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Many Hands Make Light Work: Collaborative Action Research on Flipped Course Design

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Abstract

This mixed-method, collaborative action research project involves graduate students and the professor working together to refine a flipped course model incorporating web-based platforms for dialog and communication. Graduate students collaborated with the professor to refine the delivery of the course through iterative cycles of action research. Collegial collaboration presents a model of empowerment and professionalism to pre-service and in-service teachers, and encourages students to use similar methodologies in preK-12 settings. Data analysis is underway. Initial results suggest that students felt empowered and engaged in critical thinking and the development of professional skills in instructional technology, collaboration, and communication.

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This study documents the revision of a M. Ed. course on Classroom and Behavior

Management, offered by American International College in Springfield, Massachusetts.

The research documents collaboration between the professor and graduate students in

four sections of the course to refine a flipped instructional model that includes web-based

communication technologies and elements of backwards design. The purposes of the

action research are a) to involve the end-users in a systematic cycle of evaluation and

improvement of course delivery, b) to model inclusive teaching and curriculum

development practices, and c) to foster an action research mentality of empowerment in

pre-service and in-service teachers.

The research question asks how can graduate students and the professor work

together refine a course delivery model that demands critical thinking, creativity,

communication and collaboration, flexibility, and fluency with instructional technology,

while allocating class time for the most challenging learning experiences?

Theoretical Framework

McNiff and Whitehead describe action research as a systematic and iterative

method to "improve learning in order to improve educational practice" (2006, p. 1). The

theoretical framework of action research is transformative and emancipatory, both for the

researcher and for others involved (Creswell, 2008; Johnson, 2008; McNiff &

Whitehead; Stringer, 2007). Unlike traditional research, in which the researcher regards

others as the subjects of study, action research is a participatory process that intentionally

includes others as collaborators and co-creators of new knowledge (Stringer). Action

research is designed to include members of a community of interest in a "participatory process that involves all those who have a stake in the issue…in systematic inquiry into the issue being investigated" (Stringer, p. 6). Student-professor collaboration in the systematic refinement of a flipped course design is an example of researcher collaboration with the "community of interest," in which graduate students actively participate in the creation of new pedagogical knowledge needed to respond to a changing educational environment.

The experience of co-researching has the potential to inspire students to bring the same approach into future professional practice. Action research conducted by a student-professor team is a progressive stance that re-positions students as co-creators of adult learning experiences. A graduate course is a highly localized situation that is experienced in distinctly different ways by the instructor and by students. By including multiple voices in the process of iterative course development, a richer end product should result. Student-professor collaboration is a democratic alternative to traditional curriculum development that "pushes back against the power imbalance between universities and [practitioners], allowing practitioners to become creators of knowledge, rather than mere consumers of it" (Lattimer, 2012, p. 5).

The traditional model of course design in higher education is faculty-driven (Dean, 1994; Dick, Carey, & Carey, 2005; Fink, 2003; O'Brien, Millis, & Cohen, 2008). The faculty-centric perspective on course design can be likened to a one-way mirror, in which the professor sees learning experiences through the perspective of the discipline or the department. Unlike the one-way course design process, the action research version of course design is *influenced and supported by* students as it moves through multiple

iterations. Rather than viewing actions and attitudes of graduate students as the focus of study, or viewing action research as something students should do under faculty supervision as is typical in many action research studies (c.f. Lattimer, 2012; Kitchen & Stevens, 2008), the course design itself is the focus of this study, with students and professor assuming the stance of co-researchers. Changes in course delivery and syllabus design result from dialog and interaction between students and professor, thus striking a delicate balance between adhering to required course content and developing a dynamic instructional model that fosters dispositions of communication, teamwork, reflection, tolerance of uncertainty and change, and active learning. Student-professor collaboration thus "pushes back against the power imbalance between universities and [teacher-practitioners], allowing practitioners to become creators of knowledge, rather than mere consumers of it" (Lattimer, p. 5). The collaborative design model provides graduate students with a democratic paradigm for future professional practice K-12 classrooms.

Context of course revision.

The graduate program at American International College is spatially compressed but geographically dispersed; students complete a 36-credit program in 8-week courses over a two-year period, with cohorts meeting at 12 locations across Massachusetts. The course on Classroom and Behavior Management is required for multiple areas of licensure, and thus serves a central role in the teacher preparation program. The syllabus has not been revised in a number of years, and did not address emerging developments in preK-12 education, including (a) recent state and federal laws on bullying, sexual harassment, and transgender issues; (b) integration of instructional and communications technologies; (c) higher-order critical thinking; (d) the changing realities of students in

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preK-12 settings in terms of ethnicity, socioeconomic status, language, culture, and behavior; and (e) recent literature on the roles of families, student motivation, and student disabilities in the successful management of a diverse classroom. Given the rapidly changing nature of teaching and learning in American classrooms, it is essential to prepare teachers to skillfully incorporate emerging developments in the legal, socioeconomic, technological, developmental, and pedagogical dimensions of classroom practice (Darling-Hammond, 2010; Darling-Hammond & Bransford, 2005). These competencies are required to meet the Massachusetts Professional Standards for Teachers and the learning goals and objectives of the education department at the college. The revised syllabus needed to take all of these emerging elements into account.

Justification for inclusion of flipped course design in research.

The revised version of the course employs a flipped structure, in which students use class time for those assignments requiring the greatest individualized support, while moving lectures and discussions outside of class via digital technologies (Bergmann & Sams, 2012; Berrett, 2012, Fulton, 2012). In this course, students critically evaluated articles and videos using Voice Thread (2013), an asynchronous online collaboration forum, in order to open up class time to engage in the complex task of developing the comprehensive classroom and behavior management plans that are the centerpiece of the course. Student teams also interacted outside of class in Spider Scribe (2013), a web-based concept-mapping platform, in order to construct a visual map of the key concepts from the course using text, documents, and images. Given the intense time pressure inherent in an 8-week course, it is necessary to optimize the use of every minute of class time. Using a flipped course design allowed students to use precious class time for the

most challenging assignments, thereby creating a less pressured and more reflective forum for group discussion. Research shows that flipping promotes an individualized approach to learning, leading to increases in student learning, academic achievement, active engagement, and motivation (Bergmann & Sams, 2012; Berrett, 2012; Fulton, 2012). Ongoing analysis of feedback from graduate students in this course supports the research.

Methodology

The study is a mixed methods analysis of collaborative development a flipped course design. Qualitative data sources include a) anonymous student feedback forms evaluating selected aspects of the course (Appendix A); b) the professor's reflective journal; c) reflections on summative performance assessments; and d) notes from focus group sessions at the end of every course section, which critically evaluate aspects of the course model that were successful and those that need further development (Appendix C). Quantitative sources include anonymous surveys specific to syllabus development administered at the end of the course (Appendix B). Qualitative data are being entered into TAMS Analyzer and coded for themes. Quantitative data from end-of-course surveys will be represented in table and chart form to identify trends and overall patterns in responses. Data analysis during the first session informed and guided improvements to the course design for subsequent sections. The triangulation of multiple sources of qualitative and quantitative data should produce a more comprehensive and reliable justification for course revisions (Creswell).

The study timeline ranged from March through July 2013. The course was taught in four eight-week sections at different locations in Massachusetts from March to May

2013, and May to July 2013. A fifth course section scheduled for October to December, 2013 was omitted. 45 graduate students participated in the development process. All students are in the M.Ed. program for Initial Licensure. In addition, the program director for Moderate Disabilities monitored, developed, refined, and added elements to the course content.

Results

Data collection and analysis proceeded on schedule. The first four sections of the course, from March to May and May to July 2013, were completed. The fifth section of the course was omitted because the researcher accepted a job offer in another state, and was thus unavailable to teach the fifth section. Data from end-of-course surveys were tabulated and represented in chart form. Anonymous feedback data and reflections on the performance assessment were entered into TAMS Analyzer and are being coded for themes. Coding is still currently underway. Comments from group focus sessions at the end of each course section were entered into the reflective journal maintained by the researcher and are being coded for themes.

Themes emerging from qualitative analysis of the four course sections indicate a positive response to the flipped structure, with creative suggestions for further improvement.

1.   Significant engagement with the learning process: the work students did in class with legal resources on bullying and harassment fostered deep conversations with colleagues. Students needed to read the law, analyze the meaning, the differences between state and federal laws, ambiguities in the laws, and contrast those laws with conditions in local school districts. Students discovered through dialog and

analysis that the law is unclear in certain respects, thus requiring practitioners to fully appreciate the need for caution and vigilance in these legal domains.

2.   Commitment to learning and using new forms of instructional technology: students collaborated outside of class to learn Voice Thread (2013), a web-based discussion platform. Student pairs also chose a web-based concept-mapping tool and constructed a map of the relationship between concepts covered in the course. One student commented that the concept mapping "…stretched my own biases and beliefs to understand and be open to my partner's inputs and insights." Another student highlighted the layers of learning required by this seemingly simple assignment: "As a partner project, this was initially a bit daunting. Once we both had time to individually explore Spider Scribe, things moved along more smoothly. So the goals were shared, but took independent study." The instructional technology component pushed some students out of their comfort zones, which may have been intimidating at first, but empowering in the end. One student responded "I loved it! Thank you for pushing me to learn something new!"

3.   Willingness to assume responsibility for learning new forms of instruction: the student-generated suggestion to replace Spider Scribe (2013) with a wide choice of possible collaborative platforms drastically altered the entire approach to online collaboration. The same student noted that one small change triggered a cascade of critical thought about the use of web-based learning platforms.

> Requiring student partners to research and select a [collaborative] platform introduces the critically demanding process of evaluating and selecting online tools. Students must teach colleagues about a diverse

array of platforms as part of the learning process, rather than passively accepting and using a platform chosen by the professor.

4. Critical thinking and meaningful discourse: the course demanded that students view situations and dilemmas from diverse perspectives, which far exceeds the simple transfer and regurgitation of factual information. One student remarked that "…seeing ideas from others, and being forced to think of things from another person's perspective…" elevated the level of critical thinking in the course. Another student indicated that "…listening to others' opinions and thoughts made me challenge my own thinking and really think outside of my own realm. I loved it!"

5.   Empowerment and control over the learning process: one student felt "privileged that the professor of a graduate course took the time and had the confidence in the students to ask for insight for improving the course for future students. I had never been asked for feedback on the implementation of instruction and material for a class. I felt honored." Another student asserted that graduate students typically enter a class believing that everything in the syllabus is "written in stone." The student began the course with the conventional mindset, but quickly arrived at the transformative realization that professors are not omniscient.

Professors and administrators always know best how and what to teach. However, this assumption is now open to question. Who understands better if curriculum is designed and implemented in an optimal manner than the graduate students taking the course, who must experience what is written in the textbooks in a personal way, every day? Conventional wisdom says that the very best teachers, the ones who have the most profound effect on students' lives, constantly adjust instruction based upon the learning needs of the students. How is it possible to create an engaging course that piques curiosity without inviting the participation of those who are most profoundly affected? By having this meeting of the

minds, and by coordinating the best ideas and teaching practices of students and faculty, we optimized a learning experience that will benefit future teachers.

6. Specific and useful suggestions for improving the course delivery model: early

changes to the course design include adding class time to attend to details of

student access to web-based platforms in class, collaboratively developing and

refining the rubric for an IEP behavioral goals assignment, changing the deadlines

for certain assignments to improve work flow; and adding options for selection of

a web-based concept mapping platform. The director of the Moderate Disabilities

program, who oversees the course, will continue syllabus development based on

the data and results collected.

Quantitative analysis of the end-of-course surveys supports the positive student

view of learning in the flipped classroom. The anonymous survey form (Appendix B)

was administered to 45 students. 40 students returned the surveys, but students did not

rate all items on the survey. Because many returned surveys contain gaps in responses,

results were tabulated in percentages rather than raw numbers. Overall, the responses to

the questions in the survey were heavily weighted toward Agree and Strongly Agree.

Charts for several survey questions are included below. The strongly positive rating is

representative of the larger data set.
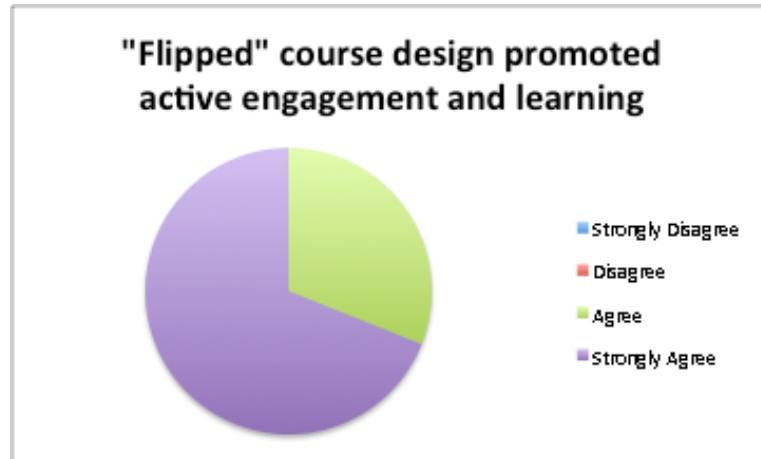
Figure 1. Student response to the "flipped" course design is overwhelmingly positive, with no negative responses to the question.
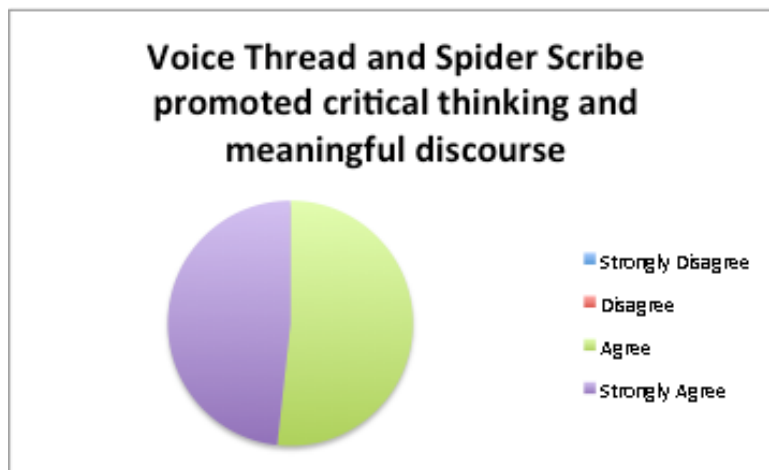
Figure 2. Critical thinking and productive discourse were key features of the web-based collaborative tools. There were no negative views of the web-based platforms.

Figure 3. Demands for flexibility, working with colleagues, and adaptability in the face of sudden change were intentionally built into the course design. Students agreed that the course design promoted these professional skills. There were no negative views of these professional skills.

Conclusions and Educational Implications

Data analysis conducted thus far suggests that the experience of critically analyzing the course structure promotes the metacognitive development and self-efficacy of the course participants. Students benefitted from assuming a co-creative role that required greater responsibility and control over learning. The professor benefitted from constructive feedback and collaborative support in revising the course. The course syllabus itself benefitted from the diverse perspectives of the professor, graduate students, and the inclusion of current K-12 educational realities.

The faculty and student practitioners co-created learning structures that will support future teachers in deeper and more complex understandings of classroom dynamics. It is by creating good ideas in response to dilemmas grounded in daily practice, and by integrating those ideas into the course design, that graduate students and professors can think as partners about professional knowledge and how best to support all children in the classroom. Stringer (2007) criticizes that the traditional expectation that trained professionals can mechanically apply standardized procedures in all settings, regardless of the context. The professional learning that occurred in the collaborative development of the course syllabus far exceeds any mechanized version of professional knowledge. Mechanized knowledge will not suffice in diverse and rapidly changing educational settings. Student feedback supports the contention that practitioners are more than doers; practitioners can leverage knowledge of practice that improves formal

learning structures such as course syllabi. The nuanced contexts of K-12 classrooms and the diverse settings of professional practice thus informed the development of significant learning structures in the syllabus.

Insights gained from student-professor collaboration.

Ongoing analysis of student feedback on the process of collaborative course development indicates strong support for the position that action research is inclusive, transformative, and empowering (Creswell, 2008; Johnson, 2008; McNiff & Whitehead, 2006; Stringer, 2007). One student-researcher appreciated the fact that the professor asked for students' honest reflections on the course design.

> Critiquing the course delivery was an empowering experience. Not only did I learn the course content, but I thought critically about how the content was presented and how presentation could be improved. Some suggested changes, such as moving an assignment two weeks earlier, were minor. Others, such as presenting a particular behavioral theorist earlier in the course, opened a rich conversation about the importance of theory and the benefits that future students would derive from learning about certain theorists before finishing the final project.

Involvement in the critical analysis and revision of the flipped course design empowers graduate students to be active co-creators of shared knowledge. Students value peer feedback and collaboration, and express interest in continuing to use the same instructional approach in preK-12 classrooms. Unlike the traditional model of teacher-telling, collaborative action research promotes a collegial community of teacher and students solving problems and learning together.

Implications for further research and course development.

The collaborative action research approach should spur similar efforts to update other courses in the Education Department at American International College. The

department is awaiting final results from the research. When completed, the analytical framework, the inclusive nature of the research, and the iterative approach will serve as a model for ongoing program assessment and development.

Professional development for other faculty teaching this course and other courses undergoing a similar revision process will be a necessary outcome of the research. Engaging and supporting other faculty across the state will help teacher educators foster new instructional skills and equally collaborative relationships with students. The research aims to move beyond co-creation of knowledge with graduate students and one professor. Engaging and supporting other faculty in embracing a democratic, 21st century instructional model will be a necessary step in scaling up the research.

Appendix A
Student Feedback Form

Date _____   Learning Activity _____

EDC 412: 21ST CENTURY SKILLS FEEDBACK

1.   This activity helped me commit to shared learning goals by….

2.   This activity challenged me to extend my critical thinking by…

3.   This activity promoted communication and collaboration by…

4.   This activity demanded flexibility and adaptability by…

5.   The rigor and quality of learning in this activity could be improved by…..

Appendix B
End-of-Course Survey Questions

Survey Question	Strongly Disagree	Disagree	Agree	Strongly Agree
Voice Thread and Spider Scribe developed my professional skills in communication and collaboration.				
Voice Thread and Spider Scribe promoted critical thinking and meaningful discourse.				
The performance assessment challenged my assumptions about classroom management.				
The performance assessment required that I adjust to a situation of disruptive change.				
The course structure developed my professional skills in flexibility and adaptability.				
The online portions of the course required that I develop my skills in instructional and communications technology.				
The course left me with a deeper appreciation of the complex system of factors that influence classroom behavior and management.				
The presentations on the behavioral theorists promoted my skills in collaboration and communication.				
My presentation on the behavioral theorist promoted my research skills.				
The "flipped" course design promoted my active engagement with learning.				

Appendix C
Focus Group Questions

7. What are 3 aspects of the course fostered personal and collegial learning?

8. What are 3 challenging aspects of the course that made you think deeply and question your assumptions?

9. What are 3 aspects of the course delivery (not content) model that you think still need improvement? How could those aspects be improved?

10. How did participation in the course development process affect your view of your own professional practice?

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