

Exploring the Educational Value of the Undergraduate Teaching Apprentice (UTA) Experience

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Employing graduate students as teaching assistants (GTAs) is a common practice in universities across the United States. Using undergraduate students as teaching assistants/apprentices (UTAs), however, is not only less common but also often sparks debate among various stakeholder groups (e.g., teachers, administrators, community members). Moreover, relatively little empirical research has been published to support arguments on either side of the issue. The present study extends research by providing evidence to support the educational value of employing UTAs as teaching apprentices. More specifically, researchers conducted a grounded theory qualitative analysis of free-write essay responses collected from 33 UTAs throughout the course of their first semester serving as teaching apprentices. Three learning outcome themes emerged from the analysis: teaching as challenging, teaching as rewarding, and teaching as transformational. Conclusions support the educational value of UTAs as a transformative learning experience.

Key words: undergraduate teaching assistants/apprentices (UTAs), experiential learning, transformative learning

Most teachers agree with the Latin proverb that claims that “by learning you will teach, and by teaching you will understand.” In fact, the wisdom in it is borne out every time an instructor is faced with teaching a new course for the first time. Clearly, the learning curve is steep when one moves from the role of student to teacher. Given this fact, it stands to reason that students may also learn more when offered opportunities to teach others. Consequently, pedagogical practice in higher education is shifting from teacher-centered toward learner-centered where both students and instructors engage in and inform classroom discussions (e.g., Fingerson & Culley, Taylor, 2010). In doing so, learning becomes what Fingerson and Culley (2010) call “a more collaborative and participatory process” (p. 299). This pedagogical shift may have come in response to expectations of undergraduate students today who want to engage with both course material and classmates via technology and teamwork (e.g., Keup & Kinzie, 2007; Laanan, 2006). Regardless of the reason for this paradigmatic shift, the fact remains that when students are provided opportunities to teach, they learn more.

To clarify, teaching and learning theories are grounded in one of several general schools of thought. Behaviorist philosophies suggest that students learn through

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conditioning and, consequently, advocate rote repetition and a system of stimulus/response rewards (e.g., Watson, 1930). Cognitive philosophies tend to focus on mental processes as the means to learn material (e.g., Bruner, 1966; Piaget, 1926; Vygotsky, 1962). Such philosophies tend to privilege a student's ability to recognize, recall, understand, analyze, and evaluate material. Humanist philosophies emphasize self-directed and intrinsically motivated learning with an ultimate goal of becoming self-actualized (e.g., Freire, 1970; Glasser, 1996; Maslow, 1954; Rogers, 1969). Constructivist philosophies (e.g., experiential learning theories) emphasize active involvement of learners in constructing knowledge and building new ideas based on current knowledge and past experiences (e.g., Dewey, 1938; Kolb, 1984). Transformative theories of adult learning actually draw from many of these philosophical perspectives to suggest that learners engage in a combination of psychological, cognitive, and behavioral processes in ways that challenge and ultimately change their preconceived assumptions, beliefs, interpretations, and perspectives of (as well as actions and interactions in) the world around them (e.g., Cranton, 2006; Mezirow, 1991, 2000; Taylor, 1998). Thus, individuals *may learn more when they teach* because doing so affords opportunities to engage with material in these overlapping ways.

Teaching as a means by which to foster learning is well understood in graduate programs throughout the professoriate. Hence, graduate teaching assistants (GTAs) are commonly employed not only as cost effective human resources by which to educate undergraduate students, but also to enhance their own mastery of course content (e.g., Henning, 2009; Levingson-Rose & Menges, 1981; Park, 2004). For these reasons, the GTA experience is a central component in preparing future faculty (PFF) programs (Darling, 1999). If teaching promotes learning and the graduate teaching assistant (GTA) model is an effective means by which to do so, then it stands to reason that employing undergraduate students as teaching assistants/apprentices (UTAs) could be an equally beneficial pedagogical strategy.

Employing undergraduate students as instructional assistants actually dates back to the 1960s (Goldschmid & Goldschmid, 1976). More than fifty years later, however, undergraduate teaching assistants (UTAs) continue to be used far less commonly than graduate teaching assistants (GTAs). This may be due in part to the fact that relatively little empirical research exists to support the educational benefits of doing so. Whereas a good deal of research supports the exponential learning outcomes achieved in GTAs, much less has been done to support the practice with UTAs. Unfortunately, this void in research only serves to strengthen the arguments of those opposing the use of UTAs in college classrooms.

One oft-cited claim is that UTAs merely help save money as class sizes grow and economic resources wane. Although this cost saving practice could be touted as a benefit, it is most often framed in a negative light as a claim that UTAs are nothing more than a form of cheap labor (Fremouw, Millard, and Donahue, 1979). Firmin (2008) contends, for instance, that “it is simple math that paying multiple professors to teach smaller sized classes is far more expensive than hiring one professor to teach students en masse” with the help of an instructional assistant or two (p. 1). Moreover, UTAs cost even less than GTAs (Roberts, Lilly, & Rollins, 1995).

Some research does exist to support the value of the UTA experience beyond that of cost savings. Foremost is the benefit to the UTA of learning through teaching. In addition to developing their own teaching skills, Owen (2011) explains that UTAs are “exposed to discussions about the developmental nature of learning, which can result in increased agency and efficacy for their own learning” (p. 57). Similarly, Mendenhall and Burr (1983) report

that UTAs develop leadership skills for facilitating discussions and mentoring among students (p. 185). Moreover, the one-on-one faculty mentoring afforded to UTAs from the professors they assist may lead to “a greater appreciation of what it means to be a teacher, “thereby making them “better students . . . and strong candidates for receiving graduate teaching assistantships” (Pruett, 1979, p. 32). In essence, the UTA experience can lead to “better understanding of the teaching and learning process, deeper appreciation of the subject matter, pre-professional training, improvement of writing and presentation skills, development of leadership and self-confidence, and better time management skills” (SUNY Faculty Senate, 2012, p. 2).

Some research also suggests that UTAs may positively influence the students they serve by acting as liaisons or “bridge[s] between faculty and students, while working to understand the implicit rules and expectations associated with their context” (Dotger, 2011, p. 158). UTAs may also function as “top-rated students” serving as “role models” other students might aspire to emulate (Socha, 1998, p. 77). As such, UTAs may help promote a classroom climate that “stimulates peer interest in the transformative possibilities of education” (Owen, 2011, p. 56). Ultimately, students learn from UTAs because they act as liaisons between students and the professor, understand intimately the pressures and needs of undergraduate students, and provide examples that relate more directly to students’ lived experiences (Roberts et al., 1995).

To achieve these educational benefits both for the UTAs as learners and for the students they work with as teaching apprentices, several potential obstacles must also be overcome. For example, UTAs may experience anxiety about grading, about establishing and maintaining both credibility and rapport with students, and about balancing relationships with peers inside and outside the classroom. Owen (2011) clarifies, for example, that “the processes of organizing and evaluating peers and near-peers can be anxiety-producing for many students, especially if they have relationships with class members that extend outside the classroom” (p. 57). Moreover, students may perceive information from UTAs as “less valid” than that offered by the faculty member (p. 58). Such potential obstacles can be addressed and overcome through appropriate UTA training in instructional and assessment best practices and ongoing mentoring from the faculty member throughout the process (SUNY Faculty Senate, 2012). Thus, although few empirical studies have been conducted to support the educational value of UTAs, some published essays suggest that UTAs may reap similar rewards from their teaching apprenticeship experiences as their GTA counterparts.

Transformative Learning

Perhaps one of the most important benefits in serving as a UTA is that of learning more than what one would as a traditional classroom student. In terms of educational theory, then, the act of teaching may provide UTAs with opportunities for experiential learning (e.g., Dewey, 1938) as they process cognitively the meaning of concepts (e.g., Bruner, 1962; Piaget, 1926) and attempt to teach them to others. As Roberts et al. (1995) suggest, UTAs may cognitively retain more class concepts when they must translate the information to others. Owen (2011) further contends that through the act of teaching, UTAs “may be exposed to discussions about the developmental nature of learning, which can result in increased agency and efficacy for their own learning” (p. 57). Because the act of teaching may employ these and other aspects of behaviorist, cognitive, humanistic, and constructivist philosophical perspectives, it may be most appropriate to ground our examination of UTA experiences in transformative learning theory. In essence,

transformative learning may draw from and extend any of these philosophical approaches as they ultimately transform learners' preconceived notions about the world around them—in this case, the world of college teaching and learning.

Transformative learning theory examines not just content or process learning as conceived in traditional classrooms, but also how adult learners understand, evaluate, and apply information in ways that ultimately may reframe their world-view (Mezirow & Associates, 2000). To clarify, transformative learning both supports and extends the core principles of conceptual understanding as described in cognitive theories to include a conscious awareness and critical examination of the tacit assumptions of self and others. Similarly, transformative learning both supports and extends the notions of active experience and reflection espoused in humanist and constructivist theories to include the trying on of entirely new roles and behaviors as a result of the subjective reframing that transpires after tacit assumptions have been challenged (p. 4). For UTAs as adult learners, then, educational value might exceed what is gained as a student by challenging their assumptions about not only the course material, but also about the roles of both teachers and students in the process.

To extend what is known about the educational value of employing undergraduate teaching assistants (UTAs) in college classrooms, the following research question was posed:

RQ: How do undergraduate teaching assistants perceive their experiences inside and outside of the classroom over the course of a semester?

As described in the preceding paragraphs, a number of articles have been published that espouse the potential benefits of employing UTAs in college classrooms. However, because very few of them actually employ data-driven empirical methods to examine the role of UTAs, the research question posited is intentionally broad. In doing so, the researchers hope to reveal a range of conclusions that will not only inform the professoriate regarding the educational value of the UTA experience, but also serve as suggestions for future research on this important topic.

Method

Participants

Participants for this examination were drawn from three sections of the CIS 590 (Internship/Apprenticeship in Instructional Communication) course offered in the College of Communication and Information at the University of Kentucky. Advanced upper division undergraduate students take this course concurrently while serving as UTAs for a variety of professors in the college. In addition to the mentoring UTAs receive from the faculty they assist, the CIS 590 course provides them with opportunities to read about, discuss, practice, and reflect on best practices pedagogical research that informs their UTA experience. More specifically, the learning outcomes for the course are to: (1) prepare and deliver three lesson plans over the course of the semester; (2) develop a reflective teaching portfolio; (3) compose a reflective analytical response about a lesson delivered by the faculty member for whom they assist; and (4) compose a self-reflective analytical essay about each of the three lessons they teach based on a pre and post coaching session with the faculty member and an observation of a recording of the class period.

Recruitment

Participants were 33 students enrolled as undergraduate apprentices during the Fall 2012, Spring 2013, and Fall 2013 semesters. Only first-time UTAs were asked to participate. These apprentices served in a variety of courses offered in the College of Communication and Information with regard to topic (e.g., journalism, workplace communication, health communication, interpersonal communication), level (e.g., 100, 200, 300, 400), enrollment (ranging from 25 students to 250 students), and purpose (e.g., skills, content, theory, methods). Permission was granted by the university's Institutional Review Board to analyze their reflective free-write essays for this study.

Procedures and Protocol

Two reflective free-write essays were examined for this study. The first essay was completed during the first week of the semester and the second was completed during the last week of the semester. For each essay, students were provided a six-question prompt asking about their perspectives on teaching, as well as expectations and actual experiences as an undergraduate apprentice (UTA). The goal in using similar prompts was to garner insight about possible changes over the course of the semester (see Table 1).

Table 1

Free Write Essay Question Prompts

Free Write #1 Prompt Questions	Free Write #2 Prompt Questions
1. Do you see teaching as more of an art, science, or skill? Why?	1. Do you see teaching as more of an art, science, or skill? Why? How has this changed (if at all) since the start of the semester?
2. What are your expectations of being an apprentice before the start of the semester?	2. What were your expectations of being an apprentice before you started the semester and how have they changed (if at all)?
3. What are the biggest struggles or challenges you think you'll experience as an apprentice and how will you try to manage them?	3. What are the two biggest struggles or challenges you've experienced as an apprentice since the semester began, and how did you manage them? Please provide examples to illustrate your point.
4. What do you think will be the most rewarding part of being an apprentice?	4. What has been the most rewarding part of being an apprentice? Please provide an example to illustrate your point.
5. When you think about your role as an apprentice, do you see yourself more as a student or a teacher?	5. When you think about your role as an apprentice now, do you see yourself more as a student or a teacher?
6. Do you think your role as an	6. Has your experience as an apprentice

apprentice will affect your role as a student in your other classes?	affected your role as a student in your other classes? If so, how?
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In the second essay, students were invited to discuss continuing challenges and rewards, as well as to reflect on their previous answers to the other questions. Students were also instructed to compose these essays in a free-write “diary entry” form. In other words, they could include any information they wanted to and could frame their responses in first person narrative form. Student essays were submitted online to the course website. Thus, a digital archive of essays was available to the researchers at the end of the semester. Before giving consent, students were told that all identifying information would be removed (e.g., student and instructor names) and replaced with pseudonyms (e.g., Student A through Student FF). In total, 33 students gave consent. Therefore, the researchers examined 33 reflective essays from the beginning of the semester as Free Write #1 (hereafter, called FW1) and 33 from the end of the semester as Free Write #2 (hereafter, called FW2). Thus, the researchers coded both FW1 and FW2 responses for students A through FF.

Data analysis

The researchers used a constant comparative method whereby theoretical concepts are derived from a qualitative, thematic analysis of the data (Corbin & Strauss, 2008). First, each researcher read the essays individually and completed open coding of the data. During this coding, the researchers made note of similarities and differences among the essays overall, as well as consistencies and variations across the two assignments for each student. Once this initial coding process was completed, the authors met to discuss their findings. There was high agreement about the emergent themes from this first iteration. The researchers discussed any discrepancies and came to agreement on the interpretation of the data. The researchers then returned to the data to construct comprehensive themes based on redundancy (prevalence of responses about a similar topic) and intensity (emotional valence, breadth, and depth of explanation in responses) (Lichtman, 2010).

Results

Three themes emerged from the analysis of the UTA free-write reflective essay assignments. These themes are *teaching as challenging*, *teaching as rewarding*, and *teaching as transformational*.

Teaching as Challenging

The first theme focuses on the variety of challenges UTAs (apprentices) experienced over the course of the semester. These challenges occurred both inside and outside the classroom. Subthemes focus on anticipated challenges, realized challenges, and unexpected challenges. The emotional valence of the narratives shifted from feelings of constraint early in the semester to feelings of confidence by the end of the term.

Anticipated Challenges. A majority of apprentices discussed anticipated challenges about taking attendance and grading. Apprentice DD wrote, for example:

The main challenge I see myself facing currently is with coding [*i.e., grading*] for the class that I am an apprentice for the assignments are nearly all papers. I recently took theory with [my faculty mentor], who is by far the hardest professor I have had when it comes to grading papers. Since that class my expectations for a good paper have increased, but the class I am looking at papers for will be primarily sophomores and freshmen. I am terrified that I will be too hard on them since I no longer remember the level I wrote at when I was at their point in education.

Apprentice U echoed this sentiment by stating: “I fully expect to do some dirty work (grading, organizing, making copies, etc.), but at the same time, I hope to become a larger part of my students’ learning experience. I expect to be challenged on several different levels— whether it is by time limits, tough questions posed by students or other matters.”

A good number of UTAs also expressed concerns about preparing and teaching their own lessons. Apprentice R described such concerns this way:

Going into this apprenticeship my expectations are to learn and to take on teacher responsibilities. I expect that I will learn how to deliver lectures in a way that students are able to understand. I feel that by actually taking on a lecture myself will help me to get over my fear of getting up front and bringing information to the classroom.

Although Apprentice R seemed hopeful about addressing the challenge of effective lesson planning, Apprentice D expressed more hesitation: “I think the biggest challenges I will face are to know whether or not my lesson plan will cover all the necessary material and whether or not I am able to teach the material well enough. I fear that I will leave information out or won’t be able to transfer my knowledge skillfully enough; this in turn leaves the students at a disadvantage because they weren’t taught properly.”

Realized Challenges. When in the throes of the apprenticeship program, UTAs revealed how their anticipated challenges actually manifested themselves in the classroom. In particular, apprentices seem to have more clarity and awareness regarding the difficulties involved with grading, lesson planning, and teaching in general.

For example, many UTAs discussed how difficult it actually was to compose good exam questions and to grade them. They pointed out how much more work and effort it took than they had expected at the beginning of the semester. Apprentice A, for example, claimed: “I have realized that grading papers and forming test questions isn’t as easy as I expected. It is hard to be a student writing papers and taking exams and then be the person who decides the grades of others. I have to remind myself that I play two roles and have to keep them separate.” Similarly, at the beginning of the semester, Apprentice DD struggled with worrying about fair grading. By the end of the semester, she reported about how she addressed this challenge:

By the end of the course, I had started grading each paper twice, going through the entire stack once looking at the format only and writing down a score, then going through for content. This is the only way I could be sure my grading was fair and consistent.

Many apprentices also explained that over the course of the semester they realized that effective instruction is often time consuming and that far more goes into teaching a university level course than they had ever expected. For example, Apprentice A explained that “the workload for teachers is more than I ever imagined and is very time consuming.” Apprentice K described her shift in thinking over the course of the semester this way. In FW1, she wrote: “I am confident in my ability to public speak, but teaching a class of 150 of my peers will definitely be scary for the first couple of classes.” By the end of the semester, she acknowledged that even when prepared, there is always an element of uncertainty with teaching and lesson planning:

No matter how much I may get ready for a class, there is always a chance that there will be a technical difficulty. Students with questions that I may not be able to answer, or some other unforeseen obstacle. I am someone who likes to feel totally ready for any circumstance; however, I am getting a better understanding for improvising and being equipped for any and every situation.

Similarly, at the beginning of the semester Apprentice D believed the main struggle would be about lesson planning and being effective in front of the class and by the end of the semester reported:

I wanted so badly to include every point; however, I learned how to narrow things down and how to stress the most important parts while also touching on the minor stuff as well. This experience will really help me as a student, because I have been guilty of presenting everything in my studies in my presentations. Doing this has often resulted in me speaking very fast in my presentations, due to the sheer amount of information I would have to cover. However, I now realize that you cannot always cover every point and that you just have to cover the most essential parts and leave the rest of the responsibility to the student.

Unexpected Challenges. In addition to the anticipated and realized challenges, apprentices also discussed unexpected challenges that emerged during the course of the semester. One such challenge had to do with managing existing relationships within the classroom. Many apprentices explained that having friends enrolled in the class they were apprenticing for created challenges. As Apprentice G reported, “One challenge of being an apprentice...is personally knowing students outside of class...They don’t see me as [an] apprentice...but as a friend.” He went on to explain how a friend who was also a student in the class jokingly asked him for an A. He summed up his evaluation of this challenge by saying, “I imagine the few students I do know take my presence as an apprentice less seriously than those who don’t know me.” Apprentice I voiced a similar concern:

One of the biggest struggles that I have experienced so far is having additional classes with my ‘students’ outside of the apprenticeship. I believe that factor hurts my credibility.

He went on to explain that this may be due to the fact that these fellow students still see him a peer student rather than an instructional assistant. To overcome this challenge, Apprentice I talked about making extra efforts throughout the semester to “lead by example” and trying to be a “more focused and participative student” in his other classes.

Many apprentices also discussed an unanticipated challenge with regard to feeling uncertain about their role alongside the faculty mentor in the classroom. More specifically, apprentices felt uncertain about whether they should speak up and participate as teachers with the faculty mentor or take a more silent and secondary role. Apprentices C and L clarify this dialectical tension:

The professor always encourages us to add any comments during the lessons in class. I would love to speak up, but sometimes I wouldn't know if what I would say would be meaningful to the class. (Apprentice C)

One of my biggest struggles throughout this past semester has been finding ways to try and get more engaged in the classroom, in front of the students. Although I continually paid attention and interject my feelings on certain topics being presented, I feel as if I could have been more vocal on certain issues that I felt strongly about, and been more of an asset during lecture. (Apprentice L)

In sum, apprentices reported a number of anticipated, realized, and unanticipated challenges over the course of their UTA experience. Many also believed, however, that they experienced growth in large part because they had to deal with them. Thus, the same challenges actually caused them to experience teaching as rewarding, as well.

Teaching as Rewarding

Just as subthemes about the challenges of teaching focus on anticipated, realized, and unexpected struggles, so did subthemes about the rewards of teaching. These subthemes are discussed in the following paragraphs.

Anticipated and realized rewards. Many UTAs reported how they began the semester with certain expectations that were then realized over the course of the semester. In FW1, for example, apprentices expected to become better at grading the course assignments, managing the classroom, and teaching over the course of the semester. For instance, Apprentice I discussed her initial expectations and perceptions of the apprentice experience by stating:

I expected that I would attend class consistently. I expected that I would be a resource to the students and assist them throughout the semester. I also expected that I would be a resource to the professor by assisting her in in answering emails, grading assignments, and providing in-class media examples for the course content.

Although her expectations focused mainly on procedural tasks related to the class, she later reflected on how rewarding these activities had become for her. In FW2, the apprentice penned:

The most rewarding part of the experience has been helping the professor and students. I realize that the professor is extremely busy, so anytime the professor needs assistance, I will make sure I do that first. This includes preparing exam questions, finding relatable media clips, and responding to general emails or concerns from students. This experience has also allowed me to help students too. My lectures

provide examples that are current and applicable, and I also provide assistance by proof-reading their blogs and offering constructive criticism.

Hence, although some of the initial expectations of the apprentices revolved around procedural tasks, performing them well over the course of the term emerged as something rewarding for many UTAs.

In addition to expressing rewarding feelings about managing procedural tasks effectively, apprentices also described a sense of fulfillment about being able to help other students excel in the classroom. For example, in FW1, Apprentice L wrote about his expectation to help the professor manage the class and to help students succeed. He did not really describe how he would do so. In FW2, however, he described in detail about his ability to help students succeed as the most enriching part of the apprentice experience:

The most rewarding part of being an apprentice so far is just my ability to help individuals in the class when they need it most...I have been in their shoes, just last semester, and know how stressful a test can be, so anything I can do to alleviate that stress makes me happy.

Similarly, based on FW1, Apprentice N expected to help with mundane, procedural tasks. In FW2, however, he described the intrinsic rewards he experienced when helping other students while serving as an apprentice:

It is gratifying to know when I'm able to help someone out by clearing up something in the syllabus or making them feel more relieved and confident about an assignment that they were worrying about because it was unclear to them...Knowing I was able to help someone made me happy about what I was doing.

Overwhelmingly, the apprentices acknowledged the sense of satisfaction they felt about helping other students in their rewarding role as a UTA.

As with challenges, UTAs described expectations about being an apprentice and how these expectations were realized in rewarding ways. They also discussed unanticipated rewards, which included a bolstered sense of self-confidence and rewarding relationships with both the students enrolled in the classes they assisted with and the professors who mentored them as UTAs.

Unexpected rewards. Beyond the realization of expected rewards, apprentices also gleaned unforeseen rewards as a result of their experience as a UTA. They talked specifically about an increased sense of confidence both in their own schoolwork as students in other classes and in their ability to communicate effectively with others. In FW2, for example, Apprentice D discussed the confidence she gained from serving as an apprentice:

The most rewarding part of my experience has been the confidence I have gotten from it. I now actually feel somewhat smart, which has not always been the case for me...It [the apprenticeship program] has really helped me in my other classes. I have no apprehension of speaking in front of others anymore, regardless of the topic.

Apprentice D also revealed how her UTA experience boosted her confidence about achieving in her other classes and when speaking publicly. Apprentice G explained it this

way. He wrote, “Knowing what goes into teaching has made me a better student. I was able to understand why my professors were assigning me certain assignments and what they were looking for.” This unexpected reward about how the apprenticeship experience made them better students in their other classes was pervasive among the free write essays.

The UTAs also discussed unexpected relational rewards they experienced during the course of their time as an apprentice. Many wrote that they did not foresee a reward focused on the development of relationships with both faculty members and other students and how truly rewarding they found such relational developments to be. In FW2, for example, Apprentice Z described the unexpected reward of forging relationships with other students and with the professor as a result of serving as an apprentice:

My favorite part of being a teaching apprentice was creating new relationships. I got to meet a lot of people my age and create fun friendships. I also enjoyed getting to know the professor more. I view her as a mentor and can now go to her for advice.

In sum, apprentices reported how many anticipated rewards were realized over the course of the semester. These included performing procedural tasks effectively and helping fellow students achieve. They also revealed unexpected rewards realized as a result of their UTA experiences such as boosts in self-confidence, improved performance as students in their other classes, and forging positive relationships with their faculty mentors and students.

Teaching as Transformational

The third major theme that emerged from the analysis is teaching as transformational. The subthemes in this area are categorized as power and role negotiation, empowerment, and perspective regarding the nature of teaching and learning in college classrooms.

Power and Role Negotiation. The first subtheme focuses generally on perceived identity as UTAs in the classroom. Specifically, apprentices found themselves continually trying to balance being both a student and a teacher throughout the semester. Apprentices expressed a dialectical tension about being a peer with students in the class and an authority figure. Apprentices discussed finding themselves on different points of the power continuum at different points and in different situations throughout the semester.

In some cases, apprentices reported feeling equal to the students they served. Apprentice F said, “One challenge of being an apprentice...is personally knowing students outside of class...They don’t see me as [an] apprentice...but as a friend.” Others expressed similar concerns about being friends with students in the class and the tension that sometimes provoked with regard to their identity as a UTA. Apprentice I summed it up this way: “One of the biggest struggles that I have experienced so far is having additional classes with my ‘students’ outside of the apprenticeship. I believe that factor hurts my credibility.” Others talked about the benefits of this peer status in that students seemed more comfortable asking them questions than they did about asking the professor. In one case, a professor capitalized on that by “encouraging the students to view [the apprentice] as an ‘ally’” (Apprentice B).

Ultimately, many apprentices acknowledged that they could not divorce themselves completely from the student role even though they were not students in the classes for which they were TA-ing. Apprentice G said, “As an apprentice, I feel that my role is more of

a student...in effect, I am learning right along with the class” through learning how to create lesson plans and lead a class. In other words, even though they were a different type of student (learning how to teach course content rather than just learn it), many apprentices still perceived themselves as students and, in that sense, as equal to the students they served.

Conversely, many apprentices also realized a certain power differential between them and the students they served. Apprentice D reported realizing this power difference as early as FW1 when he said, “A student asked me and the other apprentice to clear up an issue about something the professor had said. It was a minor issue, but it was still the first that that I was ever viewed as a person with authority in a classroom.” Some apprentices also discussed certain experiences they used to help them and their students recognize the difference. For example, as Apprentice F explained, after teaching his own lecture, “Students began to view [me] in a more respectable light...I believe this was necessary to overcome the struggle of” not being seen as a person of authority.”

Some apprentices explicitly reported how they used the power difference between them and the students they served to maintain professional distance. For example, Apprentice C said that for the majority of the time, she sees herself “as more of a teacher. I...view the students in the class as students and not classmates. I do not favor anyone in the class, even if I am friends with a few of them.” She even went on to say that she emphasizes that power differential by “com[ing] to class dressed nicely and giv[ing] a good impression of myself.” Similarly, apprentice E realized that he had to be perceived as the person in authority in order to keep order. He said, “[When] establishing my...status as a TA in the class environment...the primary difficulty arises when I have to establish *authority* as a TA.” Moreover, “when these situations arise and if students question my role, I have to notify the students of our [class policies] as well as my status as TA.” In this case, Apprentice E intentionally referred to himself as a TA to emphasize the power difference between him and the students.

Several apprentices reported tensions about this power differential dialectic when coding (i.e., grading) papers and exams. Apprentice A wrote, for example:

It is hard to be [the] student writing papers and taking exams, and then be the person who decides the grades of others. I find myself feeling bad for giving people certain grades because I know that as a student I wouldn't want that grade.

He went on to say that he tries to deal with this tension by “continu[ing] to remind myself that I play two roles and I need to keep them separate.” Apprentice B also emphasized the struggle she feels when grading papers; she says, “Grading written assignments has been a struggle for me because it is very subjective ...[and] I worry about giving each student the most accurate and correct grade as possible.” In this sense, Apprentice B expressed concern about owning her authority to assign grades because she understands the subjective nature of these type of assignments and failed to recognize her expertise in using an established rubric to determine them.

Finally, many apprentices talked about the power differential and role negotiation with regard to lecturing. For example, Apprentice C wrote, “The professor always encourages us to add any comments during the lessons in class. I would love to speak up, but sometimes I wouldn't know if what I would say would be meaningful to the class.” Apprentice H described it this way: “It is almost as though I have a ‘switch’ that I flip on to forge myself into ‘TA mode’ [for interacting with students], even though I am still just an undergraduate student myself.” And Apprentice M summarized it like this: “I feel like I am

kind of stuck on the middle of a bridge. I'm not quite sure how to present or distance myself in class from my peers, and I also don't see myself as a teacher to them."

Empowerment. The second *teaching as transformational* subtheme concerns the personal empowerment apprentices felt by the end of the semester. This subtheme was particularly visible when examining the shifts in how apprentices described their role as apprentices at the beginning (FW1) and end (FW2) of the semester. Apprentice M, for example, explained that this experience was empowering in terms of building her confidence. She wrote that "it has built a lot of confidence in myself, a confidence that I can use going forward." Apprentice O reported a similar experiential shift. In FW1, Apprentice O described personal goals for becoming a confident and credible teacher. In FW2, Apprentice O exclaimed: "I believe that [by] becoming more involved with the class and having teaching time has allowed me to achieve these goals. I now find myself being very confident and comfortable in front of the class."

Others wrote about becoming empowered as learners. Apprentice V articulated it as realizing "how deep my passion is for learning." Apprentice K noted empowerment in terms of how much she "enjoy[s] being a leader, so this opportunity is perfect for me." Moreover, she emphasized how empowered she became as she learned "effectively [to] guide students" based on the "positive feedback that I am helping students" she received.

Finally, many apprentices noted an increased sense of empowerment based on the changing ways they were treated by the faculty mentor over the course of the semester. Apprentice T summed this subtheme up well by recalling that "I see myself as a teacher when I think about my role as an apprentice...the professor I'm assisting treats me like one of her colleagues."

In sum, many of the tensions apprentices reported regarding power and role negotiations served to empower them as they sought ways to manage these roles effectively. The fact that the apprentices in this study recognized teaching to be transformational in these ways points to the educational value of utilizing undergraduate teaching assistants in the college classroom. An added benefit is revealed in the next section, which highlights the perspective transformation these apprentices experienced regarding their preconceived assumptions about the nature of teaching and learning.

Perspective. The third *teaching as transformational* subtheme that emerged focused on how the apprentices' perspectives on teaching and learning changed over the course of the semester. This perspective transformation was most evident in terms of how apprentices (a) define teaching and (b) view other teachers.

How apprentices define teaching represents one of the most powerful changes they experienced over the course of the semester. Essentially, they all reported how much more is involved in teaching than they assumed at the beginning of the term. The apprentices were prompted in both FW1 and FW2 to describe whether they perceived teaching as more of an art, a skill, or a science. In comparing FW1 and FW2 responses, it became clear that their perspectives shifted as a result of their UTA experience. For example, Apprentice K said in FW1, "Teaching is an art...because it is ever changing ...[and] each teacher teaches his or her students differently." In FW2, however, Apprentice K expanded on this point by saying "I can now say that I believe teaching is more of a skill. At first I viewed it as an art, because it is abstract and ever changing, but now I fully understand the work, preparation, and practice that is necessary."

Similarly, some apprentices' perspectives grew to realize how much more creativity is involved than originally assumed. In FW1, for instance, Apprentice R saw “teaching as both an art and a skill.” In FW2, however, Apprentice R realized how much artistry is involved by writing, “There are various teaching styles as there are pieces of art.” Apprentice CC also realized the multifaceted nature of teaching by semester’s end. Apprentice CC reported in FW1 that “I feel that teaching is definitely not a ‘science’...teaching is very subjective.” But by the end of the term Apprentice CC’s perspective shifted to realize how much of teaching can be conceived “as more of a social science” because of “the need for objectivity” and for “keeping your emotions and biases out of the equation.”

Whereas many apprentices assumed teaching to be an art, a skill, or a science at the beginning of the term, their definitions grew to account for the multifaceted nature of teaching and learning by the end of the term. Not only did these apprentices experience a perspective transformation about the definition of teaching generally, but they also experienced a similar perspective transformation regarding how they view teachers in their other classes. More specifically, these apprentices developed an increased sense of empathy and respect for what teachers do and how much effort they put into the tasks of preparing and presenting lessons, as well as assigning and grading student work. They also reported how this perspective transformation corresponded to them working harder as students in their other courses.

With regard to increased empathy and respect, for example, Apprentice N wrote in FW2:

I do find myself feeling more sympathetic toward teachers than I did in the past—not that I didn’t have respect for what they did, but now I realize how much time and effort goes into planning a class and thinking about an assignment.

Apprentice R illuminated this perspective shift using the word *empathy* and saying, “My role [as an apprentice] does affect other classes...I have more empathy for instructors.” And Apprentice K explained, “I now know the true work, preparation, and practice that are necessary to succeed in teaching, and I have a new found appreciation for those who work so hard to further my person[al] education.” These kinds of comments were shared in many of the FW2 apprentice essays.

Apprentices also experienced behavioral changes as students as a result of their perspective transformation. A majority of UTAs reported consciously trying harder in their other classes because of what they learned about teaching and learning in their roles as apprentices. For example, Apprentice K wrote, “I am a more attentive, respectful, and appreciative student because of my experience!” Apprentice FF said that this experience “will carry through to my student life because now I can see the other side to a classroom.” Apprentice FF went on to provide an example: “Participating in class is something that I already do but now I understand why it’s so important to read and ask questions.” Similarly, Apprentice W wrote, “Being an [apprentice] has definitely affected my role as a student. I am a lot more understanding of professors and the amount of time and work they put into each class...this experience has helped give me a new perspective which I will try and use [as a student].” Perhaps Apprentice CC summarizes the overwhelming transformational learning experience articulated throughout the essays by saying, “It was impossible to not be affected by my experiences as an apprentice.”

Discussion

The question this research project sought to answer focuses on the educational value of utilizing undergraduate teaching assistants/apprentices (UTAs) in college classrooms. To answer this question, the researchers asked apprentices to report their perceptions about the experience over the course of the semester in the form of free-write reflective essays. The focus of this analysis was specifically on the transformative learning potential of UTAs as a pedagogical strategy. In fact, the apprentices in this study did report positive learning outcomes in a number of areas.

For example, apprentices reported an improved understanding of course-related content and their ability to teach it to others. In this way, just as GTAs benefit from such experiences, so might UTAs (e.g., Darling, 1999; Henning, 2009; Levingson-Rose & Menges, 1981; Park, 2004). Moreover, however, these apprentices reported growth and empowerment as leaders with regard to classroom management, teaching/public speaking, and grading (Mendenhall & Burr, 1983). This finding confirms previous research by Owen (2011) and Roberts et al. (1995), among others. Apprentices also realized their value in serving as a “bridge between faculty and students” (Dotger, 2011, p. 158). For these reasons alone, there is clearly educational value in utilizing UTAs in college classrooms.

Foremost, however, is that this analysis extends transformative learning theory to confirm that apprentices also challenged tacit assumptions about the nature of teaching and learning and, consequently, changed their perspective in ways that demonstrate empathy and respect for the profession. In so doing, these apprentices became better students in their other courses and quite possibly may become better advocates for the teaching profession after graduation. The UTAs in this study experienced perspective transformation in terms of how they define teaching as a multifaceted and rigorous task employing creative artistry, scientific methods, and practical skills. They also experienced perspective transformation that changed the way they approach the learning experience when engaged as a teacher and as a student. Essentially, by serving as UTAs, these adult learners’ preconceived notions about the world of college teaching and learning are forever changed. The way they understand, evaluate, and apply information related to teaching and learning appears to have, in fact, reframed their world view (Mezirow & Associates, 2000).

Implications

Based on this discussion, we offer four specific recommendations for programs choosing to implement a UTA program. First, university departments should focus beyond financial benefits by examining the learning outcome achievement of UTAs in the classroom. As such, UTAs should do more than take attendance and grade papers. They should engage in lesson planning and instruction, as well. They should also work closely with faculty mentors and fellow UTAs to understand fully what is involved in being an effective teacher.

Second, university departments ought to have clear selection criteria for choosing UTAs since these UTAs will be doing much more than taking attendance. The criteria should include, for example, being of upper division undergraduate status in high academic standing (e.g., GPA of 3.3 or higher), having successfully completed the course for which the student wants to apprentice (e.g., B or better), as well as being nominated by the teacher of the course and endorsed by the program director or department chair.

Third, departments must not only have a rigorous selection process for choosing UTAs, but should also select faculty members that are themselves outstanding teachers and willing to mentor the UTA throughout the process. Faculty mentors have an obligation in this process. These faculty mentors should understand that students are not just assisting in the classroom. Rather, they are apprentices and, as such, ought to experience all facets entailed in teaching a college course.

Fourth, departments ought also to create a course that mentors UTAs as a group regarding general pedagogical best practices while TA-ing throughout the semester. Such a course can prepare students to develop lesson plans, understand and practice grade norming, and create teaching portfolios that may guide them in future teaching endeavors.

Limitations

Although the results of this study provide important insight into the use of UTAs in the college classroom, caution should be taken before generalizing these results. First, in semesters one and two, the researchers asked participants to complete three free-write reflective essays. During the last round of data collection (i.e., Fall 2013), however, the CIS 590 instructor reduced the number of essays from three to two. Therefore, the research team had to discard the mid-term essays collected in semesters one and two from the analysis. Second, the sample size is small ($n = 33$) and limited to UTAs in one college and at one university. Thus, the results may not be generalizable to other populations. Moreover, the data examined in this study was perceptual self-report data offered by the apprentices. As such, it is limited to the assessment of affective and not cognitive or behavioral learning outcomes. Despite these limitations, the conclusions do provide insight and suggest several directions for future research.

Future Research

To assess further the educational value of UTAs in college classrooms, additional research efforts are needed. Certainly, studies like this one ought to be replicated at other institutions and in other departments and colleges to determine potential generalizability. Do UTAs helping with courses in the hard sciences, humanities, and fine arts experience similar types and degrees of transformative learning? Likewise, do UTAs helping with courses in other types of institutions (e.g., tribal colleges, community colleges, private liberal arts colleges, four year public colleges and universities) experience similar transformational perspective shifts as these apprentices at a public research university in the mid-south did? Finally, additional research methods/designs ought to be employed to enhance our understanding about the kinds of learning outcomes achieved and to what degree they might emerge from UTA experiences like the one described here. Although this present study revealed dramatic perspective transformations with regard to affective learning, additional studies ought to be designed and conducted that focus similarly on cognitive and behavioral learning outcome achievement.

With these ideas for future studies articulated, we have come full circle in terms of the present study. Just as there exist both economic and educational benefits for employing graduate teaching assistants (GTAs) in college classrooms, so, too, does there appear to be both economic and educational value in utilizing undergraduate teaching apprentices (UTAs) in such ways. Benefits range from content mastery, leadership skill development, and course management achievement to perspective transformation of students' tacit assumptions and

world-view regarding the nature of teaching and learning in college classrooms. Perhaps, together, faculty mentors and UTAs can make a difference in changing the world of higher education in important and meaningful ways.

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