Expand and leverage student research

Commentary
By Michael Rose, Published May 16, 2011

Student publishing should be viewed as the standard at community colleges rather than the exception.

The lack of the “publish or perish” mandate found at universities actually allows community colleges to serve as the perfect venue for students to publish papers. Professors have the opportunity to pursue research that intrigues them, and students frequently benefit from the personal attention they receive from working on such projects.

The peer-review publishing process is typically rigorous, and not all submissions are published. Yet, this is a valuable exercise for community college students. Our students will be the minds, attitudes, and professors of the future. Do we really want students without research and publishing experience?

Students come to community colleges to take core classes. Our students are amazing. Transfer candidates. One student who worked with me on a research paper transferred to a well-known Texas university and asked her new professor if she could collaborate on a research paper. The professor told her she needed to get approval from the National Institutes of Health (NIH) and begin to explain the basic components of research. The student responded by handing her NIH approval and a copy of a paper she was submitting for publication.

The professor was surprised, but she should not have been. More community college students should be publishing papers. Research is not just an elite venture for graduate students.

Empowerment is priceless
I was not afforded the opportunity to publish until I was in a master’s degree program. Until then, none of my professors encouraged me to publish. Yet, the publishing process is an enlightening and empowering educational experience for students. Many students are caught off guard by editors’ intense scrutiny and the amount of revisions required to publish a paper.

Receiving professional criticism for the first time can be emotional for many students. Yet, it is a learning opportunity, and they will take those suggestions and queries and craft better papers, building confidence in their research, results and theories. And with further submissions, students learn to fight for their ideas.

One of my students had a lot of opinions in the first paper he submitted, and he tried to back them up with emotions. Now, after going through the publishing grind, he realizes his early work was not as supported by his research as it should have been. He has developed a confidence he never had before. Publishing a paper has changed the way he talks to people, and it changed the way he sees the world.

Analyze this
I’ve incorporated some of the thought processes behind scrutinizing research into one of the classes I teach. The class reviews the difference between media hype and statistical reality at the beginning of the semester and then develops an empirical study that the students bring all the way to testing. Because this is an introductory class, I perform the analyses for the students. Going through the research process provides a level of understanding that discussing alone can’t provide. It changes the way students...
read research articles. Typically, students read just the introduction and the conclusion. (That is what I did, too.) What they are leaving out are the methods and results because they don't understand the statistics or are intimidated by them.

After my class, all they focus on are the methods and results. In the beginning, students earn to question whether the concluding statement on a project is correct, who paid for the research and the size of the sample population in the study.

Next, students question the methodology. If 52 percent of people are found to be crazy, they ask what is the difference between crazy and eccentric. Students begin to understand that results and conclusions can be skewed using the wrong methods. They realize that percentage means nothing without looking at standard error.

In the third step, they want to see the survey. Students begin to question the results and statements that came from the researchers. The ability to defend their questioning may be graduate or post-graduate-level work, but the steps before that are not.

What's in it for professors?

Why should a professor allocate extra time to help students publish? In addition to staying true to the ideals at the core of the teaching profession, a lot of amazing ideas come from students’ suggestions.

For example, Joe Le Due, a researcher in memory formation, was known for his work using the drug ansomycin to disrupt protein synthesis and prevent memories from being formed. One of his students, Karin Nader, asked Le Due what would happen if the drug was administered to individuals while they are remembering formed memories rather than administering the drug while the individuals are creating the memories. Le Due found the suggestion “silly.” Nader went on to conduct the research, and today we have a new comprehension of the dynamics of memory consolidation. (Both authors discussed this on the radio program Radiolab in the episode 'Memory and Forgetting'.)

There is one downside to student publishing. Researching and publishing create a dangerous student. This can either excite or frustrate professors because these students will require professors to support every statement they make. When you create logical, empowered students, they take that everywhere they go.

Transcending traditional thinking

It helps that I work for a college that embraces interdisciplinary research and applauds faculty and student publishing. In addition to publishing in national and international journals, students at Collin College (Texas) present their work at interdisciplinary student conferences, brown bag presentations, Cultivating Scholars poster sessions, and at the college’s Center for Advanced Studies in Mathematics and Natural Science.

Anecdotally, you can argue that publishing affects student retention and success rates, enhances student resumes, improves fiscal benefits, creates a better college or helps students obtain better jobs. In my opinion, the most important aspect is that it changes the way the students see the world around them.

Publishing should not be the sprinkles on the icing of the research cake for community college students. It should be the norm. I want students who are empowered to make a difference, I want to make sure they are not automations. We have way too many of those.

Rose is director of the honors institute and a psychology professor at Collin College (Texas).