

Rigorous coursework in a college classroom is a big way in which faculty members can battle social inequalities. Certain subsets of our society have been more privileged than others. According to a study conducted by The Education Trust, Black and Latino students are not fairly represented in advance course work at the elementary, middle and high school level. This means that many minority students being admitted to universities have insufficient prior preparation. However, lowering our standards will only continue the inequalities the students have already experienced (Foote Schwegler, 2019).

Faculty have the opportunity to level the playing field to a certain extent. Individuals who have not been exposed to rigorous learning experiences have not had the opportunity to develop higher order learning, quantitative reasoning, and critical thinking skills. These attributes are critical in the professional job market; the lack thereof renders a significant disadvantage in advancing careers and/or income level. This perpetuates the cycle in future generations. Rigorous courses give the students a chance to develop these skills which are vital for students who have previously not been given this opportunity. Research suggests that rigorous courses help first generation, female, and minority students (Bowman & Culver, 2018; Padgett, Johnson, & Pascarella, 2012; Steele, 2003). Faculty can create an equitable society by creating rigorous courses.

Creating rigorous courses requires effort and knowledge. I will be the first to admit I was not familiar with the teaching strategies to introduce/improve rigor in my courses. In graduate school I studied finance. I know finance, I can tell you about all the assumptions which capital asset pricing model was built upon and I can even derive the entire model. However, at no point when I was working on my doctorate did anyone teach us about teaching with rigor. This is astonishing because my job is to teach, and I was never trained to do so. We as faculty were not taught how to teach what we know. For the past six years I have been winging it. It was a lot of trial and error to get my courses to where they are today.

I was lucky enough to get selected as the R.I.S.E scholar for the Plaster College of Business and Entrepreneurship, and I got the opportunity to learn what it means to create an amazing course where the focus is on rigor, inclusiveness, support and engagement. This past summer I learned about different strategies that can be used to enhance rigor in coursework. It turns out that through many conversations with my colleagues, and trial and error, I have implemented many of these strategies in my courses already. However, officially learning these strategies made me realize that there are aspects of my courses that still require improvements because I did not execute the strategies correctly.

I have found that the combination of multiple strategies works wonders in a classroom. I used backwards design strategy to determine if my learning outcomes, assessments, and learning material were well-aligned; interleaved practice to design lectures; inquiry-based learning to create discussions and in-class activities; and bloom's taxonomy as a guide to create assessments that are appropriate for the course level.

When rigor is applied correctly, and the faculty member also provides the support, students truly benefit from it. The brain is a muscle and needs to be flexed and worked out in order to get stronger. Using higher level cognitive teaching methods and assessments allow the students to exercise their brains. Requiring a student to simply regurgitate memorized facts is like asking a healthy adult to do repetitions with a three-pound dumbbell. It's not going to build any biceps, at least not big ones. The students will meet the standards you set for them and if that bar is too low, you as the educator are not doing them any favors.

The classroom is a safe environment where students learn and make mistakes which allow them to grow as individuals. This is the opportunity for students to learn and enhance their skillsets so they can tackle problems in the real world. I know firsthand that students appreciate a rigorous course, with support, as a result of student feedback over the years. Even students that received a C in my course have come back to tell me that they appreciated how much I pushed them. The learning environment I created intellectually challenged the students and gave them an opportunity to build critical thinking and analytical skills. These skills allowed the students to become more competitive in the market. The following is some of the feedback I have received on evaluations when students were asked if they would recommend me to other students

“A lot of people say her classes are difficult, which they are, but Dr. Farooqi makes the content relatable and easy to understand.”

“Yes. Dr. Farooqi is not going to make class easy for you and will demand participation and thinking by each and every person every single class. She’s not afraid to call you out so you better come to class prepared and ready to talk! While some students may not like it and only want to come to college to get a piece of paper instead of knowledge, this is how classes/professors should be.”

“Learned so much real-life applicable information in this class. This will help me further value companies and understand industries and the economy as a whole so that I can find what is the best companies to invest in. Farooqi is available and helpful during office hours, cares for her students, and really helps students succeed that want to themselves. Definitely recommend this teacher and will remember this class forever.”

“This was a VERY difficult course to take online. The professor did everything she could to teach the material and her methods were far better than my other professor. She also changed methods when she realized students needed additional help. Thank you Dr. Farooqi!”

I’m not sharing this to pat myself on the back. Rather, what I want to demonstrate by sharing the student feedback is- don’t be afraid to set the bar high. Your students may one day thank you and remember how you set them up for success instead of cheating them out of their true potential.

Creating rigorous coursework is an ongoing process. Your classroom is a laboratory (for some, it literally is a laboratory), but more so a space where you can experiment and push boundaries. You have the opportunity to continuously re-invent the way you approach teaching, keep enhancing what works and discard or improve what doesn’t work. I have experimented with clicker systems, competitions, guest speakers, and field trips. I kept pushing the boundaries in my Investment 1 class and it resulted not only in a rigorous course, but a whole new additional class called Investment Applications, which is a student managed portfolio at Lindenwood University funded by The Board of Trustees.

This came about by getting students engaged and excited about learning the material at a new level. I no longer asked them what stocks and bonds are; I taught them how to analyze and evaluate whether a stock/bond is a suitable and profitable investment. I had them compete for the most profitable stock portfolio, incentivized by extra percentage grade points. Due to an increase in rigor, they became curious and wanted to learn more. They wanted hands-on experience. The goal is not to build a hard course, but an exciting one that challenges the students.

I plan to continue working on the rigor of my courses. As I said, it is a never-ending process. I plan to use the backwards design technique to make sure that my learning outcomes, assessments, and learning material are aligned appropriately. I found new ways to improve alignment and thereby improved the

overall course experience. In the past few semesters I worked on aligning the learning outcomes and assessments while completely overlooking the misalignment in assessment and learning material.

To assess the learning outcomes in my Investments 1 course I use four projects- economic analysis, bond analysis, stock analysis and mutual fund analysis. The learning material is mainly lectures, and the formative assessments include problem-solving assignments and quizzes. There is a clear misalignment between formative and summative assessments. In order to address this misalignment, this semester I included several low-stake mini in-class assignments that allow students to work in rotating groups on similar type of questions that they will encounter on their projects. It seems like a no-brainer to include learning material and formative assessments that align with the summative assessments, and yet I completely missed the misalignments in past semesters. I am excited about grading the projects this semester to see how the in-class activities will impact the students' understanding of the material.

Additionally, I discovered another misalignment in my Investment Applications course where the students are now required to submit stock pitches as a form of learning assessment. Previously there was no learning material or formative assessment apart from lectures to prepare students for the summative assessment. This semester I will be using case studies where the students get to examine a stock as a class and answer questions in the same format as they would on a stock pitch. They will get feedback on how they reason through the information on case studies, which will teach them what key information they should focus on, what questions to ask, and how to properly build valuation models. Additionally, they will be given the opportunity to give me feedback on how to improve the case studies for future semesters. I hope to see a significant improvement on their first stock pitch.

This summer was an exciting learning experience for all the R.I.S.E scholars. We attended seminars, read several books and research papers, and partook in meaningful discussions about pedagogical strategies, and what it means to teach with rigor, inclusiveness, support, and engagement in mind. Some books that I found very helpful in regard to teaching with rigor include *Reach Everyone, Teach Everyone* by Tobin and Behling, and *Teaching for Learning* by Major, Harris, and Zakrajsek. These books outline how to provide students with the necessary support in rigorous classes and how to help students overcome learning hurdles. The learning academy also provides several exceptional research articles and guides on their website to help implement different types of strategies to enhance rigor in your courses. One of the guides that I used to re-create portions of my Investments 1 course this Fall was *A Self-Directed Guide to Designing Courses for Significant Learning* by Dr. Fink. It is an outstanding resource for anyone that wants to use backwards design strategy.

Additionally, there are great articles online that discuss the purpose of teaching with rigor and different ways to implement rigor in your courses. These articles include *Academic Rigor: You're Doing it Wrong and Here's Why* by Lynch, *5 Ways to Make Rigorous Content Motivating to Students* by Saaris, and *What is Academic Rigor and What Do We Do With It?* by TeachHub Team.

While I am the scholar writing about rigor, all the R.I.S.E scholars can assist you in implementing any one of the R.I.S.E pillars in your courses. So join us on this journey of helping our students become the best versions of themselves and reach their true potential. Isn't that our calling as professors?

References:

- Bowman, N. A., & Culver, K. C. (2018). Promoting equity and student learning: Rigor in undergraduate academic experiences. *New Directions for Higher Education*, 2018(181), 47–57. <https://doi.org/10.1002/he.20270>
- Fink, L. D. (2003). Self-directed guide to designing courses for significant learning. Available from <https://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf>
- Foote Schwegler, A. (2019). Academic Rigor: A Comprehensive Definition. Part one of a three-part series. [White paper]. *Quality Matters*. <https://www.qualitymatters.org/qa-resources/resource-center/articles-resources/academic-rigor-white-paper-part-one>
- Lynch, Matthew. (2018, October 19). *Academic rigor: You're doing it wrong and here's why*. The Edvocate. Retrieved July 20, 2021, from <https://www.theedadvocate.org/academic-rigor-youre-doing-it-wrong-and-heres-why/>.
- Padgett, R. D., Johnson, M. P., & Pascarella, E. T. (2012). First-generation undergraduate students and the impacts of the first year of college: Additional evidence. *Journal of College Student Development*, 53(2), 243–266. <https://doi.org/10.1353/csd.2012.0032>
- Patrick, K., Rose Socol, A., & Morgan, I. (2020, January 22). *Inequities in advanced coursework*. VTechWorks Home. Retrieved August 25, 2021, from <https://vtechworks.lib.vt.edu/handle/10919/97776>.
- Saaris, N. (2017, October 2). *5 ways to make rigorous content motivating to students*. RSS. Retrieved August 15, 2021, from <https://www.activelylearn.com/post/make-rigorous-content-motivating>.
- Perry, T., Steele, C., & Hilliard, A. G. (2003). *Young, gifted, and black: Promoting high achievement among African-American students* (pp. 109–130). Beacon Press.
- What is academic rigor and what do we do with it?* TeachHUB. (2020, May 19). Retrieved September 2, 2021, from <https://www.teachhub.com/teaching-strategies/2014/03/what-is-academic-rigor-and-what-do-we-do-with-it/>.