

The Art and Science of Teaching: A Continuing Education Certificate Program

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Abstract

This article reports on a research study that resulted from the authors' personal experience with a new, six-week continuing education certificate program that was conceived to meet the needs of a local population of retiring or down-sized professionals desiring to become adjunct instructors. The program developed into a two-tiered endeavor. One strand was based on the program's original purpose and the other appealed to the needs of aspiring K-12 teacher candidates who desired more pedagogical practice than their methods courses and student teaching had supplied. The course has run 10 times over a three year period.

Keywords: Adjunct Preparation, Certificate Program, K-12 Teacher Preparation

Hard economic times are reflected in the way people view education. Some see it as a savior. Some see it as a waste of money. One continuing education department in a northeastern suburb of the United States decided that "hard economic times" are a wave of opportunity and a way to compensate for a downturn in the number of education majors. In this geographic area, many unemployed or under-employed professionals are looking for a new position. Numerous recent education graduates are also looking for an edge to acquire that first full-time K-12 interview. People close to retirement are wondering what they can do to compensate for their depleted 401Ks or their less than stable retirement allotments. A potential way to help many of these individuals who want to teach but have little or no pedagogical knowledge is to offer them a course that introduces them to the basics of teaching.

In addition, some people feel the need for a class offering real world tips and practice for those who have an education degree, but feel they cannot currently handle tough interview questions and demonstration lessons due to a paucity of methods courses and student teaching experiences. The course which was the response to both of these problems was "The Art and Science of Teaching," a six-week, 12-hour continuing education course, so popular that it has already run 10 times over a three year period.

Although this program may not be completely unique or outrageously innovative, for our university and the other higher education institutions in our geographic area, its concept is distinctive and novel, as demonstrated by the responses to our advertisement that runs in a local newspaper approximately two weeks prior to the start of each semester (a total of 165 students have enrolled so far). Approximately 12-15 students were enrolled in each class. Their backgrounds ranged from returning elementary teacher to retired business professional to law school adjunct. They felt that they needed more pedagogy in order to feel better equipped for today's classroom.

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Even though the class was originally geared toward retiring professionals who were interested in adjuncting, because of the response and the additional requests we have received from the public, the course has morphed into a differentiated class that is geared toward both aspiring two-and four-year college adjuncts and currently-interviewing Pre-K-12 potential educators. It emphasizes increasing student learning through effective teaching. People who attend the classes are both interested in and enthusiastic about the teaching profession. They often communicate about facets of their current professional experience, such as questioning during interviews, which correlate with applicable classroom experiences. We also discovered that some major topics covered in the program, such as assessment via rubric and student-centered teaching, were useful paradigms for both groups of aspirants. Possibly this was because our college freshman and our community college students, pupils often taught by adjuncts in our geographic area, are used to student-centered teaching and assessment by rubric from their K-12 experience.

The six sessions which make up "The Art and Science" course comprise a certificate, rather than a "for-credit", offering.

Although we value the input given by university curriculum committees, and the stamp of approval given by the state education department, we felt that timeliness was important when creating this curriculum. We wanted to begin this class immediately because our professional friends and neighbors stated that either they needed skills to seek post-retirement employment, or, because of downsizing, they were struggling to begin new careers related to their most recent jobs. Thus, the advantage of running this class as a certificate program was that the offering could more speedily be added to the School of Continuing Education's catalogue. A rigorous and substantive continuing education course could potentially immediately benefit our students when they added attendance at this program to their credentials and used the course's content in their cover letters and interviews.

What the Literature Says About How to Become a Professor: Theoretical Frame for the Course Outline

The original purpose of this course was to prepare people for their first adjunct position, which, as a review of the literature indicated, is very different from becoming a full-time professor. Many articles surfaced about how to improve as a full-time professor. Authors of one article, for example, discussed how to help already hired faculty through a faculty fellow seminar model with released time for scholarship (Goldenberg & Stout, 2004). Other authors discussed a university's Center for University Teaching and Learning programs, again for already hired faculty (McAlpine & Cowan, 2000). An additional writer (Fearn, 2011) advocated for a meeting place for employed academics and administrators to hold discussions related to pedagogy, while others advocated action research when already in the classroom as an avenue for growth (Savitz & Savitz, 2010).

Methodologically speaking, some authors encouraged professors to use storytelling (Harbin & Humphrey, 2010), or technology (Jenkins, 2011) such as Twitter to post questions. However, other writers voiced concern that technology use in education may negatively embolden students or result in unproductive discussions (Young, 2009). Additional authors noted that some blogging situations have not worked out well for at least one professor (Vaidhyathan, Reynolds, Drezner, Althouse, DeLong, Berube, O'Connor, & Cole, 2006).

Others noted (Shaughnessy and Fulgham, 2009) that technology may positively change education by creating more learner-centered environments and increasing the use of problem solving, which could result in more meaningful student learning. But, again, these pieces are aimed at those already in the college classroom.

Some authors encouraged the establishment of a pedagogical mentoring program in a non-education department, staffed by education professors (Effler & Veltri, 2010); and a few articles specifically discussed how to become a university professor.

Rapp, Rhodes, & Stokes (2006) suggested building relationships with university staff and other graduate students, being self-directed, and reflecting on who you are. Swain (2007) recommended focusing on a very particularized area of study, reviewing a university's detailed criteria for professors, and developing political astuteness and negotiating techniques. Writers advocated for on-line asynchronous international discussions to expand one's international perspectives (Snadmann, Reischmann, & Kim, 2007), and one author suggested a non-PhD doctoral program as the answer to future university staffing problems (Jones, 2009). A different author (Rikli, 2009) saw research as the preparatory career path for future professors, and specifically stated that doctoral research training helps prepare the next cadre of university professors.

What the Literature Says About Adjunct Training: Additional Ideas for The Course Outline

One two-year institution issued an adjunct handbook and required adjuncts to attend an orientation seminar. Another community college ran a series of seminars, established mentoring relationships, and conducted classroom observations (Henderson, 2006). Additionally, it seems that intensive involvement in professional development on a particular topic resulted in clearly articulated course outline goals, enhanced awareness of the need to attend to an issue, use of multiple approaches to address that issue, and changes in course assignments (Keehn & Martinez, 2006).

Because of the current trend of hiring many adjuncts, some books have been written about teaching for non-teaching professionals. Topics in one book include the hiring process, faculty orientation, today's students, course and lesson planning, instructor-directed and student-directed learning, and exams and alternative assessment (Brown, 2002).

Manuals were also being developed, for example, one about exam development and administration, student cheating, and strategies for course grading. Another manual deals with syllabus development, classroom teaching methods, efficient use of classroom time, and general classroom management (Berschback, 2011).

What the Literature Says About Non-Traditional Teacher Prep Programs And How That Relates To Our Program

To a degree, our continuing education certificate program could be considered a component of non-traditional teacher preparation, particularly once it amassed a large Pre-K-12 clientele. For example, 30-40 of the participants used this program as a means of acquiring in-service credits. Our participants often discussed their concerns about classroom management and violence as did new teachers in the Schonfeld and Feinman (2012) study. Although we did not partner with a local school district (Kern & Mason, 1998), at least 25 of the program's participants have been substitute teaching, which they mentioned during class discussions and activities, either locally in suburban districts with urban-like characteristics or in a very large, near-by metropolis, where they were experiencing classroom management issues. These issues continued to a degree with the populations some new adjuncts encountered in our local community colleges and for-profit business institutions.

Mathematics education is an area of need (Gimbert, Boi, & Wallace, 2007), and many of our participants were interested in secondary or college level math-related teaching positions because of their self-reported backgrounds in accounting, finance, etc. We discussed teaching math via a hands-on approach, integrating technology, using project-based activities, planning lessons that included probing questions, and using their past professional life as a form of field experience to help them manage students, time, and materials (Clarke & Thomas, 2008), as they did when they were employed in offices. The suburban professionals who took this class were not interested in urban teacher residencies (Boggess, 2010; Gatlin, 2009), but they self-reported in class that they did want to use their own life experiences as a bridge to teaching.

Some were older than the typical urban residency participant, but all participants, near retirement or just finishing college, were eager to remain in their field and teach. Many were considering becoming special education teachers in math or other fields, yet others first realized that people with special needs might be in their college classes (Sindelar, Dewey, Rosenberg, Corbett, Denslow, 2012).

We feel that programs for mid-career changers (Dai, Sindelar, Denslow, Dewey, & Rosenberg, 2007) (approximately 35% of our students) and plans of action for those who want a new career during retirement (approximately 5% of our participants) can prepare competent and caring educators and can address teacher shortages in such areas as science, math, and special education. In fact, professional standards for such alternative programs have been proposed. But the question is: Can a program based on these professional standards successfully attract the appropriate clientele and become a successful enterprise (Keller, Brady, Duffy, Forgan, & Leach, 2008)? For example, at \$150 per person x 165 people, this program grossed \$24,750 for the Continuing Education program. Because expenses were very minimal, the program director considers this amount a good return on investment. Courses designed around a constructivist model have been successful in getting professionals to feel competent and confident to take on the role of teacher in their field, rather than remain an employee or supervisor in their area of expertise. This constructivist approach also encouraged two to three current university faculty to incorporate new ideas into their teaching repertoire. They self-reported that the program enhanced their competence and confidence (Johnson-Crowley, 2004; Suell & Piotrowski, 2006).

Research Design

This was not a controlled study with pre-post tests. Rather, we conceived the program based on perceived local need and a review of the literature. Post-session surveys and follow-up surveys were administered to gather data from the 165 participants. Additional surveys are now planned to ascertain the need for continuity of the program based on demand from local K-12 and university employers.

Content of the Six-Week Program

We are definitely not saying that "The Art and Science of Teaching" six-week module can adequately cover all that could be known about pedagogy. Written in 2009 by the chair of the educational administration program and a professor in the counseling department, the curriculum for our program was originally composed of modules that introduced adult learners to "The 'Big Picture'" (philosophical foundations of classroom learning), adult learner characteristics

(online.rit.edu/faculty/teaching_strategies/adult_learners.cfm), some methods, how to write a lesson plan, and "Teaching is Learning."

This curriculum is and always was constructivist, building on the participants' and this professor's (Pre-K to 12, undergraduate, and graduate) past experiences. It is also theoretically based, emphasizing time-tested models. The curriculum now has two strands: one for potential adjuncts and one for aspiring Pre-K-12 teachers. Classroom examples and activities reflect the participants' backgrounds and interests. The class is differentiated to accommodate teaching an adult population and to instructing in early childhood, elementary, middle school, or high school settings. At times, we discussed the similarities and differences among these groups, emphasizing the commonalities, such as grading by rubric. The instructor also reminded the aspiring adjuncts that their students will be the products of the current Pre-K – 12 system, so that some knowledge of that system could be helpful on the post-secondary level. The course's progression now runs from course/unit development to execution to collection of feedback. Each topic is sub-divided into a goal, an objective, motivational means, activities, materials and resources, assessment, and closure.

Specifically, session one includes syllabus development and the teaching/learning cycle of planning, executing, and reflecting. Consistency of terminology regarding learning targets, objectives, and national and state standards is emphasized (Marzano, 2013).

Rookie mistakes to avoid are noted ("Ten Rookie Mistakes," 2013). Session two begins with Bloom's Taxonomy and moves into assessment and *Understanding by Design* (Wiggins & McTighe, 1998). Session three deals with constructivism and motivation. Session four discusses questioning techniques and delivery models. Session five discusses the preparation and execution of lesson planning; and session six analyzes feedback as a means of continuous improvement (Walker & Dodge, 2009).

This course was never taught by the two professors who originally envisioned it. Rather, it was repeatedly led by an assistant professor in a different education department whose background and research interest are in the area of professional development. As originally written, the course was geared toward beginning adjuncts, but based on the experience of who has actually taken this class, it has grown to include segments for graduates seeking their first K-12 position and in-service teachers searching for inexpensive professional development. Thus, the instructor included other, less theoretical, sources, what was currently being advocated in the field.

For example, Fontaine (2010) used films, whose main characters were teachers, to promote discussion with pre-service teachers, and Hawley (2009) developed the TDSi method to coach his students to teach literacy to diverse types of students in particular settings.

The evolved course still included six modules, one for each week that the class met. Although the titles of the units are the same or similar to those originally outlined, the emphasis became more "hands-on" and less theoretical, with much group work and many student presentations. Specifically, students begin by grouping themselves by professional background, such as law or medicine, or by teaching interest, such as early childhood education. After a little input and some modeling from the professor, the aspiring adjuncts worked together to develop a model syllabus that they could attach to a cover letter or present at an initial interview, while the K-12 people wrote a unit plan that they could put into their portfolios or discuss at an interview.

Students then, after some instruction during session two, individually or still in their groups, begin to develop a lesson plan that they presented to the class at the culmination of the program. Little by little, week by week, the participants revised and expanded their syllabus or unit, and their lesson plan, as topics were introduced. For example, students were given a variety of lesson plan formats that they used as templates for the planning stage of their presentation, and they selected which format best fit their subject.

During session three, Bloom's Taxonomy was introduced and the students were encouraged to review the verbs in their objectives and activities and change as needed. This was done for participants to frame their objectives and plan their assigned tasks to enable their future students to think and perform on the higher cognitive levels of applying, analyzing, evaluating, and creating,

In another session, teaching and assessment were discussed as complementary, and in terms of universal design (Rappolt-Schlichtmann, Ayoub, & Gravel, 2009), with an emphasis on differentiation, grouping, and learning styles. Students were encouraged to revise their syllabi and lesson to include group activities and cognitive choices that acknowledge different learning styles.

For example, participants might add debates or Calkins' "turn and talk" (Collins, 2004) activities to their lessons, or modify their teaching methods to simultaneously include the major visual, oral/aural, tactile, and/or kinesthetic learning channels. Additionally, prospective teachers were encouraged to enhance the content of their oral lecture via PowerPoint or video clips. These future teachers were also encouraged to use manipulatives (actual hands-on materials), such as the excavating tools which were used in an archeology lesson demonstration which encouraged both movement and utilization of the sense of touch.

Differences between a traditional and a constructivist lesson were explained at a different session, as was the difference between a teacher-centered and a student-centered classroom and a content-centered and a person-centered learning experience. Neither side was ever disparaged, and participants were encouraged to identify their preferences and combine ideas from both dimensions. They were told that deciding what works for them as educators and for their perspective students' needs is both subject and context specific (Thompson, Windschitl, & Braaten, 2013).

After some initial input, participants discussed different ways to motivate different age students, and then participants practiced questioning, with the goal of asking the type of question that could result in the level of response that they desired. For example, asking someone to propose an alternative, might receive a creative response or a synthesis of prior knowledge, but asking someone for a function might result in a more analytical or a more basic response. Participants often commented about how useful knowledge of questioning is, even for their current employment situation, for example, when they are interviewing for new employees or when they are gathering input from colleagues or subordinates.

At another session, the instructor explained rubrics ("Guidelines For," 2013) and demonstrated their use. Students then developed at least one rubric by identifying at least four traits of a particular assignment, for example, depth of research or professionalism of presentation, and then differentiating each trait on at least four levels. This task was difficult for these beginners, who usually wanted to differentiate with subjective words, such as, "good" or "excellent," rather than by using quantifiers, like five reference articles versus four non-scholarly articles, or by globally saying that grammar mistakes impact comprehension or slow the fluency of reading the product.

After students learned the concept of rubric development, they then added at least one rubric-driven assignment to their syllabus or unit, and added a rubric as the assessment component of their lesson.

Potential adjuncts were warned about how harshly they may be rated by some adult students, and K-12 prospective teachers were informed about the formal and informal observation process and other means by which they will be evaluated by administrative personnel. Rating scales were shared and discussed and students were forewarned that they would be evaluated by their peers in this class when they presented their lessons. However, in our class, we geared evaluation toward the positive, with the instructor requiring "a compliment and a stretch" when the students self-evaluated and evaluated each other.

Results

Survey results indicated that .25 of the respondents were currently employed in for-profit businesses, .22 worked in K-12 education, and .19 worked in post-secondary education, or worked for non-profits. Twenty-eight percent of the respondents were currently in "other" positions, between jobs, or seeking employment. Sixty-five percent of the respondents were in their 50's or 60's, while nine percent were in their 20's, six percent were in their 30's, and 19 percent were in their 40's. Sixty-three percent were female, while 27 percent were male.

Twenty-eight percent changed positions since they attended this certificate program: six percent in education and 22 percent in non-education areas. For example, some school based per diem subs became leave replacements/long-term subs, and some non-educators changed departments or were promoted. Thirteen percent are currently actively seeking employment.

One person indicated that s/he integrated all parts of the course into his/her full-time teaching assignment. One person indicated that s/he did not use any of the material presented in the curriculum. Twenty-two percent indicated that they used the lesson planning components, while nine percent indicated that they utilized the student engagement ideas and the syllabus format that was shared. Open ended responses indicated that those not working in the field of education still found components of the course useful. For example, respondents said, "I relate better to clients," and "I can see how to unlock the potential of others."

One person said that s/he gained confidence, and others said that they could use the techniques when presenting training material or use the teaching practices when teaching employees to use technology.

Table 1: The Art & Science of Teaching Survey

Q1. When you took this course at LIU Post, what kind of job did you hold at the time?	For-Profit Business Organization	Not-for-Profit Organization	Education, Elementary or Secondary	Education, Post-Secondary	Other Position or Job Seeking
Male in 20's				1	1
Female in 20's					1
Male in 30's					
Female in 30's			1		1
Male in 40's				1	
Female in 40's			4	1	
Males in 50's	2				2
Female in 50's	2	1	1	2	1
Males in 60's	3	0			2
Female in 60's	1	1	1	1	1
Males in 70's					
Female in 70's					

Table 2: The Art & Science of Teaching Survey

Q2. If you have changed positions since you took this class, what kind of job do you hold now?	Education	Non-Education	Job Seeking	No Answer/No Change
Male	1	3	2	6
Female	1	4	2	10
Total	2	7	4	16

Table 3: The Art & Science of Teaching Survey

Q3. If you are working now in the area of education as a primary, secondary, adjunct, or full time college instructor:	All	None	No Answer	Teaching Technology	Student Engagement	Lesson Planning	Rubric	Syllabus	Tests
a. What part(s) of the course have you integrated into your teaching?	1	1	18	1	3	7		3	
b. What part(s) of the course have you not yet integrated into your teaching but plan to utilize in the future?	3	1	19			1	1	3	1
Total	4	2	37	1	3	8	1	6	1

Table 4: The Art & Science of Teaching Survey

Q4. If you are not working in the area of education, are there any ways in which the course helped you in your current job?	Yes	No	No Answer	Written Response
Total	6	13	11	<ul style="list-style-type: none"> • Relate better to students • Presenting training material • Practices with teaching technology • Confidence • Unlocking potential of others

Anecdotal Results

Comments from the 165 students who have taken this course over the ten semesters that it has been offered have indicated that they found the course to be interesting and useful. Three of the participants wanted a follow-up course to continue to learn more basic methodology and to receive more insight into the interview process for adjunct and Pre-K-12 positions. To capitalize on this interest, 165 surveys were sent (survey with numerical results above) to all “Art and Science of Teaching” participants.

Some of their comments included the positions they attained, for example, teaching at an arts center or becoming a higher education instructor. Others mentioned that the course had made them a better teacher. Most commented specifically about what they used from the course’s content, such as, Bloom’s Taxonomy, the Common Core State Standards, or rubrics for assessment.

Additionally, information from five participants was utilized as a component of one of the Continuing Education Department’s Outcomes Assessment Annual Reports. When representatives from Middle States reaccredited the entire university, they noted that the quality and the quantity of data the University reported through their annual Outcomes Assessment Reports was a major factor in our university’s reaccreditation.

University personnel have seen value in this program, suggesting it to new and potential hires as a way to enhance their pedagogical skills. One photographer who was slated to teach an introduction to photography class participated in this program, as did an adjunct in the management department who was interested in enhancing his methodological knowledge. Another participant was a recently hired director of a medical department within the university, who said that the hardest part of her job is the one class she teaches each semester! Other survey respondents included instructors at technical and business schools in the area who felt quite comfortable with their content knowledge, but were not happy about their classroom delivery. A senior level social worker who teaches at a geographically local branch of our state university stated that she would take a series of courses if we offered them. From returned surveys (N=32), 100% indicated that they had profited from this course. One student even stating that he would like not only a Part 2, but also a Part 3, of these classes. Another student mentioned that the course had helped her prepare to launch her own tutoring business, while several other students noted that syllabus design and lesson planning had been the most valuable aspects of this course for them.

For Future Exploration

We need to obtain results from future surveys to gather more feedback from participants and to ascertain from higher education and Pre-K-12 employers if this certificate program is viewed as an asset for new hires.

In our suburban area which is adjacent to a large metropolis, there are 127 local school districts ("Long Island Schools", 2014), approximately 250 private schools ("Long Island schools", 2014), and 27 colleges and universities (Wikipedia, 2014). The urban Department of Education manages 728 districts and there are 140 charter schools, and 19191 private schools in this city ("New York Education", 2014). Additionally, there are 31 post-secondary institutions in this urban area (Wikipedia, 2014). These institutions could receive this survey.

Additionally, more data is needed from program participants to find out whether the skills they learned in this course enabled them to acquire a position and/or to enhance their performance in the classroom.

Conclusion

The researchers see this program as valuable for both the university and the students who participated in it. From a business point of view, programs like this in a School of Education could attract those individuals who have master's or doctoral degrees, but no pedagogy courses, and want to teach as adjuncts. This type of course also appears to be attractive to certified K-12 teachers who have been out of the field for a while, for example, on multiple maternity leaves, and are interested in updating their skills based on current developments in the field as they get ready to return to the classroom. Additionally, this program attracted initially certified teachers who have student taught, passed their courses and state certification exams, and were currently interviewing and presenting demonstration lessons in an attempt to acquire their initial professional position. It also was a means for our university administration to create new ways to compensate for the downturn in education majors. But, beyond these practical considerations, this certificate program shared proven pedagogies that were innovative to many of the participants. The participants' survey comments indicated that they were inspired by their new insights and were thoughtfully considering whether or not the adjunct route was appropriate for them.

Because many participants said, "What's next?" or "Where do we go from here?" a Part 2 curriculum was developed and was offered during the Fall 2011 semester.

The topics covered in this session included evaluation of effective teaching styles, educational myths, generational needs, more advanced methodology, a review of key concepts from *The Art and Science of Teaching 1*, sophisticated rubric development and use, and information about the presentation/feedback/presentation cycle.

Specifically, students developed their own concept of an effective teacher and appraised their own teaching style. They learned details about how K-12 teachers are now being evaluated in our state, and about evaluation of college education programs based on their graduates' success in the field. Participants self-evaluated and decided on an "improvement plan" for themselves to reach their personal goal of being a successful adjunct or K-12 educator. Some educational myths were debunked, and participants contrasted their own generation's characteristics with those of their potential students. Students also experimented with different types of methodologies as they planned and executed a lesson and gave and received feedback. How well this Part 2 program will be received by participants remains to be seen. So far, the groups who took the class have praised its content.

The School of Continuing Education looks forward to providing more offerings such as this, which address the need for enhanced "job skills" in today's very difficult market, while at the same time enriching the lives of those adult students whom it is our mission to educate.

At the present time, administrators and faculty are discussing the possibility of differentiated summer institutes on such diverse topics as Autism and the Common Core that can be credit bearing for undergraduate and/or graduate students, a source of continuing education hours for currently employed teachers, and professional development opportunities for post-secondary faculty.

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