Wikis, Workshops and Writing:

Strategies for Flipping a College Community Engagement Course

Robert W. Maloy, Ed.D., University of Massachusetts Amherst

Sharon A. Edwards, Ed.D., University of Massachusetts Amherst

Allison Evans, M.Ed., Williston Northampton School

Abstract

This paper describes utilizing wiki technology, small group workshops, and reflective writing assignments to "flip" a community engagement/service-learning course for college undergraduates who are tutoring culturally and linguistically diverse students in K-12 schools. Flipped classrooms are gaining popularity in the teaching of science, accounting, and other traditionally lecture-based college courses. In this flipped structure, in-class faculty lectures and presentations are replaced by assignments in a wikispace featuring multimodal resources that students hear, view or read and write about weekly. During class, student rotate through a series of three learning workshops facilitated by faculty and student leaders.

Keywords: Flipped classrooms, Wikis, Online Learning, Community Engagement, Service Learning, Student Writing, College Teaching

INTRODUCTION

Riding a wave of technology-inspired educational change, flipped classrooms have emerged as an exciting new approach to teaching and learning in schools and colleges. In theory, flipping a classroom switches the academic activities students typically did in class (listening to lectures, taking notes, viewing video or PowerPoint presentations) with those they did as homework (individual research, group projects, meeting with teachers for individual assistance). In-class

time is spent in more active and focused learning among individuals, groups and instructors (Bergmann & Sams, 2012; Lepi, 2012; Educause Learning Initiative, 2012).

In this paper we describe flipping "Education 497I: Tutoring in Schools," a community engagement/service learning course in the College of Education at the University of Massachusetts Amherst that has been taught fall and spring semesters continuously for the past 30 years. Each semester, 50-60 undergraduates and a small number of graduate students enroll in the course, many of whom plan to become elementary or secondary school teachers.

For its first 28 years, "Tutoring in Schools" was taught as a service-learning course where students tutored culturally and linguistically diverse learners in local K-12 schools and after-school programs. We, as faculty instructors, organized weekly two and one-half hour seminars exploring issues of class, race, gender, language, exceptionalities, and identity in schools. Beginning two years ago, we began flipping the weekly course seminar while maintaining the school-based tutoring requirement for all students. Three learning features comprise the course's flipped structure:

- ***Wiki***: Learning resources are located online at a free public wikispace called "Tutoring in Schools," available at http://teams-tutoringinschools.wikispaces.com/. An online wiki encompasses materials beyond print-based texts including videos, podcasts, interactive websites and serious learning games.
- ***Workshops***: Weekly class meetings are organized as mini-workshops and conducted in a "1/2/3 time" rotation. We subdivide two class sections totaling 50 to 60 college students into three smaller 15 to 20-person groups that rotate through three interactive experiences related to the week's topic.

- ***Writing***: College students write reflective responses to wiki assignments, school tutoring experiences and in-class mini-workshop activities.

Initially, the idea of flipping the class seminar component of the course did not seem to us to be an innovative instructional strategy. Civic engagement courses often are different from other courses in the higher education curriculum. Since the students in our class spend considerable time in community-based school settings, the structure of a weekly seminar with the whole class divided into two rooms—one with high school and adult tutors, the other with middle and elementary school tutors—with everyone participating in mini-lectures, small and whole group discussions, and some active learning activities seemed more appropriate than having a large faculty lecture followed by small group break-out discussions.

Yet, the availability of online technology with multimodal educational resources freely available to students meant we could not ignore the potential of these tools to inspire new learning experiences for college students and new teaching techniques for us as course instructors.

The Emergence of Flipped Classrooms

Flipped classrooms are transforming the teaching of traditionally lecture-based math and science subjects through learning partnerships that engage students with each other and with course instructors (Barba, 2012; Flipped Learning Network, 2012; Office of Faculty & Organizational Development, 2012). Higher education faculty members who conduct flipped classes report remarkable teaching and learning impacts. After Grand Valley State University in Michigan flipped the structure of Calculus I, one mathematics professor concluded that the traditional classroom approach does not meet the needs of many students while the flipped classroom offers ways for everyone to learn essential mathematical, technological, and reasoning skills in small, supported steps (Talbert, 2012). At Stanford University, an electrical engineering lecturer had a similar reaction to flipping his class. After making videos for students to watch outside of class, he found in-class time could now be "used to have interactive sessions and guest lectures from

leading engineers in semiconductor startups, big companies and venture capital firms focused on nonmanufacturing/nanotech" (Anderson, 2013). The enlarged class experience was highly regarded by students and faculty alike.

Flipped classrooms utilize concepts proposed first by computer pioneer Seymour Papert who championed shifting educational focus from "Instructionism" to "Constructionism"—meaning freeing students from passively receiving information to enabling teachers and students to actively create knowledge through individual and collaborative learning activities (Papert & Harel, 1991). Digital technologies make a flipped model possible by moving crucial information presentation activities to the Web. By enabling students to see and hear lectures, watch videos, and access interactive web materials outside of class, more interactive individual and small group learning activities can take place during class time.

Using a free wikispace for weekly assignments, we envisioned a hybrid combination of traditional and flipped approaches for the "Tutoring in Schools" course (Table 1).

Table 1: *Comparison of Traditional, Flipped, and "Tutoring in Schools" Classes*

	Traditional	Flipped	Tutoring in Schools
Activities During Class	Teacher-led instruction using lectures and discussions with large groups, small groups and individuals.	Teacher and student-led activities with whole groups, small groups and individuals.	Teacher and student-led small group activities in a rotating 1/2/3 time workshop format.
	Students come prepared to learn from teachers who impart information or direct activities.	Students come prepared to learn by doing face-to-face activities and adding to online course information.	Students come prepared to learn by doing activities and reflecting on their experiences, orally and in writing.
Activities Outside of Class	Students do homework using paper worksheets and writing prompts.	Students watch videos and pencasts or listen to podcasts of presentations by teachers or experts in the field.	Students access a course wikispace to read, hear, and view resources related to weekly topics.
	Teachers devise reading and writing assignments from paper textbooks and assigned reading packets.	Teachers assign reading and writing activities from online textbooks or interactive web resources.	Teachers aggregate reading and writing assignments featuring text, video, and audio materials and write questions about those materials that students respond to in weekly written reflection papers.

In our tutoring course design, we wanted to retain students reading, writing and discussing the social issues raised by their school tutoring experiences. Dialogue and reflection facilitate what students learn when doing community service. But as tutors in schools, college students need to view their experiences against a broader framework of who succeeds in American education and who does not, a framework that is informed and expanded by the kinds of multimodal resources offered on the Web and collected in our course wiki.

The flipped classroom model also gave us multiple ways of involving college students in minds-on learning activities during class time. The popular phrase "Learning is not a spectator sport" demands that college students have opportunities to learn about learning by engaging in active educational experiences. We did not want students to listen to faculty presentations, but to be actively involved in thought-provoking activities where they talk about what they are learning in class and community and apply those experiences to their efforts as tutors, future teachers, and engaged citizens.

A Civic Engagement Course Meets a Technology Generation

The direction to flip "Tutoring in Schools" came in large part from the ongoing integration of computer technology in schools and society. The course had begun before the arrival of the first Macintosh computer (1984), before the first mobile phone with email and Internet connectivity (1996), before the launch of the Google search engine (1998). Today, portable computers, smartphones and Google are taken-for-granted tools by college students—members of an "iGeneration" who have never known a world without the Internet and other interactive technologies (Project Tomorrow, 2012). Social media (using the Web for interactive communication and personal learning) is central to their lives—95 percent of 12 to 17-year-olds are online and 80 percent use Facebook or Twitter (Lenhart, et. al., 2011).

Recognizing the pervasive impact of technology on lives of students, four factors influenced us to adopt a flipped class structure.

1) Textbooks and paper bound course reading packets are increasingly expensive for students to purchase.
2) Many students bring laptop computers or mobile devices to college classes.
3) Digital generation students express disinterest in largely passive learning experiences including long lectures or viewing videos from beginning to end during class.

4) Students constantly write to one another using phones, tablets, and computers.

These educational realities coalesced in a flipped class structure consisting of three pedagogical components: Wikis, Workshops, and Writing.

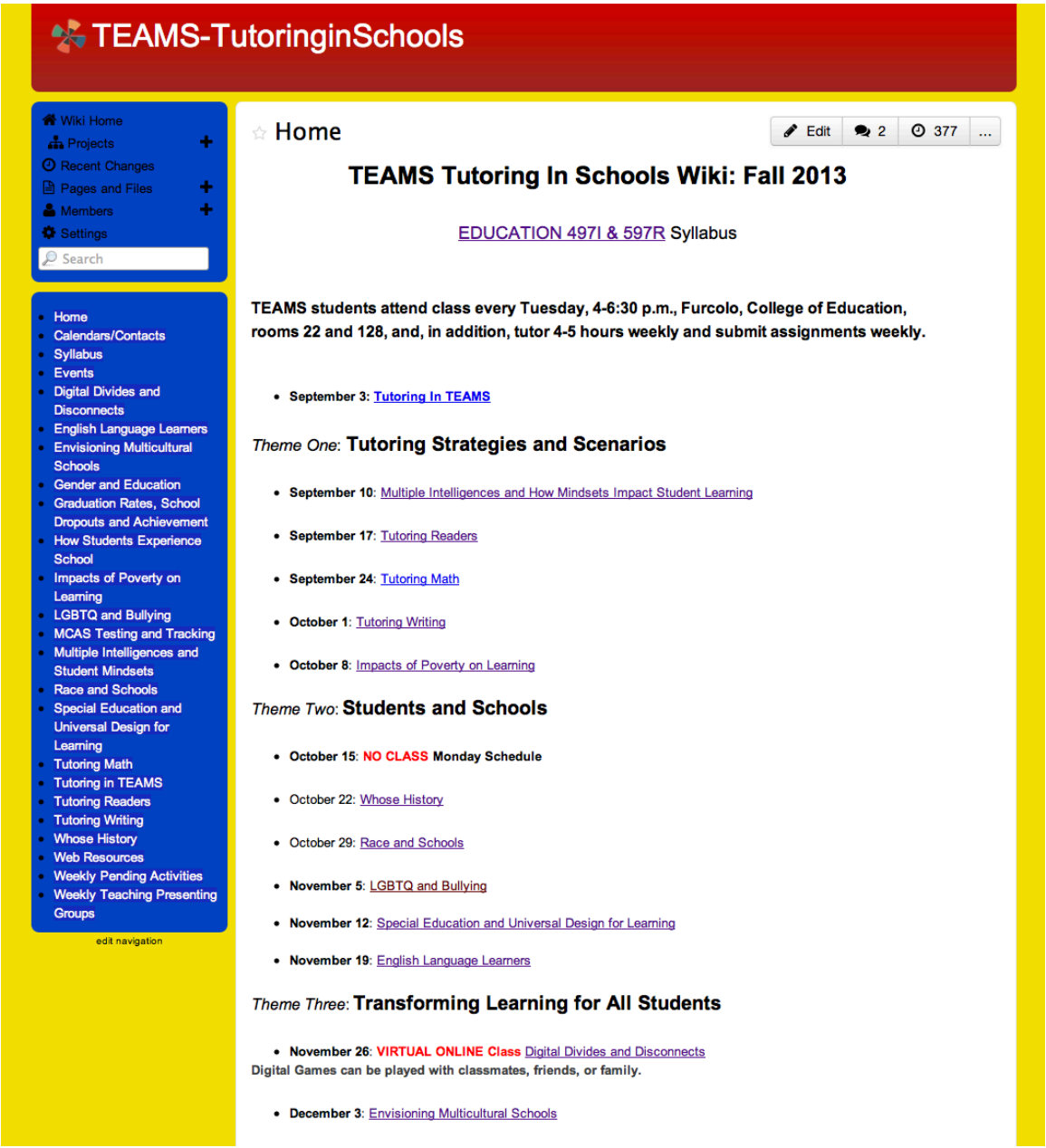
Tutoring in Schools Wiki

Wikis are a "disruptive innovation" because they make significant changes that alter existing patterns of teaching and learning in school and colleges (Christensen, et. al., 2010). As two technology educators note, "there are deep incompatibilities between the demands of the new technologies and the traditional classroom" (Collins & Halverson, 2009, p.6). We found in our course that wikis invite active involvement by students who collaborate as readers, editors, and even contributors of academic content. Students from past semesters regularly email us links to new video and websites they think would further illuminate weekly topic content.

Wikis are Web pages that can be easily edited by multiple authors (Lee, 2012; Richardson, 2010; Educause Learning Initiative, 2005). Placing material on a wiki offers students quick and free access to all the course materials, and enables easy adding and subtracting of material each semester. We can also revise pages to reflect new topics and student interests throughout the semester.

The wiki home page is organized so students can easily navigate the site (see Figure 1). Each weekly topic has a live link to a separate page of resources for each weekly assignment.

Figure 1. TEAMS-Tutoring in Schools Wiki Home Page



The weekly topics are also accessible from an alphabetical list in the navigation bar on the left side of the home page. In this list are additional topics, not connected to a week in class, with information about tutoring, schools, and student learning.

The course and its weekly topics are organized under three themes orbiting a key unifying idea. As psychologist Carol Dweck (2006) has documented, students develop one of two distinct mental frameworks about themselves as learners, a "fixed mindset" or a "growth mindset." A student with a fixed mindset sees her or his talents, abilities and intelligence as determined at birth by genetics, and not subject to change. A student with a growth mindset, by contrast, sees her or his talents, abilities, and intelligence as fluid, always in a state of change based on experience and practice. College tutors can positively impact the way that elementary and secondary school students view themselves as learners by affirming a belief that the mind is like a muscle that will grow with use.

Theme One: "Tutoring Strategies and Scenarios" addresses critical understandings when tutoring in K-12 schools. Without realizing it, college students may adopt a deficit model about public school students who are struggling in school, assuming that if a student needs tutoring, he/she must be in some way academically inferior. Using the theory of multiple intelligences we show that all students have the potential to be bright and capable learners, reinforcing what a long and consistent body of educational research has established, as stated by Benjamin Bloom (1985, p. 4) nearly 30 years ago: "What any person in the world can learn, *almost* all persons can learn *if* provided with appropriate prior and current conditions of learning." This part of the course also provides tutoring strategies in the areas of reading, math, and writing.

Theme Two: "Students and Schools" offers an analysis of how systemic issues of race, gender, identity, ability, language, and technology can act as barriers to success in school for many students. In each topic, we invite college student tutors to consider how schools might change to become safer, more inclusive environments where adults and students alike "affirm" the expansive diversity of interests, needs, and talents present in every classroom (Nieto & Bode, 2011). Also, in this theme we examine stresses outside-of-school such as poverty and pressures

in-school including teacher expectations and curriculum selections to explore how each contributes to K-12 students' views of themselves as not capable of success in academic subjects.

Theme Three: "Transforming Learning for All Students" explores the impacts of digital technologies on teaching and learning in schools. The course concludes with an "Envisioning Multicultural Schools" class where tutors imagine the policies and practices so that, as James Banks urged, "all students—regardless of their gender, social class, and ethnic, racial, or cultural characteristics—should have an equal opportunity to learn in school" (2009, p. 3).

To facilitate use of the wiki, pages have a common organizational format: Topic at the top with key subtopics highlighted in different colors (blue, green, red, or purple) down the page. Scanning the page top to bottom one find live links to each subtopic's resources. The page design enables students to choose any order in which to access the resources and answer questions about the subtopics.

On the "Tutoring Writing" page, for example, one subtopic "Attitudes Toward Writing," first shows a reading explaining why many K-12 students do not enjoy writing in school and a link to the Executive Summary of the "The Neglected 'R'," a report from the National Commission on Writing in America's Schools and Colleges (2003). Next, students visit Scholastic's *Poetry Idea Engine* website and use a series of online tools to compose haiku, free verse and limerick poems. Down the page, there are links to a newspaper article about a teacher whose high school students write research papers in physics class as well as a TED Talk video by instructional designer Ali Carr-Chellman on using "Gaming to Re-Engage Boys in Learning."

On every page, online resources vary so students read, view, listen to, and interact with the material. In this way, the wiki serves as both an e-resource or electronic resource and as an "i-resource" or interactive resource. Our goal is for students to learn from a variety of multimodal activities that will expand their routines for learning, help them anticipate learning options for the future, and inform them of today's exciting new Web-based educational resources.

1/2/3 Time Workshops as an Instructional Mode

An instructional mode is a "way of structuring students' learning environment for teaching purposes" (Peelle, 2001). As is the case at most institutions of higher education, faculty members at our university organize teaching around two or three dominant instructional modes: Large or small class lectures, whole group faculty presentations followed by small group discussions or labs, or small group seminars where students participate as learners and teachers by analyzing topics and readings. A less commonly used instructional mode is a discussion/seminar hybrid approach called a "workshop," a format where teachers and students engage in educational activities using a combination of student-centered teaching methods including cooperative learning, groupwork, individual research and student-led discussions.

In our course, we use a "1/2/3 time" rotation workshop model to create small group interactive experiences integrating technology, inquiry, and student participation. This 1/2/3 time instructional mode divides a class of 50 to 60 students into three groups; these groups rotate through three 35-40 minute instructional experiences in different classroom spaces—two regular-sized college classrooms and a computer lab. Each of the 1/2/3 workshops feature a common format: An engaging opener, interactive hands-on activities, and a summary, all designed to explore different aspects of that week's course topic. To ensure that students interact with different individuals in the class throughout the semester, when they sign the attendance list at the start of class, they receive a nametag with one of three colored dots; the color of the dot determines the groupings for the week. The last half hour of class is for site meetings where tutors

at the same school have the opportunity to talk with each other and to a site leader.

As course faculty, we each facilitate one of the three weekly workshops. Student leaders teach the third. Student leaders are undergraduates and graduate students who previously participated in "Tutoring in Schools" as tutors and have returned to join us in teaching the course. They enroll in Education 597R, "Leadership in Multicultural Tutoring," a companion course we offer each semester. Typically, 10-12 undergraduate and graduate student leaders comprise the semester's leadership group. These students assume multiple roles: coordinating school tutoring site placements for tutors; leading weekly discussions with tutors from their site; communicating support and ideas to new tutors who are becoming comfortable in off-campus settings; improving/revising course assignments; and co-planning with us the weekly 1/2/3 time class activities.

In each of the 1/2/3 workshops, a number of student leaders are present. Three or four join each of us to team-teach a workshop while three or four others lead the third workshop. In this way, student leaders, most of whom are planning to become public school teachers, practice the skills of presenting and facilitating group learning each week. Being part of the teaching team for a workshop three times for each class, student leaders experience how teachers adapt or revise lesson plans and activities to capture and sustain the interest of learners. They make in-the-moment changes to workshop openings and closing as well as the main activities when they perceive certain aspects could be improved.

Weekly Reflective Writing

Reflective writing is the third component for flipping "Tutoring in Schools." Each week, student tutors submit written reflections as part of assignments on class topics. Our goal is to enable college tutors to synthesize what they read, hear, or view online with what they see, hear, or

experience in K-12 school settings. We require writing reflectively as a way to converse individually with college students so we learn what they know and what they do not yet perceive or understand. Our comments on the assignments focus on content rather than editing punctuation and spelling. We seek to affirm students' perceptions, expanding ideas with comments to stimulate further thought while acknowledging their "ah-ha" insights.

In recent years, writing has been called the "neglected R" in elementary and secondary schools as well as colleges (National Commission on Writing in America's Schools and Colleges, 2006; 2003). A creative intellectual process, writing is often taught with an emphasis on standard spelling, correct usage of conventions, and appropriate grammar. Measuring their interest in and success as a writer in terms of mechanics and conventions, students often define writing as a task to be completed rather than a learning process to be followed. Many college students do not expect to use writing to derive ideas and insights from their community service experiences. They do not realize that writing accesses what they know and/or think and expressing these thoughts on paper or screens will help them identify what they do not know.

Writing is intended to help tutors acquire a micro and macro view of student learning in K-12 schools, the broad pedagogical goal of the course. The micro view focuses on the experiences of academically, culturally and linguistically diverse students and ways that college tutors can best support and extend the students' learning. Grounded in the day-to-day lives of students, teachers, and schools, the micro perspective includes strategies for tutors to use to address immediate academic needs of elementary and secondary students, including increasing vocabulary in English, understanding directions, completing homework, and working independently. Tutors also learn ways to motivate struggling learners, tutor reading, support reluctant writers, address math learning and math anxieties, teach students how to do research, and make students aware of college as a career opportunity after high school graduation.

The micro view is complemented by a macro view that looks beyond day-to-day experiences and immediate academic needs to explore systemic issues of who succeeds and who struggles in American education and why. The macro view situates schools within a larger context of a changing and increasingly multicultural society. The schools in the region served by the course, like those across the nation, have growing numbers of students who speak English as a new language, need special education services, or feel and express frustration, disenchantment, and alienation with school. Given these realities, the macro perspective examines how issues of class, race, gender, ability, and identity impact students' school experience, and in many cases, serve as fundamental barriers to educational success.

By the end of the course, our goal is for college tutors to begin synthesizing the micro and macro views, integrating their first-hand tutoring experiences with the issues and questions about the broader patterns and structures of contemporary American education. As tutors assess the way schools function organizationally and systemically, they begin envisioning how education might be structured differently to promote success for more students.

Assessing Impacts on Student Learning

Every semester, there has been strongly positive student response to the "Tutoring in Schools" flipped course approach. On the University's computer-based Student Response to Instruction (SRTI) form in the three overall evaluation of teaching performance categories, students consistently rate the course between "one of the best" (5) and "better than average" (4); the instructor(s) between "always effective" (5) and "usually effective" (4), and how much they have learned between "much more than most courses" (5) and "more than most courses" (4). In emails and personal communications, repeatedly students tell us how much they enjoyed the course, both its community involvement and its flipped course experience. They remark about how the

two and one-half hour seminar passes quickly because they are engaged in different ways to think about course topics through meaningful learning activities.

Still, taking a course is not the same as learning from a course. We wanted more information about what students felt they had gained from their experiences than was available from the University's course evaluation data. Recognizing that a course that features experiential activities and reflective learning does not easily lend itself to multiple-choice style exams and quizzes to assess student learning, we decided to conduct an end-of-the course Before/After survey to inquire about students' responses to the various elements of the flipped classroom approach (see Figure 2).

Figure 2. Tutoring in Schools Course Survey

Please use the scale below to answer the following questions:

High	Fair	Average	Low	None
5	4	3	2	1

1) If you are considering becoming a teacher, a guidance counselor, or working in schools, your commitment to the goal was/is:

Prior to this course: Now in this course:

2) My knowledge of a flipped classroom model as a college teaching and learning approach was/is:

Prior to this course: Now in this course:

3) My knowledge of utilizing a course wiki as an interactive, multimodal learning technology was/is:

Prior to this course: Now in this course:

4) My knowledge of dividing a class into small learning groups with different activities led by different instructors (1/2/3 Time) was/is:

Prior to this course: Now in this course:

5) My experience with reflective writing based on weekly online reading, listening, and viewing assignments was/is:

Prior to this course: Now in this course:

6) My familiarity with the diversity of learning needs of students in schools: girls, boys, racially/ethnically diverse students, LGBTQ youth, individuals speaking English as a new language, individuals with special

education needs, and individuals from technology-poor households was/is:

Prior to this course: Now in this course:

On a five-point scale from ranging from 1 (none) to 5 (high), we asked students to self-assess their commitment to pursuing a career in teaching; their knowledge of using a wiki as a class text, their previous experiences with a 1/2/3 Time workshop instructional mode and weekly reflective writing assignments, and students' familiarity with the learning needs of diverse students in public schools. The survey asked for two ratings to each of six questions on the survey, indicating their level of "commitment to," "knowledge of" or "familiarity with" a topic before the course began and now as we neared the end of the course.

There were gains for all six questions from "before the course" to "now in the course" during the fall 2013 semester. Students said the course either confirmed or strengthened their commitment to becoming a teacher, counselor or other position working in schools after college graduation. One of 42 responses said commitment to teaching was diminished by the course.

The largest "before the course" to "now in the course" gains were found in questions related to the flipped classroom approach and the use of an online wiki. For these two questions, student before/during ratings more than doubled on the five-point scale. Many students rated their entering knowledge at 1 or 2 and their current knowledge at 4 or 5. Prior to this course, few undergraduates had much knowledge of a flipped course model or the use of a wiki to access readings, assignments, and other course information.

1/2/3 time workshops and weekly reflective writing registered smaller, yet still notable gains of between just over one point on the scale. Students seemed familiar with workshop-oriented classes, but not the 1/2/3 mode of our class. Reflective writing based on assignments of online

readings and video viewing were also a more common experience with a majority marking their entering ratings as 3 and their now-in-the-course ratings of 4 or 5. The multicultural learning question produced a small gain of less than one point. As individuals interested in teaching, many students have taken other courses dealing with diversity, multicultural education, and social justice, so the tutoring course may have served mainly as reinforcement of what students felt they already knew about cultural and linguistic diversity in schools.

CONCLUSIONS AND RECOMMENDATIONS

We offer the following considerations for college faculty interested in flipping a community engagement course, recognizing that these points can also apply to courses in any field where students are combining real-world experiences with campus-based learning.

- *Wikis are an effective flipped course technology*. Flipping a college class would not be possible without the capacity of computers and the Internet to create anywhere/anytime learning through vodcasts and podcasts, interactive websites, and access to multimedia resources. Technology enables shifting much of the information presentation function of teaching to online audio or video lectures and presentations, PowerPoint or Prezi slides, and other relevant learning materials. Teachers and students can then use class time to explore topics in new ways and more depth. For us, a wiki has proven to be student-friendly, easy to maintain, and a free way to provide students with multimodal learning experiences outside of the classroom. It is easy to regularly add new material to the wiki during the semester.
- *Workshops transform in-class learning experiences*. We want class-based college learning environments to mirror, as much as possible, the action-oriented, experiential nature of our students' school tutoring placements, and to demonstrate student-centered teaching strategies to future teachers. A workshop format organized as a 1/2/3 time allows us to make every weekly seminar an active learning environment. Students

moving through experiences during the class period work together, discuss ideas, and express viewpoints while learning new ideas and strategies for promoting learning success with students they tutor.

- *Student leadership adds important dimensions for success*. As faculty members, we are fortunate to be able to combine the two sections of the Tutoring in Schools course so we can work with all the students as part of the weekly workshops. But, we could not easily do the 1/2/3 time format without student leaders to help organize and conduct one of the workshops. By integrating student leaders into the instructional team for the course, we gain the flexibility needed to create a workshop model. Student leaders gain first-hand experience in organizing and conducting instructional activities, valuable learning for students who are planning to become elementary or secondary school teachers. Student leaders learn to think about the issues and topics of the week, and about the group dynamics and educational activities that produce an active learning classroom environment.
- *Implement a flipped classroom approach one feature at a time*. It has taken several semesters to flip the Tutoring in Schools course. First, we constructed our course wiki, initially incorporating a combination of texts from prior reading packets with newer, interactive video and audio resources. Once assembled, the wiki has changed its format as we update and revise each semester to include newer resources that will interest students. Second, we began to develop the in-class component of the course, student-centered active learning workshops in a format of 1/2/3 time. Three distinct workshops planned every week for 12 or 13 weeks require time to construct. Each semester some of the original plans are reused and some are revised to better incorporate active learning. Third, we continue to refine ways to integrate student leaders into the course and workshop planning process. This means that activities and plans are also continually open to revision. Offering a parallel "Leadership in Multicultural Tutoring" course enables us

to connect the academic work of that course to the active participation of student leaders in coordinating school tutoring sites and facilitating weekly workshop activities.

REFERENCES

Anderson, N. (2013, March 11). More on classroom flipping in colleges. *The Washington Post Education*. Retrieved November 10, 2013, from http://articles.washingtonpost.com/2013-03-11/local/37618198_1_lectures-class-web-site-class-goals

Banks, J. (2009). *Multicultural education: Issues and perspectives*. San Francisco: Wiley.

Barba. L. (2012, February 1). This CFD course is flippin'. Boston University College of Engineering. Retrieved November 10, 2013, from http://people.bu.edu/labarba/Lorena_Barba/Blog/Entries/2012/2/1_This_CFD_class_is_flippin.html

Bergmann, J., & Sams, A. (2012). *Flip your classroom. Talk to every student in every class every day*. Eugene, OR: International Society for Technology in Education.

Bloom, B. (1985). *Developing talent in young people*. New York: Ballantine Books.

Carr-Chellman, A. (2013). TED Talk video by instructional designer Ali Carr-Chellman on using "Gaming to Re-Engage Boys in Learning."

Christensen, C., Johnson, C. W., & Horn, M. B. (2010). *Disrupting class: How disruptive innovation will change the way the world learns.* (Updated and expanded new edition). New York: McGraw-Hill.

CIRCLE: The Center for Information & Research on Civic Learning & Engagement. (2010). *Volunteering/community service*. Medford, MA: Tufts University. Retrieved July 9, 2013, from http://www.civicyouth.org/quick-facts/volunteeringcommunity-service/#1

Collins, A., & Halverson, R. (2009). *Rethinking education in the age of technology: The digital revolution and schooling in America*. New York: Teachers College Press.

Dweck, C. (2006). *Mindset: The new psychology of success*. New York: Random House.

EDUCAUSE Learning Initiative. (2012, February). 7 things you should know about flipped classrooms. Retrieved January 23, 2013, from http://net.educause.edu/ir/library/pdf/ELI7081.pdf

EDUCAUSE Learning Initiative. (2005, July 15). 7 things you should know about wikis. Retrieved January 2, 2013, from http://www.educause.edu/library/resources/7-things-you-should-know-about-wikis

Flipped Learning Network. (2012, July 16). Can you flip a college class? Retrieved November 10, 2013, from http://flippedclassroom.org/forum/topics/can-you-flip-a-college-class

Lee, L. (2012, Winter). "A learning journey for all": American elementary teachers' use of classroom wikis. *Journal of Interactive Online Learning*, *13*(3), 90-102.

Lenhart., A., Madden, M., Smith, A., Purcell, K., Zickuhr, K., & Rainie, L. (2011, November 9). Teens, kindness and cruelty on social network sites: How American teens navigate the new world of "digital citizenship." Pew Internet & American Life Project. Retrieved November 11, 2011, from http://pewinternet.org/Reports/2011/Teens-and-social-media.aspx

Lepi, K. (2012, December 4). What is a flipped classroom? *Edudemic*. Retrieved December 24, 2012, from http://edudemic.com/2012/12/what-is-a-flipped-classroom-updated-for-2012/

Levine, P., & CIRCLE Staff. (2006, October). Higher education and civic engagement summary. Medford, MA: The Center for Information & Research on Civic Learning & Engagement, Tufts University. Retrieved July 9, 2013, from http://www.civicyouth.org/PopUps/FactSheets/FS06_collegesummary.pdf

Matthew, K.I., Felvegi, E., & Callaway, R. A. (2009, Fall). Wikis as a collaborative learning tool in a language arts methods class. *Journal of Research on Technology in Education, 42*(1), 51-72.

Millard, E. (2012, December). 5 reasons flipped classrooms work. *University Business*. Retrieved December 24, 2012, from http://www.universitybusiness.com/article/5-reasons-flipped-classrooms-work

National Commission on Writing in America's Families, Schools, and Colleges. (2006, May). *Writing and school reform.* Princeton, NJ: College Entrance Examination Board.

National Commission on Writing in America's Schools and Colleges. (2003, April). *The neglected "R": The need for a writing revolution.* Princeton, NJ: College Entrance Examination Board.

Nieto, S., & Bode, P. (2011). *Affirming diversity. The sociopolitical context of multicultural education.* 6th Edition. Boston: Allyn & Bacon.

Office of Faculty & Organizational Development. (2012). *Flipped classroom.* Michigan State University. Retrieved January 23, 2013, from http://fod.msu.edu/oir/flipped-classroom

Papert, S. & Harel, I. (1991). Situating constructionism. In Seymour Papert and Idit Harel (Eds.). *Constructionism*. Cambridge, MA: MIT Press.

Peelle, H. A. (2001, Spring). Alternative modes for teaching mathematical problem solving: An overview. *The Journal of Mathematics and Science, 4*(1), 119-142.

Project Tomorrow. (2012, April). *Mapping a personalized learning journey—K-12 students and parents connect the dots with digital learning.* Retrieved May 1, 2012, from http://www.tomorrow.org/speakup/pdfs/SU11_PersonalizedLearning_Students.pdf

Richardson, W. (2010). *Blogs, wikis, podcasts, and other powerful web tools for classrooms.* Third Edition. Thousand Oaks, CA: Corwin Press.

Talbert, R. (2013, August 25). Flipping calculus. *Casting Out Nines*. Retrieved November 10, 2013, from http://chronicle.com/blognetwork/castingoutnines/2013/08/25/flipping-calculus/

Watters, A. (2011, October 18). Why wikis still matter. *Edutopia*. Retrieved October 20, 2011, from http://www.edutopia.org/blog/wiki-classroom-audrey-watters