Rising Costs of Universities and the Impact on Teaching Effectiveness and Student Outcomes

Patrick Hanna

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Rising Costs of Universities and the Impact on Teaching Effectiveness and Student Outcomes

A Thesis by

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I would like to thank God and everyone who supported me.
ABSTRACT

Rising Costs of Universities and the Impact on Professor Effectiveness and Student Outcomes

by Patrick A. Hanna

The purpose of this thesis is to track the rising costs of attending higher education institutions and the professional development of professors compared to secondary and primary educators. While university and college administrations around the United States enjoyed exponential growth in pay, faculty and staff pay has remained stagnant for over 40 years. The increase in costs of attendance despite the stagnant pay for professors highlights the diminishing return on investment for attaining a higher education degree. By examining the concepts of education production function and extrapolating the findings to apply to postsecondary institutions, the lapse in educator development comes to light and demonstrates a growing need to track student outcomes in higher education.
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1 Introduction

My passion for education and academics drives me to write about what I experienced as a student. Ranging from classes at community colleges to graduate school, and majors ranging from biology, business, English, and creative writing, I experienced an array of approaches to teaching in different fields of study. As a student, I often found my classes in the humanities to be student-centered and engaging while the STEM counterparts relied on heavy, educator-centered lectures. The different approaches to educating students highlighted the impact of adapting courses to fit student needs, and the importance of utilizing different pedagogical techniques. The college classroom represents the highest level of education, and most costly, yet the training in pedagogy in comparison to primary and secondary education startled me. I do not have all answers and I do not put the onus on educators. What I do know is the cost attendance continues to skyrocket while educator pay remains stagnant. Students take out unforgivable loans in the name of brighter future only to be met by overworked and underpaid educators and an administrative body whose biggest concern remains yearly profits and donors.

On the largest scale, topics like student debt, critical race theory, and the teacher shortage dominate public policy conversations about education in the US, leaving little room for educational reform and innovative discussions. Whether primary, secondary, or post-secondary education, the quality of education directly affects every individual in American society. Most of the time, discussing education standards focuses on the primary and secondary levels of education, leaving post-secondary institutions to figure it out on their own—mainly through optional professional development and school-specific core values. Despite universities being the highest level of education and the costliest to attend, professors often join the workforce with
little pedagogical training or professional development exposure. Most professors gain experience teaching through their graduate program, where universities bait hopeful professors with work experience and little to nothing else. Although graduate students gain valuable time teaching first-year courses, the main reason Universities offer the opportunity to teach introductory courses is for the financial gain of the university rather than pedagogical exposure for the students. Rather than hire additional adjuncts or tenure-track professors, Universities offer graduate students the opportunity to act as indentured servants, teaching classes for reduced tuition or a measly stipend, and often without proper training or mentorship (Flaherty).

Regardless where the teaching takes place, the country has a vested interest in the outcomes—the students’ knowledge and ability—produced by the education system. Unlike primary and secondary educators, post-secondary educators face fewer standardized requirements to step into the classroom and practice the art of educating at the highest levels. The information students learn progressively gets harder while the teacher’s familiarity with different pedagogical approaches wanes. STEM and business professor are notorious for saying the responsibility of learning difficult material at a higher level than high school lies with students rather than the teacher’s ability to teach difficult subject matter, often resulting in students dropping the course and possibly switching majors (Das); however, the first role of professors—yes, even before research—is the success of their students and the future those students will usher in. If universities desire research-producing individuals among their faculty and staff, then they must hire individuals with that specific role in mind rather than split the attention of an educator or researcher. Colleges and universities often rely on overworked and underpaid educators to take the initiative regarding professional development in addition to instructing courses, joining or leading committees, and producing industry specific content.
The work K-12 teachers put in during their credentialing offers a fundamental foundation new educators can rely on to develop effective pedagogy based on their students’ needs. While the reasons people attend graduate school may differ, it is common practice among colleges and universities to hire individuals with advanced degrees. The problem with using an advanced degree and some experience to vet professors is that most advanced degrees do not cover subjects on education or teaching—the effects snowball when considering it is uncommon to mandate professional development, too. While professors present esoteric lectures and represent the highest levels of knowledge in a given field—often referred to as experts by courts and the media—the craft of educating and adapting pedagogy remains a secondary focus due to a variety of reasons, and students often suffer as a result.

The responsibility for preparing post-secondary educators before they enter the classroom should fall on the shoulders of universities and policymakers alike. University administrations, policymakers, and the general public often assume that the higher level of education an individual achieves validates their ability to educate within that field. The flaw in that assumption surfaces when considering that many graduate programs and higher education teachers dedicate minimal time to pedagogy courses or training within the graduate program (Flaherty). The following chapters will explore the intersections of rising costs of attendance, student outcomes, teacher quality, stagnant educator salary, and where the responsibility for preparing educators should lie.
2 Cost of Attendance (Dude, where’s my money?)

A statement released by President Biden’s White House administration highlights that higher education costs have tripled since 1980, leaving the average undergraduate student with $25,000 in unforgivable debt (Biden). President Biden’s statement underscores the lack of federal support for the rising costs of higher education, pointing to the fact that the Pell Grant, which once covered 80% of public university tuition, now covers only 30%. What was once seen as a necessity for social and economic mobility morphed into an “investment” vehicle that leaves many college graduates financially crippled and with a degree that has become a depreciating asset. Similar to inflation’s effects, the nature of the job market and society, in general, created an atmosphere where the bachelors degrees’ ubiquitous nature makes it increasingly useless in many cases. A “Fast Facts” article by the US Department of Education highlights the number of students opting to go straight into a four-year institution, “68% of college-bound high school graduates,” which accentuates the bleak situation when considering many of those students take loans to attend. Whether it is a two or four-year college, what are students investing in, and is it still opening the socioeconomice doors it used to?

Universities around the United States garnered notoriety over the last forty years due to their role in generating and swaying public opinion on political and socially controversial topics—recent coverage by a New York Times’ article, “Kicking Oil out of Schools,” examines the muddy cross-section of research and its donors (New York Times). The allure of the power of the college campus and its constituents creates a greedy desire in corporations across various industries—for example, biotech, aerospace, or fossil fuels—to generate a close relationship with the university administration in order to foster better publicity. Why have a relationship with the
university administration? A close and friendly relationship with a college’s administration increases the likelihood that the institution will invest financially, via the stock market, in that industry, specifically the company courting the school’s administration. In turn, big corporations transformed American university administrative ideology into something that mirrored the private, capitalist-driven sector; university presidents became akin to chief executive officers of major corporations.

The corporatization of American colleges drives profits into the top administrative staff while leaving most of the work to underpaid and overworked part-time staff—typically adjuncts. Recent scrutiny by the *Chronicle of Higher Education*—the self-purported “unrivaled leader in higher education journalism”—draws on public data to shed light on the growing pay gap between university administration and the educators doing all the work. Data from the *Chronicle of Higher Education* and the article “The Compensation of College and University Presidents” (Pfeffer) highlights higher education’s sad imitation of corporate America, which mirrors the steady increase in administrator, CEO, salary and the stale growth of professor, wage earner, pay. After using an inflation calculator to allow for a genuine comparison, the public college president’s salary increased from a mean of $160,640 (Pfeffer) in the 1980s to a mean of $4.03 million in 2018 (The Chronicle of Higher Education), which still does not account for the additional administration staff that surrounds the university president to add to the esteem of the position. How does the increase in presidents’ salary compare to full-time faculty, and what has it meant for the higher education system?

The National Center for Education Statistics provides data that tracks the employment and salaries of faculty and staff at universities across the United States. Unsurprisingly, the ratio of full-time faculty to part-time decreased in the last fifty years from a whopping 77% full-time
instructors down to a measly 56% today (Pfeffer). Universities continue to squeeze work out of
graduate students and recent graduates as a source of cheaper labor. Not only has the number of
full-time faculty decreased, the salary of professors in the United States remains constant and
flat. Using the same data source and methodology from the previous salary-over-time
comparison, the median college professor salary in the 1970s sat around $118,956 and increased
to a staggering $127,767 today (Campos). Sarcasm aside, students foot the bill for
administrative salaries while professors continue to slog through most of the work with
unrealistic expectations piled on and little in the way of pedagogical support.

The steadily increasing costs of attending universities do not benefit anyone but a select
few and harm the growth of students and society. Students continue to pay more while
professors make less, leaving everyone outside of the administration unhappy, frustrated, and
questioning the role of higher education. Rather than creating an environment of pedagogical
excellence, university administrations repeatedly opted to promote toxic work cultures that
reward research—which is responsible for securing more school funding to line the pockets of
administrators instead of compensating professors and staff—and ignore the importance of
developing higher student outcomes by using inexperienced graduate students as cheap
labor. Though it is not their fault, graduate students represent first-year educators who often
underperform compared to their more experienced counterparts (Hanushek). The culture created
by administrators leaves the responsibility of developing pedagogy skills up to the already
overworked and underpaid faculty and hopeful graduate students. In true academic-loving
fashion, professors around the United States began creating programs and summer institutes
dedicated to developing the pedagogical skills professors require to perform at the highest
level—I elaborate more on these programs in chapter 4.
3 Teachers Know How to Teach

What is the whole point of going to college? For many, it is learning necessary skills and gaining integral experience within a field to open physical, and sometimes metaphorical, doors. At all levels, the school provides a means for individuals to climb social and economic ladders while offering society an individual capable of contributing to its holistic progress. The understanding of the mutual benefits of providing an excellent education manifest throughout primary and secondary school via the ever-changing regulations imposed on teachers across the US. The disjointed approach to certifying educators of the different academic realms highlights how corporate America and its politicians view universities: a free money grab at the cost of young naïve adults whereas primary and secondary schooling is considered sanctimonious because of the adolescent children. High school and primary school teachers often face rigorous requirements to enter the classroom before donning the title of educator compared to most post-secondary educators who hold an advanced degree with minimal pedagogical training.

Although the topics surrounding teacher certification and credentialing are debated heavily across the United States—researchers from Stanford and Princeton unpack years long debate in a recent study “Could it be that Teacher Certification does in fact matter?” (Walsh)—the extensive discussions and research behind the debates uncovers nuances in education that allow primary and secondary educators to develop better teaching methodologies. Regardless of the route teachers take to get into the classroom, the amount of attention society pays to the policies and procedures of primary and secondary schools drives deeper discussions about education policies at the state, and sometimes federal, level. Colleges and universities do not undergo the same rigorous debates in the public domain, so the administrations of the individual
institutions are responsible for developing some semblance of the educational and professional development of their educators. By including higher education institutions into the conversations about education production, society stands to gain greater innovations in the dissemination of information at the highest levels of academia. Despite the controversy surrounding credentialing (Walsh), the systemic approach to certifying an educator prior to entering the classroom highlights the need to apply the same pedagogical base to higher institution educators as well as tracking the production of student outcomes.

Beginning with the Coleman Report in the 1960s, researchers have referred to the output of the education system as the “education production function,” which refers to the results of certain methodological approaches that help students produce scholastically. The research often examines one of a few different intersections: teacher preparedness, the path to credentialing, academic success via test scores, and the student's achievement. Much like an advanced degree, the issue with using the number of school years or path to credentialing as an indicator of the teacher’s ability to effectively educate others on a subject is that not every student will make the same gains from each year of schooling. Whether it is the teacher or the student, the quality of the educator responsible for preparing the individual plays a direct role in how much knowledge and skill the individual develops over the school year (Hanushek).

When considering the studies on educator pedagogy training at each academic level, it is safe to assume that better-equipped and prepared educators provide the most effective classes. The Coleman Report, and the studies that followed it, highlight the effects of teacher quality on student outcomes, paying particularly close attention to the disparity between segregated schools (Fuller). By providing students with an equal opportunity to gain the same skills within a school year, society stands to gain closing a long-standing gap in academic
achievement between students of color and their white counterparts. What the studies brought to light was that teacher quality played a role in the student’s ability to gain information and skills within a single academic school year. It stands to reason the effects the Coleman Report and subsequent studies uncovered can be applied to the college and university classroom—albeit with some much needed modifications—which lacks the same meta-analysis as their primary and secondary counterparts.

One key idea that emerged from the Coleman Report highlights the need to provide students with effective educators from the outset of their learning experiences. The implication of ignoring the lax nature of educator preparedness comes to light in the research of Stanford Professor of education Eric A. Hanushek. In his research article, Hanushek examines the monetary repercussions on society within the United States for utilizing underprepared educators, “shows that a 75th percentile teacher each year generates over $400,000 in added income aggregated over a class of 30 students (compared to an average teacher). On the other hand, a [bottom] 10th percentile teacher subtracts $800,000 in aggregate from a class of 30 students (again compared to an average teacher)” (Hanushek). The importance of quantifying the dollar amount of the effects teachers have on students and society is the persuasive power it holds over policymakers and corporate America. As a capitalist-driven society, America prides itself on the ability to generate income in nearly any aspect of daily life; adding the dollar amount associated with effective versus ineffective teaching codeswitches the data and enables decision-makers to understand the benefits of developing a better education system.

A consistent difference in the quality of educators across classrooms in America allows a gap to grow between low-income students and their more affluent counterparts. Hanushek
examines the effects of teacher quality on student achievement. Hanushek utilizes student learning growth as a measure of teacher quality and asserts that

The differences in student achievement growth across classrooms, which can be taken as a measure of teacher quality, appear to be consistent and very large (Hanushek & Rivkin, 2010). Hanushek (1992), for example, estimates that the variation in student outcomes from a good to a bad teacher can be as much as a full year of knowledge per academic year; in other words, while a poor teacher gets gains of 0.5 grade level equivalents during a school year, a good teacher gets gains of 1.5 grade level equivalents. Clearly, with a string of good or bad teachers, the implications for student performance could be very large… By these studies, one standard deviation in teacher quality implies around a 0.15 standard deviation in the growth of student achievement. By this, having a series of good teachers (teachers at the 84 percentile of the quality distribution) instead of average teachers would lead to substantially different learning after just a few years. For example, 4-5 years of a good teacher could close the average achievement gap between low income and higher income students.

Who determines if an educator is the upper percentiles of teachers versus the lower percentiles of educators? Hanushek argues the growth in student achievement has a direct correlation to the quality of the teacher—more on this in the following paragraph. The compounding effect of teacher quality on student learning growth and achievement exemplifies the dire need to invest more effort into understanding the importance of establishing routes to becoming more effective educators. While Hanushek’s study focuses on the secondary education classroom, the idea behind his research parallels the conversation about professor quality. The desire to create an equitable class environment within primary and secondary classrooms should also extend to
college and university classrooms. A growing gap between students in high school due to the difference in teacher quality signals the possibility that the same effect occurs in college. Unlike the regulations primary and secondary teachers face before certification, professors do not undergo the same type of quality checks, nor do universities measure consistent student learning growth.

One of the ways policymakers ensure teachers are qualified across the United States is through an organization known as the Interstate Teacher Assessment and Support Consortium (InTASC). InTASC provides structure to the K-12 education system throughout the United States by establishing regulations for certifying primary and secondary education teachers. The organization outlines the necessary criteria individuals must meet before becoming K-12 teachers: an understanding of the learner and the process of learning; an understanding of the content knowledge; and an understanding of appropriate and effective instructional practices (including how to plan lessons, strategies for implementation, and assessment of learning; InTASC, 2011). The need for teachers to meet the three required criteria creates a slew of additional courses focused on pedagogy, such as “child and adolescent development, multicultural and special needs education, cognitive psychology, behavioral theories, classroom management, the use of technology in the classroom, and curriculum design” (Jensen). Although a course on child and adolescent development may not apply to college professors, many of the other courses offer valuable insights into the tenets of effective pedagogy by instilling foundational skills that translate into higher student outcomes. In contrast to K-12 teachers, professors face far fewer requirements to enter the classroom as an educator. Universities often require professors to attain an advanced degree—which typically includes one course on
pedagogy—a few years of work experience and to showcase their ability to teach by giving a demonstration lesson.

The approach to hiring new postsecondary educators produces a difficult problem that is hard to quantify. Students often begin their college experience within a specified field, meaning they apply to a specific program or major within a university, fully intending to graduate with a degree in that field. Universities and community colleges often utilize first-year instructors to fulfill the introductory courses many students must take to pursue a degree. The issue with the approach to using graduate student assistants without pedagogical training in introductory courses manifests in the quality of education students receive, the information the students retain, and the relationship students have to the subject following their first year. A study from Ohio State University examined the rate at which students transfer majors before attaining a bachelor's degree, “38% of students (those attending the Ohio State University) changed their major sometime between applying and leaving orientation” (Ohio State). Students change majors for several reasons, one the biggest being the nature of introductory courses and the instructors that are responsible for them. Although it is imperative that graduate students gain teaching experience, throwing graduate students into a classroom with first-year students without proper pedagogical training or guidance diminishes the learning experience for both educator and student. Moreover, while graduate student instructors gain experience in first-year classrooms as a means for universities to cut corners and costs, undergraduate students find themselves at a huge disadvantage despite paying top dollar.

What does the difference in pedagogical training amount to? Individuals pursuing a major in education develop pertinent pedagogy skills by completing copious amounts of courses focused on education. Teachers—especially those that majored in Education rather than a specific
field like English, Math, or Chemistry—accumulate practical tools for delivering engaging, student-centered lessons. On average, high school teachers must complete the same number of credit hours as other bachelor-degree-attainers.

To become a high school teacher, minimum state standards require an average of 54 credit hours of subject-specific content…approximately equivalent to any basic science major, with typically an additional 16 to 24 credit hours of pedagogical training, and 12 plus credit hours of student-teaching, which translates to a minimum of ten weeks of full-time teaching in the classroom. This makes a secondary education major, on average, 33 credit hours more than a standard science degree (e.g., biology, physics, or chemistry), sometimes requiring a master’s degree. (Jensen)

It is standard practice for recent graduates to utilize the course work completed during their academic tenure as a stand-in for work experience on their resumes; therefore, the additional time education majors spend gaining experience on the topic of pedagogy enables them to draw upon nuanced methodologies sooner than their non-education peers. Juxtaposed with a different degree attained, teachers with a degree focused on education gain additional experience developing the necessary tools for effective pedagogy earlier in their teaching careers. Assuming that a K-12 teacher with a standard bachelor's degree—insert arbitrary stem degree—equates to a teacher with an education degree undermines the entire need for anyone to pursue a degree in education. If anyone with an bachelor’s degree can teach K-12 in the field that corresponds to their degree and the time to degree attainment is shorter, “[the] secondary education major [is] on average 33 credit hours more than a standard science degree” (Jensen), then what incentive do teachers have to become better educators via the courses and time associated with an education
degree? The innate power of a teacher with a background in education empowers students to reach higher levels of understanding.

Numerous studies like that of Fuller highlight a positive correlation between primary and secondary teacher preparedness and student outcome on standardized exams, underscoring the need to better equip educators. Although standardized exams present a variety of problems, the research demonstrates that teachers with a better understanding of the techniques associated with the craft of educating others to exhibit the ability to adjust teaching styles based on the learners’ needs. The aforementioned studies highlight that a teacher’s ability to assess self-efficacy and make immediate change coincides with traditional certification rather than the number of years of experience. The impact of additional training for teachers extends beyond the primary and secondary classroom, especially when students build upon those lessons in higher education. The relationship students build with the subject matter develops into a genuine interest that leads them into a specific field of study, which aligns with the student's strengths.

Researchers often utilize standardized exams to track student outcomes over the course of the students’ education, however, the exams fail to provide an equitable means of comparing students across school districts where some students struggle for food and their counterparts have access to additional test preparation (Au and Gourd).

Standardized exams present several problematic methodologies that disregard the effects of pertinent intersections: between education and academic accessibility, educational equality, socioeconomic standing, etc. Although standardized exams embody the inequality between schools, academic opportunities, and socioeconomic standing, they represent the primary method researchers rely upon for tracking the progress of students and teachers across schools, districts, and states. Studies like that of Fuller utilize one of a few ways of tracking student outcomes and
a teacher’s added value to the class via standardized exams because there are little to no other ways to track student progression. The drawbacks surrounding standardized exams highlight the need to produce more productive ways of measuring educator effectiveness and student outcomes across age, gender, grade, state, school, and districts. Only time and meticulous research will uncover better ways to track teacher effectiveness and student outcomes.
4 Teacher Certification

University Professors, like K-12 teachers, symbolize the figurehead of authority on the subjects they are commissioned to teach; the major difference between them—in addition to the age of their students and the research aspect of higher education—is the preparation they undergo before donning the title “teacher” or “educator.” In essence, both groups strive to provide educational instruction, but the training they receive before stepping into the classroom differs drastically. Each state demands that K-12 educators meet state-specific requirements before teaching, and recent research evidence highlights teacher certification's impact on student outcomes, see Hanushek, Postareff, and Jensen. What is teacher certification? Forgive my gross reduction, but you can think of teacher certification as a year-long residency or apprenticeship in which aspiring educators become “student teachers” or “mentees” of a seasoned professional, often learning firsthand about the intersection of pedagogy and experience.

The credentialing programs high school and primary school educators must complete prior to entering the classroom often entails a variety of projects or assignments that build a pedagogical base from firsthand experience. While the credentialing program may look different in every state, the core tenant of credentialing remains the same across state lines, see (Jensen)’s explanation of the function of the Interstate Teacher Assessment and Consortium (InTASC). Through the InTASC, the United States education system holds only a portion of the academic classrooms to a specific set of standards whereas universities are free to create their independent versions of educator standards.
4.1 Summer Programs for Professors

One standout program that permeates higher education is called the Summer Institute to Improve University Science Teaching, which focuses on developing better educators in the stem fields. The professor-created and run program takes place over the summer and empowers educators by providing additional pedagogical training based on new education research and technological advances. The program's primary focus stems from a desire to revamp the pedagogical approach to introductory science courses at American Universities, which “have not changed in correspondence with advances in scientific research. Consequently, the gateway through which most students pass is antiquated and misrepresents the interdisciplinary, collaborative, evidence-based culture of science” (Pfund). The realization that there is a need to develop newer methods of teaching to match the times highlights the disconnect between advanced degree attainment and educating students in that field. More importantly, the Summer Institute’s focus on introductory courses demonstrates the growing desire among professors and students to create better learning environments from the outset of a student’s college education. Whether it is a community college or university, introductory courses represent the gateway for many hopeful students, and, more often than not, higher education institutions put first-year educators and student instructors into introductory course classrooms, which diminishes the likelihood that students will retain the information given or continue to pursue that specific field of study.

The Summer Institute mentioned above requires applicants to apply in groups and with secured funding—meaning support from their university—to attend the program. The Summer Institute’s prerequisites demonstrate the program’s attention to a college administration’s desire to enhance the pedagogy skills of its educators and provide a classroom well-versed in educational methodologies. In the two years following the Summer Institute, alumni of the
program reported a switch from a teacher-centered classroom to “using learner-centered classroom activities (active learning), measuring student learning and teaching effectiveness (assessment), and employing diversity-aware teaching strategies (diversity) increased substantially” (Pfund). The skills professors gain through the summer program represent the same set of skills primary and secondary teachers gain through the degree they earn as education majors. The transition of teaching styles following the summer institute exemplifies the necessary shift many professors must undergo to become more effective educators. By admitting groups of individuals from the same school, the Summer Institute ensures attendees retain the information given and can pass on the new teaching techniques.

Moreover, the short summer program creates a group of educators better equipped with the necessary tools to create more effective lessons and disseminate the new teaching ideology. Grouping multiple applicants from the same school enable educators to take the pedagogy skills acquired back to their university and begin affecting change in their institutions. However, the small cohort of educators often faces hesitancy and pushback from professors who feel confident in the methodology they have developed over the years. More importantly, the most common barriers to effecting change came in the forms of “time pressures, balancing responsibilities, and lack of recognition for their teaching efforts … Other barriers, such as funding limitations, also did not turn out to be as significant as predicted” (Pfund). The time constraints professors face to manage all of their responsibilities—lesson planning, grading, responding to emails, attending faculty and department meetings, leading a club or on-campus organization, producing research, etc.—underscores the need to implement pedagogical training before professors enter the classroom. By adding a specific subset of courses to graduate programs for hopeful educators or
requiring training before getting hired, universities can truly enrich students' learning experience and provide an education that matches the increase in the cost of attendance.

4.2 European Universities

In contrast to American colleges that do not require all professors to attend professional development, many European universities mandate that educators attend programs dedicated to pedagogy and educator development—Coffey and Gibbs present research on university teacher-training effectiveness, including 22 universities across 8 countries. The study examines how teacher training affects students’ understanding of the material and the student's ability to develop a nuanced conception of the content. The study connects the effects of pedagogical training to teacher effectiveness, measured by the “improvement of teachers’ skills, the development of teachers’ conceptions of teaching and learning, and consequent changes in students’ learning (as measured by improved scores on the ‘Learning’ scale of the Student Evaluation of Educational Quality questionnaire and reduced scores on the ‘Surface Approach’ scale” (Gibbs). The metrics the research utilizes to define teacher effectiveness highlight the key measurements to understanding the importance of educator preparation. An increase in an educator’s ability to teach, the educator’s ability to conceptualize the subject and teaching practices, and the change in student learning represent key desirables in creating more effective educators and learners. A positive correlation between teacher preparation and student learning exemplifies an opportunity to improve the return on investment for students and society as a whole.

The power of developing more effective educators comes to light in the research presented by (Gibbs). The additional training educators received through the study represents
what should be the standard in educator training before stepping into the classroom—much like high school teachers. Through the training program arranged by (Gibbs), educators of varying levels, including a control group that did not receive training, underwent an intensive six-week course that provided vital training, which created a noticeable difference in the way students relate to the subject material:

A teacher’s approach to teaching has been shown to relate to the approach to study of their students: student-focused teachers are more likely to have students who take a deep approach (attempting to make sense of content) rather than a surface approach (attempting to remember content) (Trigwell et al., 1999). Students who take a deep approach have been shown, in a wide range of studies, to have superior learning outcomes, particularly in terms of understanding and developing new and more sophisticated conceptions of the subject. When trainers are oriented towards changing the teachers’ approach to teaching … this will improve both student learning processes and outcomes.

A student’s ability to understand the complexities of a subject depends on more than their teacher having an advanced degree. The research suggests the need for educators to develop the necessary skills to become effective teachers by attending additional training programs beyond being student instructors during their time as graduate students. Through additional pedagogical training, educators gain the fundamental tools necessary to create a more effective learning environment. A more effective learning environment manifests in the professor's approach to leading the classroom, whether through professor-centered, one-sided lectures or student-centered interactive lessons with a plethora of group-oriented work. When professors change the focus from a teacher-centered classroom to a student-centered one, students demonstrate a
greater understanding of the material, which leads to more thoughtful inquiries into the subject rather than surface-level fact regurgitation. The study demonstrates a strong correlation between teacher effectiveness and student learning growth and outcomes.

(Pfund)’s research enables a deeper dive into the connections between preparing university educators and student success within the classroom. Although some departments, like English and composition, in postsecondary institutions already utilize newer teaching methodologies, many other departments need to begin establishing a student-centered classroom environment. This kind of classroom empowers educators and students with a better way to interact and understand a subject’s material. When utilizing the five scales on the Student Evaluation of Educational Quality—enthusiasm, organization, group interaction, rapport, breadth—to evaluate the effects of teacher training, the research uncovered “the training group’s scores improved significantly on all five scales. In contrast, the control group’s scores did not change significantly except for the scores for ‘Group Interaction’, which worsened significantly” (Pfund). A significant improvement in each category highlights a powerful reason to establish a program before professors join higher education. The shift in focus from a lecture heavy lesson to a group intensive lesson provides students with ample opportunities to engage with the subject content and gain new perspectives. American universities display a blatant disregard for the research education departments worldwide produce and continue to pressure professors to seek additional pedagogical training through various internal and external programs, unpaid and on their time.

4.3 Student-centered Classrooms

Problem-based learning—one of the many ways educators tackle the issue of transitioning to a more student-centered classroom—enables groups of students to work together toward a
common goal, gain new perspectives and approaches to the material, and develop actionable skills applicable in real world scenarios. A case study by (Allen) from the University of Delaware expanded on problem-based learning research by adapting it to large undergraduate science classrooms, and monitored, via surveys, student and professor perceptions of the course when using problem-based learning. The research revealed students responded positively to the switch in approach—despite some introductory courses reaching as many as two hundred forty students— noting students reported that problem-solving and group work helped their learning and to prepare them for their working lives, and these perceptions were backed up by independent assessments of classroom performance… in the smaller class students [reported] more positive attitudes towards, and interest in learning the subject in the smaller class, and instructors were not [daunted by] the sheer magnitude of the management task involved in monitoring up to 60 classroom groups.

The shift from a teacher-focused classroom allows professors to engage the content in a rich contextual manner rather than something straightforward from a textbook. Through smaller class sizes and ample training, professors find higher rates of engagement and more contextually rich scenarios. The real-world applicable skills students gain through problem-based learning creates a genuine interest in students, which leads to a “deeper approach” to the material. By developing classes with students at the center, universities can create environments conducive to educational excellence and growth. Through more relevant material and interactive lessons, professors provide students with ample opportunities to gain transferable skills, which exemplifies a net-positive return on an expensive education. What would it cost the university or policymakers to create this type of change?
The biggest demand comes at the forefront of establishing problem-based learning when professors and the various departments must develop “problems” appropriate to the students’ educational level. Aside from time constraints, the physical setup of the classroom could hinder the implementation of the more effective approach to teaching. The financial implications of enacting a student-focused classroom across all universities in the United States is relatively small when compared to the overindulgent nature of athletic stadiums, auditoriums, and university administration and coaching staff salaries. Through a shift in priorities, universities have the ability to establish critical practices for pedagogical development and increase the positive effects college graduates will impact on society—as previously mentioned in Hanushek’s research on the financial impact of good teachers and higher achieving students.

Similar to the research mentioned earlier by (Pfund), the effects of teacher training are linked to an increase in student outcomes, particularly the transition from a professor-centered classroom to a student-centered one. A switch in the methodology creates a more effective educator and helps develop students into better learners that gain more from the class. (Gibbs) found positive effects of pedagogical training on academics’ teaching after completing two- and three-semester-long training programs, teachers showed significant improvements in scores measuring learning, enthusiasm, and organization. However, Postareff et al. (2007) showed that approaches to teaching change slowly. The results of a cross-sectional study implied that an intensive pedagogical training is needed until positive changes in approaches to teaching emerge.

The slow-to-adopt nature of individuals already set in their ways stifles the growth of the education system’s production of skilled members of society. The time it takes to implement
meaningful changes highlights the need to establish courses and training before professors are brought on to teach in the higher education system. A recent news article by University Affairs surveyed professors at Carleton University, and an overwhelming majority of professors expressed a desire for more training in areas beyond the typical lesson planning and grading (ARYA). The desire to gain experience and a deeper understanding of social-emotional learning and tactics appropriate for the classroom in 2022. The lagging training for professors in higher education comes down to the lax and greedy approach by university administration as well as policymakers. With the attention to detail that is applied to primary and secondary education, the major latent potential for university classrooms can be unlocked.
5 Conclusion

All things considered, society suffers the greatest consequences of the selfish decisions of the collective of university and college administrations that wish to increase their financial gains rather than increase students' academic gains. The continued rising costs of gaining a college education diminish the return on investment for many high school students who pursue higher education with the hope of climbing the socioeconomic ladder. With nearly 70% of students opting for a university rather than a community college, the need to create engaging and informative introductory courses that inspire students to continue pursuing college grows exponentially (Education). When considering the fact that of the 30% of students who apply to a postsecondary institution opt for community college and only 60% of those students graduate or transfer within six years, the growing need to initiate a change to retain and motivate students to continue pursuing a costly—and ideally helpful—degree (Shapiro, Dundar and Huie). Many individuals in society miss out on an opportunity for economic or social gain—not to mention the benefits society would reap from a more diverse workforce—because of the costs associated with attaining the degree combined with boring, lecture-intensive introductory courses.

A diversion of funds from the extravagant stadiums, auditoriums, and administration salaries would benefit just about everyone—especially when the fact that over 70% of all high school graduates attend college directly after graduation. With such large droves of incoming students year after year, universities, federal and state governments, and banks continue to milk society financially while providing little to nothing of value in return. Creating a structure that prides itself on academic growth rather than the prestigious name of a university enables society to grow by empowering more individuals to find success within an already class-biased
society. A switch from a corporate approach to college administration to a professor and educator-driven university allows many more than a select few to gain substantially from attending college. Much like the issue with primary and secondary education, underpaid faculty and staff leads to an underwhelming experience and return on investment for students around the United States.

More importantly, the United States stands to gain an exponential return on improving the experience and learning growth of college graduates. A transition from corporate-minded college and university administrations to a student and professor-centered mindset allows for the justification of increased cost of attendance. Rather than colluding with university administrations to force college attendees into unforgivable loans, policymakers have the opportunity to bolster the already weak and unmonitored higher education system. By applying the same level of focus as primary and secondary classrooms, higher education can evolve into a more meaningful way for individuals to climb the socioeconomic ladder. A reimagined college experience that provides students with effective professors allows the ubiquitous bachelor’s degree to transform into something of substance, worthy of the top dollar students become indebted to attain. With the exception of university administration, nearly everyone in America stands to gain from developing methodologies to better equip professors before entering the classroom, which would provide students with the necessary means to complete a meaningful higher education experience.
6 Bibliography


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