



Evaluation Study of ACUE's Collaboration with Miami Dade College:
Cohort Two Findings

Jennifer R. Morrison, Ph.D.
Steven M. Ross, Ph.D.
Gary R. Morrison, Ed.D.
Alan J. Reid, Ph.D.

Center for Research and Reform in Education (CRRE)
Johns Hopkins University

December 2017

Contents

EXECUTIVE SUMMARY	3
Evaluation Study of ACUE’s Collaboration with Miami Dade College: Cohort Two Findings....	5
Method	7
Design	7
Participants.....	7
Measures	8
Results.....	9
Instructor Impacts of ACUE	9
Reactions to the CETP Course.....	14
Course Evaluations	17
Discussion	18
Impact of the CETP Course	18
Perceptions of the CETP Course.....	19
Conclusions and Recommendations	19
Appendix A: College Teaching Survey	21
Appendix B: Instructor Interview Protocol.....	24
Appendix C: Frequencies and Descriptive Statistics for College Teaching Survey.....	25
Appendix D: Results of the Comparison Across Survey Administrations	29

EXECUTIVE SUMMARY:

Evaluation Study of ACUE's Collaboration with Miami Dade College – Cohort Two

In September 2016, Miami Dade College (MDC) and the Association of College and University Educators (ACUE) launched an initiative to credential MDC faculty in effective teaching practices. MDC faculty enrolled in ACUE's Course in Effective Teaching Practices (CETP), an online program that prepares college educators to implement evidence-based teaching practices across five units of study. The second cohort of participating faculty completed the Course during the fall and spring semesters of the 2016-2017 academic year.

This Evaluation

The Center for Research and Reform in Education (CRRE) at Johns Hopkins University led an evaluation study to analyze the impact of ACUE's course on the instruction delivered by MDC faculty and, by consequence, student outcomes. CRRE's approach was based on a logic model that examines inter-relationships between CETP "inputs" and expected "outputs" over time. The outputs are manifested in measurable changes in participating instructors' attitudes and knowledge, their behaviors, and their influences on students over time.

CRRE employed a mixed-method design, including descriptive and comparative analyses to address evaluation questions regarding the impact and perceptions of the ACUE course on participating instructors within Miami Dade Community College. The second cohort included 22 faculty members and data collection included a survey, interviews, and three semesters of course evaluations from up to 2,826 students. In analyzing and comparing student course evaluation data, we were restricted to using aggregate student survey data provided by MDC.

Findings

CRRE's logic model predicts that changes to instructors' attitudes and knowledge necessarily precede changes to instructional practice and student outcomes. This first paper focuses on changes in faculty attitudes, knowledge, and practices, key leading indicators of other student outcomes to follow.

Instructor Attitudes, Knowledge, and Perceptions

The results found that instructors had a positive impression of the impact of the CETP course on their teaching skills and that it improved their confidence over the previous year. Overall, the course provided new strategies, reinforced strategies they had learned in the past, and provided research to support the use of the strategies. As a result, both novice and veteran instructors felt the course helped them build their confidence to design their courses, teach using effective strategies, assess student outcomes, and provide students with meaningful feedback.

- All participating faculty (100%) agreed that the ACUE course increased their knowledge of and skills in using effective teaching techniques and practices
- The majority (77.8%) agreed that the ACUE course increased their enjoyment of college teaching
- All participants (100%) agreed that they would recommend the ACUE course to colleagues

Instructors reported moderate to high confidence levels in terms of their preparation for college teaching and their knowledge and skills for college teaching. The majority of instructors also indicated that their confidence levels had increased for a variety of skills and strategies as compared with the previous year.

Instructor Practices and Student Perceptions

Our findings regarding the impact on teaching practices were consistent with the logic model (see Figure 1 in the main report). In addition to reported changes in their practices, student course evaluation data reflected:

- more positive perceptions of ACUE-participating instructors between the pre-course semester and the two semesters during course participation
- significantly more positive perceptions of instructors in the ACUE course than the remainder of MDC faculty during the second semester of the ACUE course.

Discussion and Implications for Further Research

Based on the findings from the present evaluation study, overall conclusions include that the ACUE course was viewed as valuable by the participating instructors. Novice instructors indicated it provided useful new information and veteran instructors viewed the course as a refresher. The instructors agreed that the course increased their confidence in using the various strategies as compared with their confidence the previous year. Instructors conveyed the greatest improvements in the areas of their ability to grow as an instructor and their ability to promote students' higher order thinking. Indeed, student course evaluations reflected more positive perceptions of instructors after participating in the course and were also more positive as compared with the MDC instructors not participating in the course. Future research should examine the effects of ACUE's course including the impact on student course completion and achievement.

Evaluation Study of ACUE’s Collaboration with Miami Dade College: Cohort Two Findings

The Association of College and University Educators (ACUE) developed and provides an online Course in Effective Teaching Practices (CETP)¹ that is offered to higher education instructors and faculty members. The Course enables college educators to employ research-based teaching practices by addressing topics in ACUE’s Effective Practice Framework[®], which include (a) Designing an Effective Course and Class, (b) Establishing a Productive Learning Environment, (c) Using Active Learning Techniques, (d) Promoting Higher Order Thinking, and (e) Assessing to Inform Instruction and Promote Learning.

The online Course is organized into 27 hour-long learning modules informed by research in cognition and adult learning. Modules include orienting information, opportunities to connect to prior knowledge, video demonstrations, connections to existing research, and a variety of resources and further research on module topics. Learners are provided with opportunities to analyze video clips, collaborate with other participants, apply techniques, reflect, and share with peers.

The evaluation questions draw from a “Logic Model” (see Figure 1) that evolved through discussion between ACUE and CRRE regarding assumed inter-relationships between CETP “inputs” and expected “outputs” over time. The outputs are manifested in measurable changes in participating instructors’ attitudes and knowledge, their behaviors, and their influences on students over time.

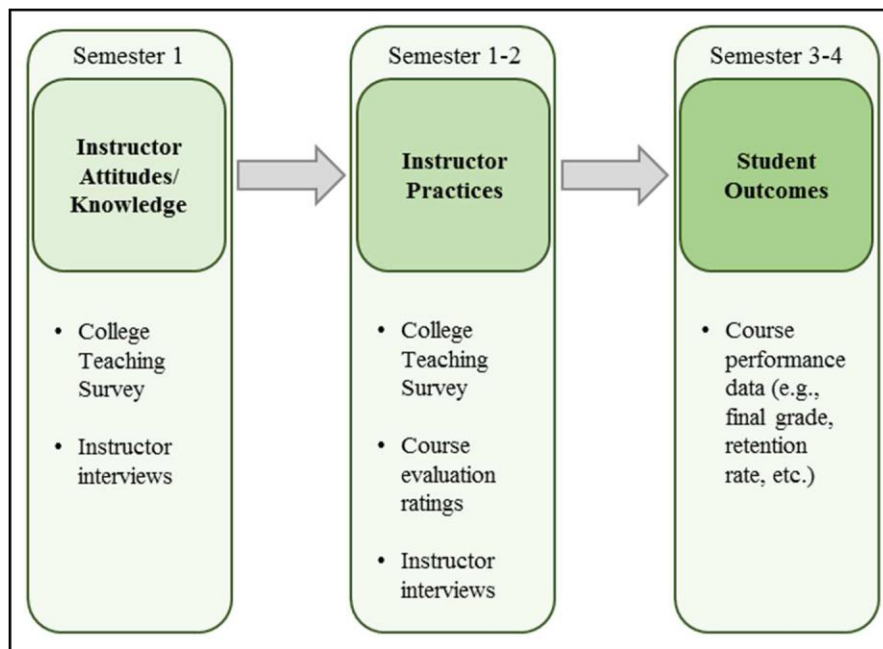


Figure 1. Logic Model of CETP inputs and expected outputs over time.

¹ For convenience, the acronym “CETP” will be used in this report in referring to the course intervention.

The Logic Model is based strongly on contemporary cognitive learning and instructional theories (see, e.g., review by Slavin, 2009²), all of which assume that behavioral changes depend initially on the learner's motivation to "activate, guide, and maintain" new behaviors over time (Ryan & Deci, 2000³). While motivation can be activated by extrinsic incentives (e.g., cash awards), more powerful and sustaining forms are intrinsically formed based on the desire to become more competent in an area and seek challenges. Such intrinsic motivation, in turn, is influenced by the learner's confidence ("self-efficacy") and knowledge, leading to positive self-perceptions (attitudes) about being able to perform well enough to achieve desired outcomes (Bandura, 1977⁴; Driscoll, 2015⁵). A reasonable hypothesis, therefore, is that instructors who receive quality professional development on effective college teaching strategies would have higher motivation, confidence, and skills than their peers for implementing such strategies to improve teaching performance. Importantly in this regard, a recent comprehensive review of innovative teaching identified the following factors as major influences of instructors' willingness to adopt innovative practices: (a) a positive attitude toward change as opposed to preferring traditional practices, (b) the desire to learn and absorb new competencies, and (c) confidence in one's capability to do what is needed to meet task demands (Thurling et al., 2015⁶).

Based on the foregoing research and theoretical perspectives, a fairly immediate effect of the CETP should be changes in participating instructors' attitudes toward their roles and preparedness as postsecondary educators. Exemplary changes might include increased interest in teaching, confidence about one's ability to teach effectively, comfort in exploring different teaching approaches, and expectations about their student achievement. Concurrent with attitude changes are increases in knowledge about teaching (which, in turn, positively influence attitudes) as a direct effect of CETP participation. That is, instructors should emerge from the CETP training much better informed about effective teaching strategies, motivating students, assessing performance, and many other components of teaching important to student success.

If instructors do not change the way they teach, student achievement should remain at the same levels as in prior semesters. Conversely, if they employ more effective instructional methods, improved student outcomes—lower withdrawals and higher success rates (grades of A, B, and C) as opposed to failures (D's and F's) should result. But degree of success will directly depend on instructors having sufficient time (possibly three semesters) to achieve quality implementation.

Based on the above assumptions and overall Logic Model, the following evaluation questions were identified as focuses for the study:

- What are the impacts of CETP on participating instructors'?

² Slavin, R.E. (2014). *Educational psychology: Theory and practice* (11th Edition). London: Pearson.

³ Ryan, R. M., & Deci, E.I. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.

⁴ Bandura, A. (1977). *Self-efficacy: The exercise of control*. New York: Freeman.

⁵ Driscoll, M. (2014). *Psychology of learning for instruction*. Boston: Pearson.

⁶ Thurlings, M., Evers, A., & Vermeulen, M. (2015). Toward a model of explaining teachers' innovative behavior: A literature review. *Review of Educational Research*, 85(3), 430-471.

- Attitudes and confidence about teaching?
- Use of varied teaching methods?
- Perceptions about changes in the quality of their teaching and impacts on student engagement and learning?
- What are participating instructors' reactions to CETP with regard to preparing them for teaching and more effectively impacting students?
 - What CETP components (units, specific strategies, activities) are considered most useful?
 - What components are considered less useful?
- Do the course evaluations by students of participating CETP instructors indicate more favorable ratings relative to course/departamental norms and instructors' prior evaluations in the same courses?
- Do student outcomes (pass rates, success quotients, retention rates) differ between CETP instructors and non-CETP instructors teaching similar courses?

Method

Design

A mixed-method design was employed, including descriptive and comparative analyses to address the evaluation questions of interest.

Participants

Participants in the study are instructors and students at Miami Dade College (MDC), a state college located in Miami, Florida. MDC has 8 campuses and 21 outreach centers located throughout Miami-Dade County. Founded in 1959, MDC is the largest higher education institution in the Florida College System with over 165,000 students.

Originally, 43 instructors were enrolled as part of Cohort Two though only 22 completed the CETP course. Cohort Two instructors completed the CETP course across the fall and spring semesters of the 2016-17 academic year. Most (20 of 22) of the Cohort Two instructors are full-time employees of MDC. Further detail regarding Cohort Two instructors are presented in Table 1.

Table 1.
Cohort Two instructor rankings.

	n	Rank					Not indicated
		Instructor	Assistant Professor	Associate Professor	Associate Professor, Sr.	Professor	
		%	%	%	%	%	%
Cohort Two	22	4.5	18.2	9.1	18.2	31.8	18.2

Measures

Both qualitative and quantitative data sources were included in the evaluation study. Sampling varied for different measures and is further described below.

College Teaching Survey. A survey containing both closed-ended and open-ended items was constructed by CRRE with input from both MDC and ACUE. The survey was administered at the close of the fall semester, then again at the close of the second semester of the 2016-17 academic year. The survey items (see Appendix A) covered attitudes and confidence about teaching, perceptions about changes in the quality of teaching, as well as overall perceptions of the CETP course. Of the 22 Cohort Two instructors, 18 completed the fall survey (81.8% response rate) and nine of these again completed the spring survey (40.9% response rate). Just over half (53.8%) of the instructors that completed the survey indicated taking a similar course previously offered by MDC.

Interviews. A random selection of five instructors were invited to participate in a phone interview at the end of the fall semester, then an additional nine instructors were interviewed at the end of the spring semester. The semi-structured interviews (see Appendix B for questions) were conducted in order to obtain richer, more detailed reactions about the CETP course and its application.

Student course evaluations. Student course evaluations are collected on a regular basis at MDC. MDC provided the student survey results for both courses taught by CETP instructors and courses taught by all MDC instructors. The response rate for each survey administration is presented in Table 2.

Table 2.
Response rate for MDC student course evaluations.

Participant group	Fall 2015		Fall 2016		Spring 2017	
	Students n	Response rate %	Students n	Response rate %	Students n	Response rate %
ACUE instructors	406	72.4	2,826	72.7	558	69.4
All MDC instructors	105,155	66.4	157,091	70.5	89,540	68.4

Note: Fall 2015 data were provided instead of requested Spring 2016 data because only one CETP instructor participated in student course evaluations during the Spring 2016 semester.

A 4-point scale was used for students' responses to each of the 15 survey items. Those students indicating "unable to answer" were not included in the analyses. Data were provided by MDC in aggregate form. Due to the aggregate data, we were unable to control for characteristics of the student sample and teacher sample.

Results

The following sections present results for Cohort Two participants, including analyses of surveys and interviews. Frequencies and descriptive statistics for all survey items are presented in Appendix C.

Instructor Impacts of ACUE

Instructors responded to survey items and interview questions regarding their confidence in and preparedness for college teaching. In addition, survey items and interview questions solicited participants' confidence in their ability to use a variety of instructional strategies. Interview questions also explored participants' knowledge of instructional strategies and those strategies influenced by participation.

College teaching confidence and preparation. Overall, the spring survey responses indicated the instructors were confident in their college teaching preparedness and did not differ significantly from fall responses. Specifically, all instructors indicated agreement that they are confident in their ability to create a supporting learning environment, to grow as an instructor, that their classes are well liked by students, and that they are an effective teacher.

In addition, the majority of instructors conveyed increased levels of confidence in teaching preparedness as compared with the prior year (see Figure 2). Confidence levels were most likely to increase for instructors' abilities to increase students' persistence to achieve, create a supportive learning environment, to grow as an instructor, and their confidence in being an effective teacher.

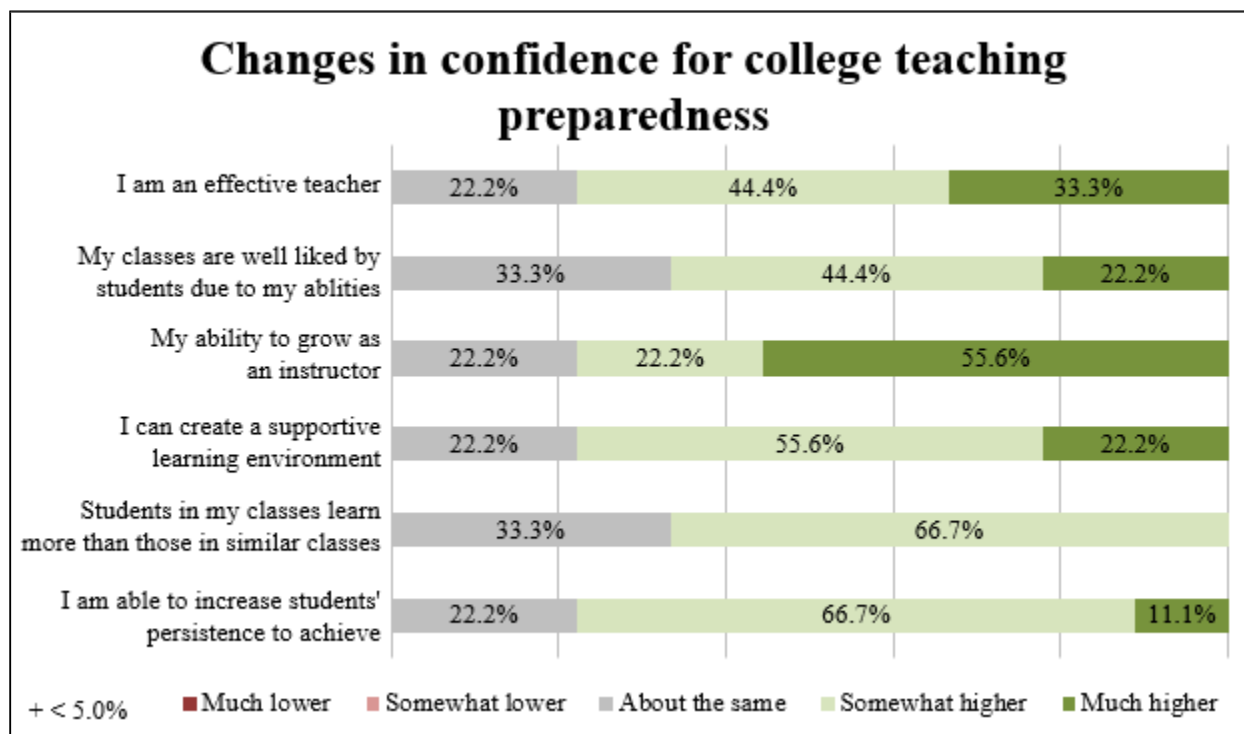


Figure 2. Response frequencies for the degree to which confidence levels changed as compared with the previous year, spring 2017.

Survey respondents also described the impact of the CETP course on their preparedness for college teaching in open-ended responses. Both the fall and spring survey respondents indicated that the CETP course was highly effective in providing strategies and techniques that they could implement in the classroom to encourage student learning. Some instructors were more general, noting that the CETP course provided “techniques to apply inside the classroom” and “tips on how to improve my college teaching.” Others mentioned specific skills or modules that they found helpful, including “giving tips for class comprehension and more detailed syllabi” and “it was most effective when preparing a syllabus, in motivating under-prepared students, in connecting with students, using students’ midterm feedback....Every module was efficient.”

Roughly half of the spring instructors described the CETP course as effective in terms of specific strategies such as “new approaches to presenting material and writing assessments” or “using assessment results to inform my teaching.”

One instructor mentioned the reinforcement of existing strategies:

The ACUE course has given me the knowledge and theory behind a lot of the things that I do. My background is not in teaching, so these skills have given me the courage to try new things and the know how to assess the effectiveness of the new skills.

Another instructor conveyed a renewed focus on teaching, stating that the course was effective by “showing me how important effective teaching techniques are and the importance of constant updating of skills.” Similarly, another instructor offered:

It has allowed me to expand the possibilities of my instruction. As instructors, it is really easy to get in a routine that may become mundane over time. This course was a nice refresher for those like myself that have been teaching for 15 years.

During fall and spring interviews, instructors described how the CETP course has impacted their confidence in their abilities to teach college courses. As a comparison, the majority of instructors interviewed in the fall did not perceive a noticeable impact on their confidence levels. In particular, no instructors from the fall semester indicated an effect on their confidence in the ability to teach college courses. Rather, one instructor felt that the CETP course negatively impacted him, causing him to lose confidence; the course prompted an entire reevaluation of his teaching style and techniques, thus shaking his pedagogical foundation. Others stated that the course reinforced existing confidence levels. An instructor commented that the course “solidified certain things I’ve already been doing.” Four of the nine instructors in the spring semester did report an increase in their confidence in the ability to teach college courses. One respondent said:

[CETP] raised my confidence a lot. I used to be familiar with my discipline, but I think I sort of failed to realize you can have content knowledge, but you need to be able to know how to best get that information across to your students. The course allowed me to focus in and work on how to deliver that information.

The course seemingly was most impactful for strengthening existing levels of confidence rather than bolstering new confidence in instructors. Still, some reported having benefited from the course, primarily instructors who considered themselves novice.

Summary. Instructors conveyed confidence in their college teaching preparedness and also indicated an increase in their confidence in all areas over the prior year. The items with the greatest confidence over the prior year were the statements on their ability to teach effectively, to grow, to create an effective learning environment, and to increase student persistence to achieve. The overall agreement with the statements was similar for the fall and spring surveys; however, the spring surveys often showed fewer strongly agree ratings. Last, the interviews suggested novice instructors benefited more than veteran instructors regarding preparedness and confidence.

Confidence in Teaching Skills. Instructors were asked to indicate their levels of confidence on several instructional activities through the survey. As with confidence in teaching college preparedness, instructors reported fairly high levels of confidence. For example, all instructors reported feeling confident in their ability to arrange and manage small-group discussions, stimulate productive class discussion through questioning, offer feedback to help students improve, create a positive learning environment, and plan and design effective class sessions.

In addition, instructors were prompted to indicate the degree to which their confidence in these teaching skills changed as compared to the prior year (see Figure 3). At least three-quarters of instructors indicated increased levels of confidence in their abilities for several teaching skills. Instructors were most likely to report increased levels of confidence for their ability to promote students’ higher order thinking and to stimulate productive class discussion through questioning. In terms of the former, perceived confidence as compared to the prior year was significantly

higher ($p < .05$) in the spring as compared to the fall for those instructors completing both surveys.

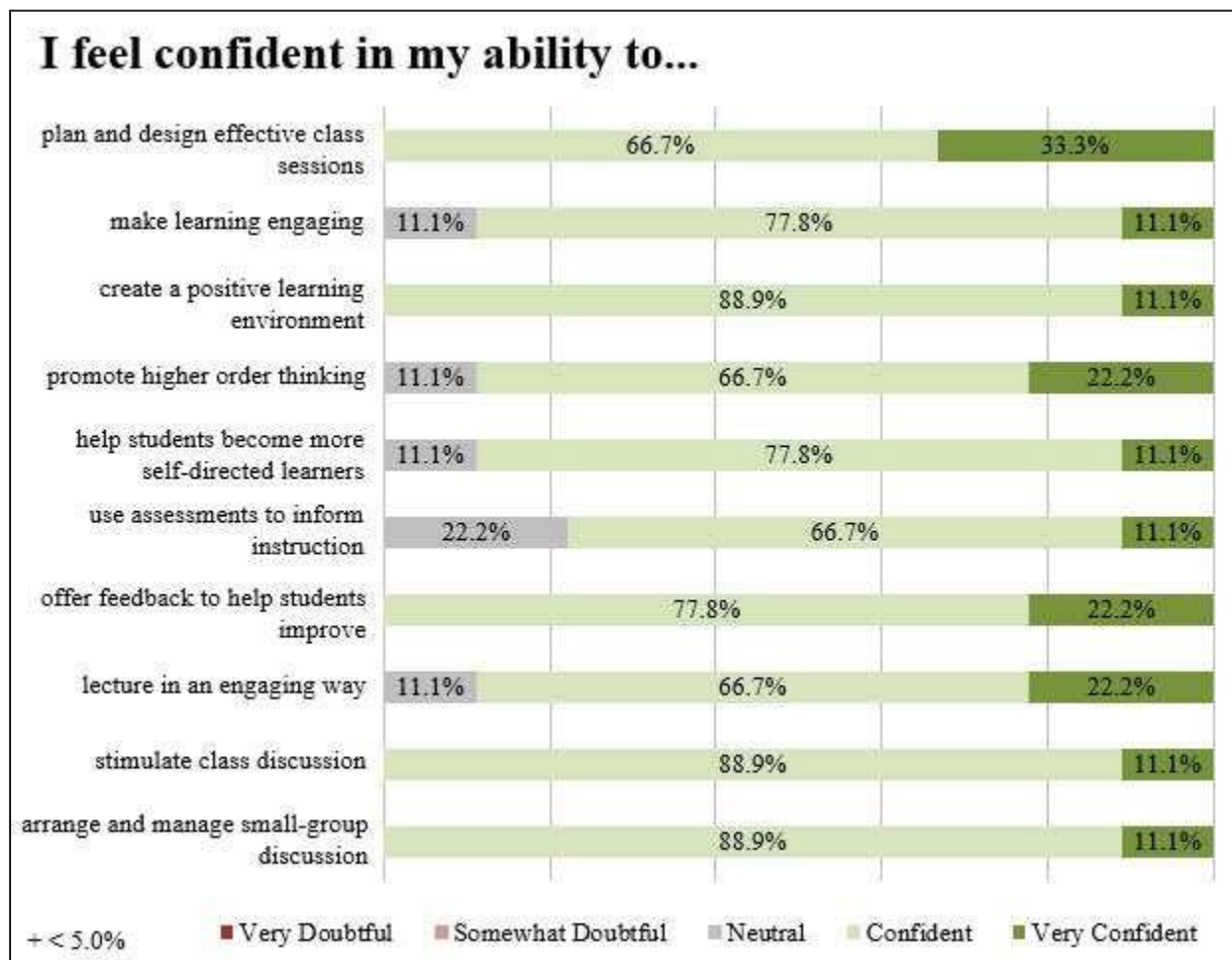


Figure 3. Response frequencies for the degree to which confidence levels changed as compared with the previous year, spring 2017.

During interviews, participants discussed the impact the CETP course had on their knowledge of instructional strategies and strategies influenced by the course. All of the 14 instructors interviewed indicated some level of impact from the CETP course in terms of their knowledge of instructional strategies. Veteran teachers also celebrated the CETP course's impact on their knowledge and use of instructional strategies. An instructor from the spring semester, who has over 13 years' experience teaching, commented, "If you only live in your own bubble, that's all you know. ACUE shows you other things you can do in the classroom and how to do them. I think it had a huge impact on me." Another veteran instructor added, "Even for topics I thought I knew well, I learned something in every module [of the course]. This last one on how to represent the syllabus was great." The CETP course introduced participants to a fresh perspective on new and innovative instructional strategies – with which many instructors were unfamiliar. One instructor detailed her classroom transformation:

The class kept talking about moving away from being the 'sage on the stage' and 'flipping the classroom,' and I find those phrases annoying, but I enjoy talking about

which instructional strategies actually work and how to help students get what they need. ACUE did talk about how and when lecture can be worthwhile, and I lecture, so I appreciate that. I've switched to more of a hybrid or blended classroom and some of my components are website intensive. ACUE also helped me determine which components work better on the web vs. classroom.

Several instructors noted that the CETP course had a "very big impact" on their knowledge of instructional strategies. The course raised awareness of the types of strategies instructors currently are using and how they could be improved. For one instructor, the course "helped [her] approach things differently than in the past." She now designs a more comprehensive syllabus that provides students with the keys to success in her class, and on the first day of class, she asks students to annotate the syllabus. Another instructor also commented on this strategy: "This last [module] on how to represent the syllabus was great." Others reiterated the usefulness of the CETP course on identifying and implementing instructional strategies.

Participants enthusiastically mentioned a number of specific strategies and activities that had either been developed or further strengthened by their involvement in the CETP course. The most commonly identified strategies dealt with syllabus design and the facilitation of discussions. Regarding the syllabus activity, one instructor now uses a graphic syllabus, which presents course information in an alternative visual format. Another instructor assigns a syllabus review as her initial course assignment. This strategy familiarizes students with the course, the associated outcomes, and important information and policies. With respect to class discussion, some respondents have begun to implement new strategies, including pairing students together, employing reciprocal interviews, preparing specific discussion questions as opposed to spontaneous ones, and providing students 3-5 minutes to compose their answers prior to the discussion. One instructor noted the importance in learning and remembering students' names: "In some of our classes that last only 16 weeks, and in which I have large numbers of students, I may never really get to know my students. By first knowing everyone's name, I can then begin to use other strategies to engage students and get to know them better and more quickly." Participants found great utility in a variety of instructional strategies proposed in the CETP course.

Similar to confidence changes mentioned previously, instructors were split as to whether or not the CETP course increased their confidence to employ instructional strategies. In the fall semester, two of the five interviewees indicated that the course instilled new confidence, though "it varies by topic." Another two interviewees acknowledged that their confidence levels have risen "somewhat," and one instructor denied any change to her confidence in her ability to employ instructional strategies as a result of taking the CETP course. In contrast, the majority of the instructors in the spring semester (seven out of nine) perceived an increase in confidence. As one instructor articulated this, "I started at a '1' in confidence and am now closer to a '10.'" Yet another instructor added:

The course actually showed me what not to do and what to do which is helpful and then would review the helpful information repeatedly over the course of the module. The repetition was helpful. I can think and reflect on that as I'm teaching—remember the videos from the course and make decisions in real-time to not do certain practices

outlined in the ‘don’t’ portion of the videos and to instead try the strategies outlined to help my students be more successful.

Of those who did not perceive an impact, most pointed to their extensive teaching experience as having equipped them with confidence to employ instructional strategies. One respondent, who has taught for over 25 years, acknowledged the utility of the CETP course but did not feel that it directly improved her confidence. For this segment of instructors, the CETP was viewed more as a “refresher course.”

Summary. Most of the instructors agreed that they had the ability to use appropriate teaching techniques. While all the items approached 90% or higher agreement during both fall and spring survey administrations, there were a few items rated lower than the others. The ratings for feeling confident to promote higher order thinking (spring), make learning engaging (spring), using assessments to inform instruction (spring), and to arrange and manage small-group discussions (fall) were rated lower than the other skills. The survey ratings are high and acceptable given the small number of respondents; however, thought might be given to a future revision to determine if any changes are needed. The majority of the instructors indicated an increase in their confidence over the prior year. Instructors were very positive in the interviews on the value of the various strategies and indicated their confidence had increased as a result of the instruction.

Reactions to the CETP Course

Survey respondents were asked to comment on in what ways the CETP course was most effective in increasing confidence and skills for college teaching. Consistently, instructors mentioned the introduction of new techniques and strategies, as well as the reinforcement that existing strategies and practices were effective.

- **Strategies and techniques.** Many instructors, predominantly novice instructors, explained that the strategies and techniques that they learned helped to increase their skills and confidence for college teaching. For example, one instructor noted that her confidence level has improved “15-20 percent” because of her exposure to new instructional strategies – none of which were entirely brand new to her, but “more of a reinterpretation” of what she already has been doing. For veteran instructors, CETP still offered valuable strategies that some might have forgotten or discontinued. For instance, one instructor with 20 years’ teaching experience noted that CETP reinvigorated the idea to implement midterm feedback from students to reshape the course.
- **Reinforcement.** Several instructors commented on their positive experience through the CETP course in that it reinforced many strategies and approaches they had already been practicing. For example, one instructor commented that she “does some things instinctually but didn’t realize there is research showing that the technique is effective.” This reaffirmation also builds confidence.

Participants were asked to describe their reactions to the CETP course such as strengths and suggestions for improvement during interviews. Survey items and interview questions also solicited whether participants would recommend the course to others.

Strengths. Participants described the strengths of the CETP course, including the organization, resources, and self-reflection:

- **Course Organization.** The course design was a particular strength of the program, according to several instructors. According to one, “The ACUE modules are well packaged; there is a clean interface, and they are easy to interact with. The modules are also well defined; they are not too general nor broad. [They are] something you can do in a week. More or less, the organization of each module is the same, so you can know what to expect, but there’s enough variety that it doesn’t seem the same old.” Instructors also identified the usability of the self-paced modules as a strength of the course; “There was always someone online who was friendly and able to answer any questions immediately,” and the “technology and setup were convenient.”
- **Resources.** By far, the most commonly mentioned aspect of the course was the instructional videos. The majority of the participants (10 out of 14) specifically identified the course videos as a strength of the program. One instructor commented, “The videos were incredibly helpful and someone obviously worked very hard on them. I liked the example videos with the demos about what went well and what went poorly.” In addition to the course videos, participants appreciated the quantity and variety of instructional resources; this made the modules “engaging,” “easy to follow,” and “entertaining.”
- **Self-reflection.** Self-reflection was an important aspect of the course for some. As one instructor pointed out, “I think it is very important that as students in the ACUE course, we are required to write. In most of the classes we (instructors) take to further our own professional development, we are only asked to watch a video or listen to a lecture, but not required to really delve deeply into what we are learning. In this course, you really had to write and address the topics – take responsibility for learning. I enjoyed this opportunity!” Another instructor valued the course guide and journal because it allowed her to record her thoughts and reflect afterwards.

Suggestions for improvement. Participants offered a number of suggestions for improvement dealing with course length and requirements and mode of delivery.

- **Course Length and Requirements.** Participants mostly agreed that the course was too demanding to be completed in one semester and appreciated the option for taking the course over two semesters. Some instructors commented that “[the course] was very time-consuming” and “a lot of material to complete” in a single semester. Two instructors expressed that taking the course over two semesters resulted in a more “realistic” pacing and allowed instructors to “appreciate it more.”
- **Face-to-Face Component.** Four instructors specifically recommended adding a face-to-face component to the course, noting that it can be formal or informal,

online or in-person. This would foster “community-building” with classmates. Another instructor added, “Even though this is set up as an online platform, I think we should use it to come together (members of the class), either once a week or once a month, to actually see each other and actually work together.”

Survey respondents also offered areas of need or interest in teaching which the CETP course did not address. Some of these recommendations included:

- Request feedback after each task or sub-module rather than at the end of the module.
- Include a module on how to support international students.
- Consider the option to form cohorts by discipline or by campus.
- Use survey results from the beginning of the course to inform the remainder of the course.
- Add refresher courses that reinforce key concepts.
- Develop a repository of resources for instructors to use after the course is concluded.

Summary. The participants indicated they liked the new techniques and strategies they learned, as well as the reinforcement for existing strategies. Novice instructors indicated that the course increased their confidence level while veteran instructors liked the re-introduction of the strategies. Participants liked the organization of the course and the resources used during the instruction. Many considered the self-reflection as an important aspect of the course. Participants generally agreed the course was too demanding to be completed in one semester.

Overall perceptions. Survey respondents indicated positive perceptions of the CETP course (See Figure 4). All spring instructors agreed (44.4% strongly) that the ACUE course increased their knowledge of and skills in using effective teaching. Perceptions were similar during the fall survey administration. In addition, most instructors (77.8%) agreed that the ACUE course has increased their enjoyment of college teaching. Importantly, all spring participants agreed (66.7% strongly agreed) that they would recommend the CETP course to colleagues. Perceptions were comparable with fall survey responses.

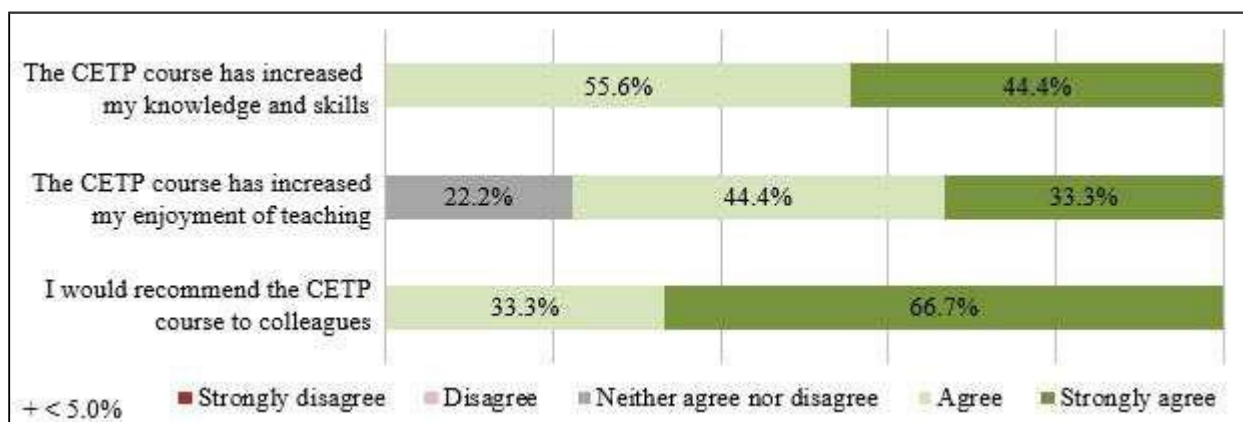


Figure 4. Response frequencies for items regarding instructors' perceptions of the CETP course, spring 2017.

Similar to the fall survey, the majority (six) of the instructors who responded to the spring survey indicated that there were not any areas of needs or interest that the course did not cover. One instructor, though, offered that “It might be interesting to include a module on dealing with difficult students or difficult situations in the classroom, like de-escalating tension or helping students solve problems that are standing in their way of course completion/success.” A second instructor conveyed a list of topics including “how ESL student issues affect class learning environment, online-virtual student integrity, plagiarism concerns.”

All 14 interviewees would recommend this course to other instructors. Ten of the 14 instructors specifically noted that the course would be beneficial to new faculty or to those without a background in education. One instructor commented:

The ACUE course should be a requirement for new teachers, but it’s not very helpful for teachers who have been teaching for a long time, or who have an educational background. The ACUE course would be a good alternative for the standard educational foundation course for incoming teachers.

Another reiterated this point by saying, “[I] would definitely recommend the course to new professors or to professors for whom education is not a background.” In general, those with little teaching experience highly recommended the course, whereas experienced instructors appreciated CETP as a “refresher course” but still recommended it for newer faculty.

Summary. Instructors were very positive in reacting to the CETP course, most notably by increasing knowledge and skills for teaching that instructors could readily incorporate into their classroom instruction. Importantly, many instructors noted a renewed focus on teaching practices and all conveyed they would recommend the course to colleagues.

Course Evaluations

Aggregate student course evaluations from baseline (fall 2015) to fall 2016 remained relatively stable within courses taught by ACUE instructors (see Table 3), though there were slight improvements for 14 out of 15 survey items. The fall 2016 course evaluations were gathered while instructors were enrolled in the first half of the CETP course.

There were more noticeable changes in students’ perceptions of their instructor between baseline course evaluations and the spring 2017 semester. The spring 2017 course evaluations were gathered while instructors were completing the second half of the CETP course. Students’ ratings of instructors for 14 out of 15 survey items improved across time points. The most substantial changes were for instructors creating an atmosphere that encourages learning (+0.15), treats students with respect (+0.13), makes the course interesting (+0.13), and presents the subject matter clearly (+0.13). As with the comparison between baseline and fall 2016 course evaluations, the comparison between baseline and the most recent course evaluations also revealed a slight decline (-0.05) in students’ perceptions that the instructor informs them regularly on how they are doing in the course.

Table 3.
Student course evaluations for ACUE course instructors.

Fall 2015

Fall 2016

Spring 2017

Question	(Baseline)					
	M	SD	M	SD	M	SD
1-The instructor encourages me to learn.	3.74	0.65	3.83	0.45	3.86	0.40
2-The instructor helps me to see the purpose of this course.	3.75	0.59	3.81	0.49	3.87	0.40
3-The instructor is concerned with my progress.	3.67	0.67	3.72	0.57	3.78	0.49
4-The instructor informs me regularly about how I am doing in this course.	3.66	0.68	3.62	0.67	3.61	0.64
5-The instructor treats me with respect.	3.81	0.54	3.87	0.38	3.94	0.28
6-The instructor is available for individual help during office hours or by appointment.	3.73	0.55	3.78	0.49	3.82	0.41
7-The instructor creates an atmosphere that encourages me to learn.	3.73	0.64	3.79	0.50	3.88	0.40
8-The instructor makes this course interesting.	3.71	0.64	3.75	0.56	3.84	0.48
9-The instructor presents the subject matter clearly.	3.75	0.60	3.79	0.50	3.88	0.39
10-The instructor's assignments help me learn the material.	3.59	0.72	3.71	0.53	3.80	0.39
11-The instructor makes good use of class time.	3.74	0.61	3.78	0.48	3.84	0.37
12-The instructor discussed the grading policy at the beginning of the term.	3.80	0.49	3.83	0.40	3.85	0.32
13-The examinations are graded fairly.	3.74	0.59	3.78	0.45	3.84	0.39
14-The instructor responds effectively when asked questions about the subject matter of this course.	3.76	0.54	3.81	0.43	3.86	0.30
15-The instructor is prepared for class.	3.75	0.54	3.78	0.37	3.83	0.29

In addition to a longitudinal examination of student evaluations of CETP instructor courses, a comparison of these instructors with all MDC instructors was conducted. The results of t-tests on mean ratings indicated that at baseline (fall 2015) there was no difference in students' perceptions of CETP ($M = 3.73$) and non-CETP ($M = 3.65$) instructors. At time two (fall 2016), CETP instructors average course rating ($M = 3.78$) was significantly higher than non-CETP instructors ($M = 3.68$; $p < .05$). At time three (spring 2017), CETP course evaluations ($M = 3.83$) were more positive than those of non-CETP instructors ($M = 3.68$), a difference that was statistically significant ($p < .05$). In addition, while course ratings for non-CETP instructors remained relatively constant over time, course ratings for CETP instructors improved by 0.10 points on the survey scale from baseline to time three (spring 2017).

Discussion

Impact of the CETP Course

The results found that instructors had a positive impression of the impact of the CETP course on their teaching skills and that it improved their confidence over the previous year. Novice teachers felt the knowledge of new strategies increased their skills and confidence for teaching in a college classroom and the course provided them with strategies they could readily implement in their courses. Veteran teachers also indicated positive outcomes from the course as it often reinforced what they had learned or even forgotten in prior years. Overall, the course provided new strategies, reinforced strategies they had learned in the past, and provided research to support the use of the strategies. As a result, both novice and veteran instructors felt the course helped them build their confidence to design their courses, teach using effective strategies, assess student outcomes, and provide students with meaningful feedback.

A comparison of responses on the survey during the fall and spring by those that took both surveys revealed some changes in perceptions, though none were statistically significant. Overall, instructors conveyed moderate to high levels of confidence regarding college teaching preparedness and college teaching skills. The majority of instructors also reported that their confidence in these areas increased as compared with the previous year.

Our findings regarding the impact on teaching practices were consistent with the logic model (see Figure 1). In addition to reported changes in their practices, student course evaluations reflected more positive perceptions of CETP instructors between the pre-CETP course semester and the two semesters while participating in the CETP course. CETP instructors also exhibited more positive gains in student course evaluations as compared with all MDC instructors during the two semesters they were enrolled in the course. In addition, student course evaluations of ACUE instructors were significantly more positive than MDC instructors that did not enroll in the course. Further research should examine student course evaluation data at the instructor level, rather than aggregate, in order to establish a causal relationship between ACUE course participation and student course evaluations.

Perceptions of the CETP Course

Overall, the instructors felt the CETP course was most effective in increasing confidence and skills for college teaching. Consistently, instructors mentioned the introduction of new techniques and strategies, as well as the reinforcement of existing strategies and practices, were effective. A common response was the strategies, whether learned for the first time or were re-introduced, were helpful in improving their confidence to teach in the college classroom. The results suggest the instructors view the strategies and practices as a means to improve their students' achievement. Course participants felt the course design was a particular strength and the videos were a valuable resource. Almost all the instructors indicated they would recommend the course to their colleagues.

Conclusions and Recommendations

Based on the findings from the present evaluation study, overall conclusions are:

- Student course evaluations reflected more positive perceptions of instructors after participating in the CETP course and were also more positive as compared with MDC instructors not participating in the CETP course.

- The course was seen as valuable by the instructors. Novice instructors indicated it provided useful new information and veteran instructors viewed the course as a refresher.
- The instructors agreed that the course increased their confidence in using the various strategies as compared with their confidence the previous year. Instructors conveyed the greatest improvements in the areas of their ability to grow as an instructor and their ability to promote students' higher order thinking.
- The responses to the CETP course were very positive. Instructors indicated a strong organization with valuable resources used in the instruction. Nearly all of the instructors agreed they would recommend the course to their peers.

Recommendations include:

- Continue offering the course over a two-semester sequence. Participants indicated the course was time intensive with a lot of knowledge to complete in a single semester.
- Add a face-to-face component to foster “community building” with classmates and provide a means of working together.
- Provide feedback at the end of each module.
- Include a module on how to support international students.
- Provide a cohort option for discipline or campus.
- Use survey results from beginning of course to inform the remainder of the course.

Appendix A: College Teaching Survey

A. Confidence in and Preparedness for College Teaching

Please indicate for each of the following (a) your degree of confidence in the particular trait or ability noted and (b) the degree to which that confidence has changed from last year to now. Last year refers to before the Fall 2016 term/semester began.

I feel confident that I am an effective teacher.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
I feel confident that my classes are well liked by students due to my teaching abilities	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
I feel confident about my ability to grow as an instructor (learn new strategies, revise less successful ones, etc.)	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
I feel confident about my ability to create a supportive learning environment for students (e.g., through communications, availability, knowing them as individuals)	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
I feel confident that students in my classes learn more than do students in similar classes taught by other instructors.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
I feel confident that I am able to increase students' persistence to achieve	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher

B. Teaching Skills

Indicate your confidence in your skills for using each of the following instructional strategies.

Ability to plan and design effective class sessions	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Ability to make learning engaging.	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Ability to create a positive learning environment	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Promote students' higher order thinking	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Helping students to become more self-directed learners	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Using assessments to inform instruction	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Offering feedback to help students improve	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Ability to lecture (present material) in an engaging way	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Ability to stimulate productive class discussion through questioning	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
Ability to arrange and manage small-group discussion	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident

Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher
---	------------	----------------	----------------	-----------------	-------------

C. ACUE Course

The ACUE course has increased my knowledge of and skills in using effective teaching techniques and practices.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The ACUE course has increased my enjoyment of college teaching.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I would recommend the ACUE course to colleagues*	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

*If strongly disagree or disagree, why?

D. Open-Ended

17. In what ways has the ACUE course been most effective in increasing your confidence and skills for college teaching?

18. Are there any areas of need or interest in your teaching which the ACUE course didn't address?

Appendix B: Instructor Interview Protocol

1. For background purposes, please tell me a little about yourself – what department do you teach in, how long have you been teaching, etc.
2. Please describe any Professional Development or Teaching Practices courses you have taken prior to CETP (if any).

Confidence and Preparedness for College Teaching

1. What impact has the ACUE course had on your preparedness to teach college courses?
2. What impact has the ACUE course had on your confidence in your abilities to teach college courses?

Confidence in Teaching Abilities

1. What impact has the ACUE course had on your knowledge of instructional strategies?
2. Which strategies (old and new) in particular were most influenced by your participation in this course?
3. How has your confidence in your ability to employ instructional strategies changed due to the ACUE course?

Perceptions of ACUE course

1. What are the strengths of the ACUE course?
2. What suggested improvements do you have for the ACUE course?
3. Would you recommend the ACUE course to other instructors? Why or why not?

Appendix C: Frequencies and Descriptive Statistics for College Teaching Survey

A. Confidence in and Preparedness for College Teaching

I feel confident that I am an effective teacher.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD
Fall 2016	0.0%	0.0%	0.0%	50.0%	50.0%	4.50	0.51
Spring 2017	0.0%	0.0%	0.0%	77.8%	22.2%	4.22	0.44
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
Fall 2016	0.0%	0.0%	11.1%	55.6%	33.3%	4.22	0.65
Spring 2017	0.0%	0.0%	22.2%	44.4%	33.3%	4.11	0.78
I feel confident that my classes are well liked by students due to my teaching abilities	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD
Fall 2016	0.0%	0.0%	5.6%	50.0%	44.4%	4.39	0.61
Spring 2017	0.0%	0.0%	0.0%	77.8%	22.2%	4.22	0.44
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
Fall 2016	0.0%	0.0%	11.1%	61.1%	27.8%	4.17	0.62
Spring 2017	0.0%	0.0%	33.3%	44.4%	22.2%	3.89	0.78
I feel confident about my ability to grow as an instructor (learn new strategies, revise less successful ones, etc.)	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD
Fall 2016	0.0%	0.0%	0.0%	33.3%	66.7%	4.67	0.49
Spring 2017	0.0%	0.0%	0.0%	33.3%	66.7%	4.67	0.50
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
Fall 2016	0.0%	0.0%	11.1%	44.4%	44.4%	4.33	0.69
Spring 2017	0.0%	0.0%	22.2%	22.2%	55.6%	4.33	0.87
I feel confident about my ability to create a supportive learning environment for students (e.g., through communications, availability, knowing them as individuals)	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD
Fall 2016	0.0%	0.0%	0.0%	44.4%	55.6%	4.56	0.51
Spring 2017	0.0%	0.0%	0.0%	88.9%	11.1%	4.11	0.33
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
Fall 2016	0.0%	0.0%	16.7%	33.3%	50.0%	4.33	0.77
Spring 2017	0.0%	0.0%	22.2%	55.6%	22.2%	4.00	0.71
I feel confident that students in my classes learn more than do students in similar classes taught by other instructors.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD
Fall 2016	0.0%	0.0%	38.9%	27.8%	33.3%	3.94	0.87
Spring 2017	0.0%	0.0%	11.1%	77.8%	11.1%	4.00	0.50
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD

	Fall 2016	0.0%	0.0%	50.0%	22.2%	27.8%	3.78	0.88
	Spring 2017	0.0%	0.0%	33.3%	66.7%	0.0%	3.67	0.50
I feel confident that I am able to increase students' persistence to achieve	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD	
	Fall 2016	0.0%	0.0%	5.6%	55.6%	38.9%	4.33	0.59
	Spring 2017	0.0%	0.0%	11.1%	66.7%	22.2%	4.11	0.60
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
	Fall 2016	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.84
	Spring 2017	0.0%	0.0%	22.2%	66.7%	11.1%	3.89	0.60

B. Teaching Skills

Ability to plan and design effective class sessions	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD	
	Fall 2016	0.0%	0.0%	0.0%	37.5%	62.5%	4.28	0.57
	Spring 2017	0.0%	0.0%	0.0%	66.7%	33.3%	4.33	0.50
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
	Fall 2016	0.0%	0.0%	22.2%	44.4%	33.3%	4.11	0.76
	Spring 2017	0.0%	0.0%	33.3%	44.4%	22.2%	3.89	0.78
Ability to make learning engaging.	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD	
	Fall 2016	0.0%	0.0%	0.0%	33.3%	66.7%	4.33	0.49
	Spring 2017	0.0%	0.0%	11.1%	77.8%	11.1%	4.00	0.50
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
	Fall 2016	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.84
	Spring 2017	0.0%	0.0%	11.1%	77.8%	11.1%	4.00	0.50
Ability to create a positive learning environment.	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD	
	Fall 2016	0.0%	0.0%	0.0%	16.7%	83.3%	4.33	0.59
	Spring 2017	0.0%	0.0%	0.0%	88.9%	11.1%	4.11	0.33
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
	Fall 2016	0.0%	0.0%	16.7%	44.4%	38.9%	4.22	0.73
	Spring 2017	0.0%	0.0%	22.2%	66.7%	11.1%	3.89	0.60
Promote students' higher order thinking.	Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD	
	Fall 2016	0.0%	0.0%	0.0%	45.8%	54.2%	4.11	0.76
	Spring 2017	0.0%	0.0%	11.1%	66.7%	22.2%	4.11	0.60
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
	Fall 2016	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.84
	Spring 2017	0.0%	0.0%	11.1%	44.4%	44.4%	4.33	0.71

Helping students to become more self-directed learners.		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	0.0%	50.0%	50.0%	4.11	0.58
	Spring 2017	0.0%	0.0%	11.1%	77.8%	11.1%	4.00	0.50
Compared to last year, my confidence about this is:		Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
	Fall 2016	0.0%	0.0%	16.7%	50.0%	33.3%	4.17	0.71
	Spring 2017	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.87
Using assessments to inform instruction.		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	8.3%	50.0%	41.7%	4.17	0.62
	Spring 2017	0.0%	0.0%	22.2%	66.7%	11.1%	3.89	0.60
Compared to last year, my confidence about this is:		Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
	Fall 2016	0.0%	0.0%	33.3%	38.9%	27.8%	3.94	0.80
	Spring 2017	0.0%	0.0%	22.2%	55.6%	22.2%	4.00	0.71
Offering feedback to help students improve.		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	0.0%	33.3%	66.7%	4.33	0.59
	Spring 2017	0.0%	0.0%	0.0%	77.8%	22.2%	4.22	0.44
Compared to last year, my confidence about this is:		Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
	Fall 2016	0.0%	0.0%	27.8%	38.9%	33.3%	4.06	0.80
	Spring 2017	0.0%	0.0%	22.2%	66.7%	11.1%	3.89	0.60
Ability to lecture (present material) in an engaging way		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	4.2%	45.8%	50.0%	4.44	0.62
	Spring 2017	0.0%	0.0%	11.1%	66.7%	22.2%	4.11	0.60
Compared to last year, my confidence about this is:		Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
	Fall 2016	0.0%	0.0%	27.8%	27.8%	44.4%	4.17	0.86
	Spring 2017	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.87
Ability to stimulate productive class discussion through questioning		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	4.2%	41.7%	54.2%	4.17	0.71
	Spring 2017	0.0%	0.0%	0.0%	88.9%	11.1%	4.11	0.33
Compared to last year, my confidence about this is:		Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD
	Fall 2016	0.0%	0.0%	33.3%	33.3%	33.3%	4.00	0.84
	Spring 2017	0.0%	0.0%	22.2%	44.4%	33.3%	4.11	0.78
Ability to arrange and manage small-group discussion		Very doubtful	Somewhat doubtful	Neither confident nor doubtful	Confident	Very confident	M	SD
	Fall 2016	0.0%	0.0%	12.5%	33.3%	54.2%	4.17	0.62

	Spring 2017	0.0%	0.0%	0.0%	88.9%	11.1%	4.11	0.33
Compared to last year, my confidence about this is:	Much lower	Somewhat lower	About the same	Somewhat higher	Much higher	M	SD	
Fall 2016	0.0%	0.0%	27.8%	38.9%	33.3%	4.06	0.80	
Spring 2017	0.0%	0.0%	22.2%	55.6%	22.2%	4.00	0.71	

C. ACUE Course

The ACUE course has increased my knowledge of and skills in using effective teaching techniques and practices.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD	
Fall 2016	0.0%	0.0%	0.0%	50.0%	50.0%	4.50	0.51	
Spring 2017	0.0%	0.0%	0.0%	55.6%	44.4%	4.44	0.53	
The ACUE course has increased my enjoyment of college teaching.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD	
Fall 2016	0.0%	0.0%	27.8%	38.9%	33.3%	4.06	0.80	
Spring 2017	0.0%	0.0%	22.2%	44.4%	33.3%	4.11	0.78	
I would recommend the ACUE course to colleagues*	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	M	SD	
Fall 2016	0.0%	0.0%	0.0%	44.4%	55.6%	4.56	0.51	
Spring 2017	0.0%	0.0%	0.0%	33.3%	66.7%	4.67	0.50	

Appendix D: Results of the Comparison Across Survey Administrations

Paired Sample T-test comparing Fall 2016 and Spring 2017 survey

Question	Fall 2016			Spring 2017		Mean Diff	Std. Error Mean Diff	t-value	p-value
	N	M	SD	M	SD				
I feel confident that I am an effective teacher.	9	4.44	0.53	4.22	0.44	-0.22	0.15	-1.51	0.169
Compared to last year, my confidence about this is:									
I feel confident that my classes are well liked by students due to my teaching abilities.	9	4.22	0.67	4.22	0.44	0.00	0.17	0.00	1.000
Compared to last year, my confidence about this is:									
I feel confident about my ability to grow as an instructor (learn new strategies, revise less successful ones, et	9	4.56	0.53	4.67	0.50	0.11	0.20	0.55	0.594
Compared to last year, my confidence about this is:									
I feel confident about my ability to create a supportive learning environment for students	9	4.44	0.53	4.11	0.33	-0.33	0.17	-2.00	0.081
Compared to last year, my confidence about this is:									
I feel confident that students in my classes learn more than do students in similar classes taught by other instructors	9	3.78	0.83	4.00	0.50	0.22	0.32	0.69	0.512
Compared to last year, my confidence about this is:									
I feel confident that I am able to increase students' persistence to achieve.	9	4.11	0.60	4.11	0.60	0.00	0.17	0.00	1.000
Compared to last year, my confidence about this is:									
Ability to plan and design effective class sessions.	9	4.00	0.50	4.33	0.50	0.33	0.17	2.00	0.081
Compared to last year, my confidence about this is:									
Ability to make learning engaging.	9	4.11	0.33	4.00	0.50	-0.11	0.11	-1.00	0.347
Compared to last year, my confidence about this is:									
Ability to create a positive learning environment.	9	4.00	0.50	4.11	0.33	0.11	0.11	1.00	0.347
Compared to last year, my confidence about this is:									
	9	3.89	0.60	3.89	0.60	0.00	0.17	0.00	1.000

Promote students' higher order thinking.	9	3.78	0.67	4.11 ^a	0.60	0.33	0.17	2.00	0.081
Compared to last year, my confidence about this is:	9	3.67	0.71	4.33	0.71	0.67	0.24	2.83	0.022
Helping students to become more self-directed learners.	9	4.00	0.71	4.00	0.87	0.00	0.29	0.00	1.000
Compared to last year, my confidence about this is:	9	3.56	0.73	4.00	0.71	0.44	0.29	1.51	0.169
Offering feedback to help students improve.	9	4.11	0.60	4.22	0.44	0.11	0.20	0.55	0.594
Compared to last year, my confidence about this is:	9	3.78	0.67	3.89	0.60	0.11	0.20	0.55	0.594
Ability to lecture (present material) in an engaging way.	9	4.22	0.67	4.11	0.60	-0.11	0.11	-1.00	0.347
Compared to last year, my confidence about this is:	9	3.89	0.78	4.00	0.87	0.11	0.20	0.55	0.594
Ability to stimulate productive class discussion through questioning.	9	3.89	0.60	4.11	0.33	0.22	0.15	1.51	0.169
Compared to last year, my confidence about this is:	9	3.56	0.73	4.11	0.78	0.56	0.24	2.29	0.051
Compared to last year, my confidence about this is:	9	3.78	0.67	4.00	0.71	0.22	0.15	1.51	0.169
The ACUE course has increased my knowledge of and skills in using effective teaching techniques and practices.	9	4.33	0.50	4.44	0.53	0.11	0.11	1.00	0.347
The ACUE course has increased my enjoyment of college teaching.	9	4.00	0.71	4.11	0.78	0.11	0.20	0.55	0.594
I would recommend the ACUE course to colleagues	9	4.44	0.53	4.67	0.50	0.22	0.15	1.51	0.169

^a Spring 2017 mean was significantly higher than fall 2016 mean, $p < .05$.