cards to explain the following concepts from sets: Universal set, Null set, elements of a set, Cardinal number of a set, subsets and proper subsets, union, intersection, show how to calculate and then demonstrate all possible subsets of sets with 3 and 4 elements, the Cardinal Number Formula for sets: $n(A \cup B) = n(A) + n(B) - n(A \cap B)$.

Alternative Demonstration: Use Venn diagrams to demonstrate all the above. Include diagrams with elements inserted and the same diagrams with shading.

6. Counting: Dr. O gives a 10-item vocabulary quiz with each unit test. Explain the counting process needed and use it to determine the total number of ways that he can arrange the key for each of the following quizzes:
 - 1) 10 terms and 10 definitions
 - 2) 10 terms and 11 definitions
 - 3) 10 terms and 9 definitions (one used twice)
 Next, calculate the probability of guessing all 10 items correctly as a rational fraction and display all results in a Table of probabilities.
7. Financing a new vehicle: You need to buy a new vehicle. You have \$8000 for a down payment and can get a 1.9% loan. Using data from www.edmunds.com, compare the price, interest on the loan, total cost, and monthly payments for a 48-month loan, and total cost to purchase each of three vehicles: 1) a compact car, 2) a mid-size car, and 3) a small SUV.

An alternative: use the same data to compare two hybrid vehicles.

8. Explain how you could use Polya's Methodical Approach to Problem Solving to solve the following. Remember, you must show how you applied all four steps of Polya's Method (1. Understand the problem; 2. Devise a plan; 3. Work the plan (include checking the process and results); and 4. Reflect:

Given a standard chess board, do the following:

- a. calculate the exact number of pennies on the last square under the following conditions: 1 penny is placed on the first square, then doubled for each successive square (2 on the second square, 4 on the third, 8 on the fourth, and so on).
- b. Show how to represent this number in exponential form using an Integer base and exponent.
- c. Next, a stack of 18 pennies is about an inch high, calculate the number of inches, exactly, of the height of pennies, then the number of feet, then the number of miles high the stack on the last square.
- d. Lastly, calculate, to 7 decimal places, the number of one-way trips from the Earth to the Moon using the average distance of 238,857 miles.