

ABSTRACT

MORAN, CLARICE M. Changing Paradigms: A Mixed Methods Study of Flipping the English Language Arts Classroom. (Under the direction of Carl A. Young, committee chair).

This study aimed to assess student engagement and teacher pedagogical practice with the flipped model of instruction in two 7th grade English Language Arts (ELA) classrooms. The participants were two 7th grade ELA teachers and their students (n=183) in a middle school in the Southeastern United States. A hybrid embedded design (Creswell & Clark, 2011) (quan →QUAL →quan), as well as follow-up case study interviews, was used to assess students' *cognitive, emotional, and behavioral* engagement in both the traditional classroom paradigm and the flipped classroom paradigm. Quantitative data were gathered in a pre-test to assess students' engagement through the Motivational Strategies Learning Questionnaire (MSLQ) (Pintrich & DeGroot, 1990). Then, qualitative data were collected during the treatment phase of the study through field observations as they worked through a flipped unit on poetry. The mixed methods data analysis revealed that overall student engagement decreased in the flipped unit and that students were divided in their reactions to the flipped method of instruction. Compared to the traditional classroom, "intrinsic and extrinsic motivation," as well as "organization" and "effort," decreased during the flipped unit. Students were observed enjoying the three-week unit at the outset, but had trouble regulating their behavior and finding the motivation to pace themselves by the end. Case study interviews revealed that highly motivated students who excel in ELA felt they were able to navigate the flipped unit easily, while students with less success in ELA found the

self-paced nature of flipping to be frustrating. The results also indicated that the teacher participants fell “in the middle” in terms of their support of the flipped method, citing their enjoyment of working one-on-one with students but frustrations with large class sizes and assessment issues. The study results indicate that the flipped method may be one pedagogical tool in an ELA classroom, but is not a sole means for enhancing engagement of all students.

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Changing Paradigms: A Mixed Methods Study
of Flipping the English Language Arts
Classroom

by
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DEDICATION

Dedicated to Tom, who has supported me through it all,
and to JoAnne, who has always believed I could do anything.

BIOGRAPHY

This biography, like all good research, begins at the beginning – when I was born in Jacksonville, Florida, to a high school English teacher mother and civil engineer father. My parents divorced when I was 3, and I lived solely with my mother until the age of 18 – a childhood condition that meant I was often the subject of gossip and speculation by well-meaning family members, neighbors, and friends. Most felt that a single woman and a single female child could not – should not – live alone, and that I was definitely, surely, going to turn out “badly.”

Since my mother worked, I attended daycare, preschool, and kindergarten, and, finally, a public elementary school. I loved school, since it provided me with the opportunity to socialize with other children. I also loved Mrs. Scruggs, my first-grade teacher. I blushed with pride when Mrs. Scruggs asked me to read my very first short story, titled “The Snake Who Wore Glasses” to the school principal. I should be a writer, Mrs. Scruggs told me, and I never forgot her encouragement.

From there, I went on to attend high school, where I found a love of journalism, writing, reading, and a boyfriend. By the time I had graduated from the University of Georgia, I felt like I was on my way to becoming the world’s greatest foreign correspondent and journalist.

I met my husband, Tom, when I was a freshman at UGA, and together we studied abroad in Europe and traveled as much as possible. Although my mother and I had bravely traveled to the North Carolina Mountains and Washington, D.C., it was Tom who ignited the travel fire in me.

My first job in Atlanta – the one that was supposed to transport me to fame -- was as the calendar editor for the *Gwinnett Daily News* newspaper in the suburbs of Atlanta. It was my job to keep up with events, such as the upcoming Peanut Festival or the week’s Gwinnett County Commissioners meeting. I threw myself into my work, and I was soon moved out of the calendar job and into a gig as a general news reporter. Soon, I had eight reporters and three copy editors who called me boss, plus a corner office and a sweet title. I was 25.

The fame, however, eluded me, and I began to wonder if I even wanted it at all. By the time I was 31, I had three children (Katie, Thomas, and Daniel), but very little fulfillment. Journalism began to leave me cold. The old saying, “Today’s headlines are tomorrow’s fish wrapper” also began to worry me. The writing felt good, but I still was keenly aware of its short shelf life. I wanted to do something that mattered for more than a week. I applied and was accepted to North Carolina State University’s graduate creative writing program. I received a master’s degree in English with a creative writing concentration, but it wasn’t until I was hired to teach writing at NCSU that I realized I had found my true calling. It was teaching. Since that “aha” moment (thanks, Oprah), I have taught elementary and middle school in England, as well as high school and college students in the United States. I have worried endlessly about the students I could not reach, the ones for whom reading or writing was a big turn-off. I have used technology and innovation to try to lasso them into the subject, and I saw varying degrees of success.

Determined to learn new ways to engage students and help them discover a love of English language (and learning in general), I turned to the doctoral program in Education-Literacy at NCSU. My interest in technology led me to my advisor, Dr. Carl A. Young,

whom I discovered also had wrestled with ways to hook students and ignite their interest in language. My interest in the flipped classroom was born from a conversation with Dr. Young about educational fads, panaceas, and efforts to shift the current educational paradigm. The study for this dissertation emerged from our mutual, deep desire to find new ways to increase student engagement in the ELA classroom. My work and growth continues.

ACKNOWLEDGMENTS

I would like to thank first, and foremost, Dr. Carl A. Young, who gave me the idea to investigate the flipped classroom method and whose encouragement and support have had a lasting impact on my scholarship. I would like to thank my entire dissertation committee: Dr. Lance Fusarelli for his unfailing expertise in qualitative research and case study design, as well as his very sympathetic ear; Dr. Meghan Manfra for her encouragement to address issues of pedagogical processes, curricular fads, and social justice; and Dr. Carol Pope, for her expertise in English education and willingness to pinch hit at the last minute.

I would like to thank Hannah Weaver and Natasha Brooks, who are outstanding educators and role models for all future teachers. I also would like to thank Hannah Carson Baggett, Crystal Simmons, and Naomi Kraut for their support, kindness, help, and shoulders. Finally, I want to thank my family, without whom I would not dare to undertake a doctoral program. My children, Katie, Thomas, and Daniel, are my reasons for living and my reasons for finding education so fascinating. When I picture children in a classroom or a child's reaction to a lesson, I am always picturing one of my own. My husband, Tom, has offered unflagging support, love, kindness, and enthusiasm, and continually believed I could do it – even when I did not think I could. And my mother, JoAnne Young -- an English teacher for 34 years – who was my very first teacher and instilled in me a deep belief in the power of education. I love you all beyond words.

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CHAPTER I

INTRODUCTION

Background on the Classroom Flip

Suddenly it seems to be everywhere. The flipped method. The flipped classroom. Or even just “flipping.” If one believes the hype, the flipped model of instruction may be the greatest educational reform of the 21st Century with the potential to overhaul completely the way students learn and teachers teach. Television shows, journals, newspapers, conferences, websites, podcasts, and blogs all tout the benefits of this new pedagogy as a paradigm shift that is dramatically altering our schools. Type “flipped classroom” into Google, and it will return 7.3 million hits. The flip has become the hot topic, garnering significant attention on television (Gupta, 2011), in newspapers (Barr, 2013), magazines (“Flipping the classroom,” 2011), and journals (Bergmann & Sams, 2012b; Berrett, 2012; Fulton, 2012; Tucker, 2012). In the flipped model, direct instruction and fact-based content is delivered via video lectures that students watch outside the classroom, while activities and active-learning strategies are conducted inside the classroom. In other words, students do homework and activities at school and hear traditional lectures at home via videos.

Baker (2000) generally is credited with conceptualizing the flipped classroom paradigm, although other teachers have used the inverted instructional method with success (Lage & Platt, 2012; Lage, Platt, & Treglia, 2012). In 1995, Baker, a professor at a small private university in Ohio with access to a school-wide Internet site, asked his communication students to view his PowerPoint slides prior to coming to class. He wanted the students to absorb the fact-based content ahead of time so that he could focus on the

students' in-class active learning. He “saw the ‘Flip’ as a way of addressing the ‘covering the content’ debate” (Baker, 2000, p. 3) and believed that it allowed him to quickly disseminate direct instruction while preserving class time for active learning. He presented the idea for the concept at various conferences until the moniker “the classroom flip” (Baker, 2000, p. 3) took hold.

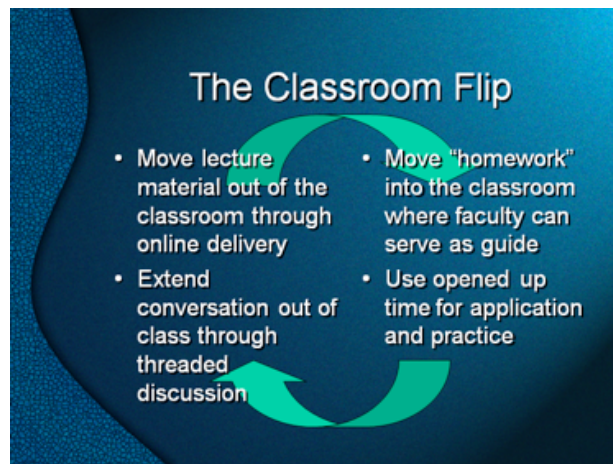


Figure 1.1 Baker’s (2000) Version of the Classroom Flip (used with the author’s permission)

The key component of Baker’s (2000) idea was technology. Although the Internet was not in most American households in 1995, Baker’s (2000) students had the ability to view his PowerPoint slides on the unique, university-wide Internet site. Soon, other university professors with similar technology access began adopting the idea (Lage & Platt, 2000; Lage, Platt, & Treglia, 2000). As the Internet exploded in the 21st Century, the strategy began to take hold in secondary classrooms, as well (Bergmann & Sams, 2012a; Bergmann

& Sams, 2012b). Now, about 80 percent of Americans have a broadband connection or access to a smartphone, according to a national survey by the Pew Research Center's Internet & American Life Project (2013). This widespread access has meant a greater increase in the number of teachers trying the flipped classroom model, according to a website created, in part, by Aaron Sams and Jon Bergmann, who have turned the promotion of the flipped method of instruction into a career. The site, called Flipped Learning Network, touts itself as a web-based resource center on the flipped classroom (www.flippedlearning.org). In addition, Harvard Business School graduate Salman Kahn launched a non-profit website in 2006 that provided instant, free videos in a wide variety of content areas. Kahn Academy, as the site is called, offers more than 4,500 free videos to viewers on everything from astronomy to algebra. The videos have become regular features in many science, technology, engineering and mathematics (STEM) classrooms, serving as an alternate, or supplemental, form of instruction and aiding in the flipped classroom model (Gupta, 2012) – as well as garnering Kahn a segment on the CBS television show “60 Minutes.” Yet, according to a survey conducted by the Speak Up National Research Project (2012), only 3% of teachers in the U.S. know about or ‘do’ flipped learning. So, while the idea may be the media’s darling, only an intrepid few are actually trying out the strategy.

Interestingly, two distinct camps are forming in connection to the flip. Proponents say this technologically reliant idea has the potential to completely shift the classroom environment, reaching even the most reluctant of learners (Bergmann & Sams, 2012a; Bergmann & Sams, 2012b; Fulton, 2012; Tucker, 2012). While others say it appears to be merely an inverted version of the “same ol’, same ol’” with traditional lectures and

homework in flipped positions (Hamdan, McKnight, McKnight, & Arfstrom, 2013; Jump, 2013) and might even create additional headaches for teachers who feel unprepared to wade into the digital muck of video creation (Herreid & Schiller, 2013).

Although there is scant research on the efficacy of the model, teachers who do flip, say they do so because they want to spend more individual time with students and more effectively address the curriculum (Fulton, 2012). They want a classroom centered on inquiry and problem-based learning (Bergmann & Sams, 2012), and they want to eliminate the constant homework struggle (Strayer, 2007). In addition, these teachers say the video instruction allows students who miss class for sports or extracurricular activities to keep up with their peers (Herreid & Schiller, 2013). In short, the teachers have attempted this paradigm shift in their own classrooms in an effort to “reach every student in every class every day” (Bergmann & Sams, 2012a, book title), but most are doing so without sound research to back up the strategy (Hamden, et al., 2013). Nearly all of the empirical research that does exist has been conducted in STEM classrooms – and most of these studies were conducted at higher education institutions. To complicate matters further, much of the data has been inconclusive, as students and teachers cannot quite decide if they like the new method or not, or decide if it is effective enough or not (Moran & Young, 2013).

To address the lack of empirical research on the flipped model in middle schools, and in English language arts (ELA) classrooms in particular, this study aimed to assess student engagement and teacher pedagogical processes with the flipped model in two 7th grade language arts classrooms. By viewing student and teacher perspectives within the context of middle school, I hoped to “find significant meaning” (Stake, 1995, p. 78) and better

understand the behavior and attitudes of middle school ELA students, as well as teacher pedagogical considerations, in a flipped classroom. I used a hybrid embedded design (QUAL (+quan)=enhance experiment) (Creswell & Clark, 2011) in that quantitative data were collected as a pre-test, then qualitative data were collected during the treatment/intervention (the flipped classroom), then quantitative data were collected again as a post-test. This design was followed up with qualitative case study interviews that further explained the findings in the first set of data (Yin, 2009).

In addition, I attempted to “shed light” (Alasuutari, 1995, p. 11) on the pedagogical processes that teachers must use when flipping their ELA classrooms. My aim in this study was to provide some new insights into the effects of the flipped method in middle school ELA through “direct interpretation of the individual instance and through aggregation of instances” (Stake, 1995, p. 74). The study looked at student engagement and the teacher perspectives and pedagogical processes in a flipped ELA classroom, as compared to a traditional ELA classroom.

Using the embedded mixed methods design and the case studies allowed for a broader understanding of the flipped classroom, one which could not be achieved by one data source (Creswell & Clark, 2011). A strictly quantitative analysis of student achievement, test scores, or even attitudes would have limited the research to specific variables or questions on a survey and keep the inquiry from arising in a naturalistic and intuitive fashion (Stake, 1995). Analysis through the case study alone would have eliminated important statistical information about the method and ignored a key means of corroborating or triangulating the qualitative data (Johnson, et al, 2007). A mixed methods design was the best vehicle for this

study, as it allowed me to consider “multiple viewpoints, perspectives, positions, and standpoints” (Johnson, Onwuegbuzie, & Turner, 2007, p. 113) surrounding the flipped method -- a perspective that could not be reached through a simple quantitative analysis or single qualitative investigation.

The Flip Pilot Study

An initial investigation into student perceptions and engagement with the flipped classroom method was conducted through a mixed methods pilot study in a high school ELA classroom (Moran & Young, 2013). The students in the study were enrolled in two sections of an Advanced Placement English Language Arts and Composition (AP Lang) course and were in the 11th grade. Forty-nine participants answered questions on a validated survey, and 8 participants took part in two focus groups. In addition, I observed the flipped classroom and took field notes. Quantitative survey data were analyzed through STATA statistics software, and qualitative data were transcribed and coded. The results of the data analysis indicated that students had mixed opinions about the flipped method and its implementation in an ELA classroom. The results of the research indicated that the flipped method may be effective, in part, in an ELA classroom, but not as a sole means of instruction.

Methods

We measured behavioral and emotional engagement through field observations in the classroom. In addition, we used a survey based on a modified version of the Computer Attitude Questionnaire (CAQ) originally developed and validated by Knezek and Christensen in 1996 to assess middle-school students’ attitudes toward learning with computers. (See Appendix F). Our research questions for the study were:

- 1) Are high school ELA students engaged by the flipped classroom method? If so, what aspects of the strategy appeals to them as students? If not, why not?
- 2) Do high school ELA students prefer the flipped classroom paradigm over the traditional classroom paradigm? If so, what aspects of the strategy inform their preference? If not, why not?

A purposeful convenience sampling method was used in the study. The participants (n=49) were students in two class sections of an Advanced Placement English Language and Composition (AP Lang) course at Pinewood High School, a suburban high school in the Southeastern United States. In our pilot study, the teacher, Ms. Brown, was instructed on how to implement the flipped method, which we interpreted to mean inverting the classroom so that direct instruction and lectures took place outside the classroom and activities related to the instruction took place inside the classroom (Baker, 2000).

Using Jing screen capture software to record lectures, Ms. Brown implemented the flipped method with her students twice. We hypothesized that students might be confused by the inversion during the first flip and would need a second flip to gain comfort and practice with the method. The students were instructed to view for homework the videos Ms. Brown created with Jing and uploaded to her class website. The students were directed to take notes on the videos and then come to class prepared to participate in activities related to the video.

Survey data were analyzed quantitatively through STATA statistics software. Focus group comments were audiotaped and then transcribed. The comments were open coded (Creswell, 2012) and analyzed for similarities, differences, and common themes. In addition to gathering the quantitative survey data, we were interested in field observations and

conversations with students as a means of triangulation. Creswell (2012) described this type of qualitative research as being naturalistic in that researchers gather multiple forms of data in the field, not in a lab setting.

Results

Our results were mixed. Survey data indicated that students were engaged with the flipped method and liked it as a form of instruction, but remained unsure about whether it was superior to a traditional lecture model. Field data and focus group data indicated that students were polarized in their support of the method, with some students strongly supporting it and others intensely disliking it.

Survey data indicated that students enjoyed the flipped method and found it engaging, although they were unsure about its effectiveness as an instructional method (see Appendix F). Two focus groups were held with a sample of students (n=8) from both classes. The researcher also interviewed Ms. Brown in a private conference room. The findings from the qualitative data supported those of the quantitative data. Students had mixed views about the flipped classroom method and were nearly polarized in their responses to it.

Five main themes emerged from the data analysis:

1) **“I like the flipped method.”** Some students reported that they felt class time was more productive, and they enjoyed the opportunity to pause and rewind the videos.

2) **“I prefer traditional classes.”** Some students also stated that they did not like the flipped method, and they preferred lecture-based, traditional, teacher-led instruction.

3) **“The flip is impersonal.”** Some students felt that the self-reliant and self-paced nature of the flipped method was too isolating. Although they were encouraged to do so, these

students said collaboration with other students was difficult. They also missed a perceived connection with the teacher when she delivered instruction at the front of the class. Their teacher was particularly animated, and they missed hearing her talk to the whole class.

4) **“The flip is not good for English class.”** In the focus groups, in particular, students were adamant that ELA classes benefitted most from whole-class, teacher-led discussions, as well other strategies (including literature circles).

5) **“I don’t care.”** Data analysis revealed that one of the most prevalent themes of the study was a general apathy about school in general. The students said they did not care *which* method their teacher used. School was still school.

Conclusions

Overall, the students seemed to have mixed views about the flipped method of instruction and did not embrace it whole-heartedly as a pedagogical strategy for the ELA curriculum. In regard to research question 1 -- “Are high school ELA students engaged by the flipped classroom method?” – the data indicated that many students were engaged by the method, while others found it disheartening and boring.

In regard to research question 2 – “Do high school ELA students prefer the flipped classroom paradigm over the traditional classroom paradigm?” – the data indicated that students were mixed in their preferences of classroom paradigms. Many students said they preferred the lecture/discussion model that is already employed in ELA classes and that they would learn more from a live lecture in class than from a video at home.

The table on the following page describes means and standard deviations for the survey used in the pilot study.

Table 1.
Questions from Pilot Study Student Survey on the Flipped Classroom with Means and Standard Deviations

<i>Questions</i>	<i>M</i>	<i>SD</i>
1. I enjoy learning with the flipped method of instruction	3.27	.87
2. I do not like receiving instruction through the flipped method	2.82	.97
3. I will be able to learn more material if my teacher uses the flipped method	2.80	.87
4. I concentrate better on the lesson when I watch an instructional video for homework	3.12	1.05
5. I enjoy watching videos very much	3.55	.94
6. I would work harder if I could learn through the flipped method more often	2.73	.88
7. I know I can learn many new things when my teacher uses the flipped method	3.02	.80
8. I enjoy watching an instructional video for homework	3.27	.97
9. I enjoy the chance to work on my own in class	3.65	.97
10. I believe that the more often teachers use the flipped method, the more I will enjoy school	2.80	1.00

Table 1. (cont.)

<i>Questions</i>	<i>M</i>	<i>SD</i>
11. I believe that it is very important for me to be able to learn through video lectures	3.02	.99
12. I feel comfortable with learning through the flipped method	3.53	.84
13. I get a sinking feeling when I think of learning through through the flipped method	2.39	.86
14. I think that it takes a longer amount of time to learn when my teacher uses the flipped method	2.76	1.05
15. Learning through the flipped method makes me nervous	2.20	.96
16. Using the flipped method is very frustrating	2.41	1.02
17. I will do as little work as possible when my teacher uses the flipped method	2.41	1.02
18. Learning through the flipped method is difficult	2.20	.76
19. Independent learning does not scare me at all	3.83	.96
20. I can learn more from a live lecture in class than from a video at home	3.59	.98

Note: Questions were based on a Likert-type scale from 1-5. 1=strongly disagree; 2=disagree; 3=undecided; 4=agree; 5=strongly agree

The Purpose of the Middle Grades ELA Flip Study

The mixed results of the pilot study led to a desire to investigate further student engagement, as well as pedagogical practices in the flipped ELA classroom. The mixed results left many questions regarding the flipped method unanswered, particularly as it related to ELA. To date, there is scant research on the efficacy of the method, particularly in regard to student engagement. Although I had used the term “engagement” in the pilot study, I had not defined adequately what it meant. I wanted to explore more deeply the nuances of engagement in a flipped classroom, utilizing definitions proposed by Fredricks, Blumenfeld, and Paris (2004). In addition, the original pilot study did not look directly at the pedagogical processes that teachers must use when designing flipped instruction. In fact, most of the published research on the flip has focused on the efficacy of the method for learning outcomes, not on the pedagogical considerations inherent in designing a new educational process. I wanted to take a closer look at what it meant to be a teacher faced with the task of flipping an ELA classroom. And, since I employ a constructionist (Crotty, 1998) and critical theorist worldview, the qualitative data were more dominant in the research design (Johnson, Onwuegbuzie, & Turner, 2007).

Definition of Terms

CONSTRUCTIVISM – Constructivist principles stem from Vygotsky’s (1978) sociocultural theories on the way in which humans learn. Vygotsky (1978) posited that all knowledge is socially constructed, and that children learn best by creating knowledge through interactions with others.

ENGLISH LANGUAGE ARTS (ELA) – English language arts is an intentional term (NCTE, 1986; 1996; 2006) that refers to the content knowledge and pedagogical practices involved in the instruction of students as it pertains to language development, composing and analyzing language, reading and literature, media, evaluation, and research.

ENGAGEMENT – Student engagement as defined by Fredricks, Blumenfeld and Paris (2004) is a three-pronged concept: 1) *behavioral engagement* “draws on the idea of participation” (Fredericks, et al, 2004, p. 60), as well as active involvement in the activities of the classroom; 2) *emotional engagement* includes the student’s “positive and negative reactions” (Fredericks, et al, 2004, p. 60) to the academic subject; and 3) *cognitive engagement* reflects the student’s willingness to put forth effort and consider higher-level concepts. For this study, engagement is defined as encompassing all three components.

FLIPPED CLASSROOM – This term refers to a model, method of instruction, and paradigm. The words “flip” or “flipped instruction” fall under the same definition. In this model, direct instruction and fact-based content is delivered via video lectures that students watch outside the classroom, while activities and active-learning strategies are conducted inside the classroom. In other words, students do homework and activities at school and hear traditional lectures at home via videos.

ICR CLASS – ICR is the acronym given to classes in which an In-Class Resource teacher facilitates student learning. These classes maintain the regular classroom teacher, but also add the ICR teacher for additional support. Students who are placed in ICR classes have Individualized Education Programs, low end-of-grade test scores, behavioral issues, or special requests from parents.

INDIVIDUALIZED EDUCATION PROGRAM (IEP) – Students who have an IEP usually do so because their grades are below the majority of the class, their parents have requested specialized support, or their end-of-grade standardized test scores are low. All students who received special education services must have an IEP.

MIXED METHODS – Mixed methods research is an epistemological standpoint that considers multiple viewpoints and perspectives (Johnson, Onwuegbuzie, & Turner, 2007). It utilizes both quantitative and qualitative data in order to provide a more comprehensive picture than with one type of data alone (Morse, 2003).

SCIENCE TECHNOLOGY ENGINEERING AND MATHEMATICS (STEM) – This term refers to classes that are taught with an epistemological orientation to the biological and physical sciences, computer information and technology, engineering, and/or mathematics.

TRADITIONAL CLASSROOM – This term refers to an historically popular way of delivering instruction to students. In this model, the teacher provides direct instruction to the whole class during class time, either via lecture or PowerPoint or other means. Activities related to the direct instruction typically are given to students to complete on their own time at home.

The Significance of the Middle Grades ELA Flip Study

This study was significant in that it addressed a gap in the research regarding student engagement and teacher pedagogical practices in a flipped classroom environment.

According to a white paper published by the Flipped Learning Network (2013), research on the method is “limited” (p. 6) but indicates that the basic principles behind active learning are supported through a flipped classroom paradigm (Prince, 2004). The flipped classroom’s

active learning “increases student engagement and critical thinking” (Hamdan, et al, 2013, p.6), according to the white paper’s authors. However, no published empirical evidence exists to support this claim. This study was significant because it provided validated, quantitative and qualitative evidence on whether a flipped classroom was more engaging to students than a traditional classroom. Engagement is particularly important to investigate, since research indicates that students who are engaged are more likely to succeed in school and less likely to drop out (Connell, Spencer, & Aber, 1994). In addition, this study is significant because it looked at the teacher’s perspective during the flipped model design – a perspective that has not been investigated in previous research on the method.

Problem Statement

To date, the bulk of the published research and empirical data on the flipped classroom method has been conducted exclusively in STEM classrooms and at institutions of higher education. Even Kahn Academy does not offer a single video that could be used in an ELA classroom. The unique nature of the ELA curriculum, with its emphasis on reading comprehension, writing processes, and philosophical exploration, seems to have eluded the flipped paradigm thus far. Yet, according to the Speak Up National Research Project (2012), 27% of principals want their teachers to try implementing flipped instruction during the 2013-2014 school year. The Flipped Learning Network even encouraged a global initiative on Sept. 6, 2013, asking all teachers in every content area to take a pledge to “flip one lesson to experience Flipped Learning, with the expectation this leads to further flipped units or an entire course” (<http://fln.schoolwires.net//site/Default.aspx?PageID=68>, 2013, p. 1).

The pressure is increasing on all teachers at all grade levels to try implementing the flipped paradigm. Yet, this pressure is at the expense of solid research in ELA and middle grades classrooms. The problem, then, is that ELA teachers are being encouraged to flip their classrooms, and many do not know how to do it. In addition, no evidence exists to support whether the flip is an appropriate form of instruction in ELA classrooms, or whether it is more engaging to middle school students than a traditional instructional paradigm.

Research Questions

My research questions for this study have been created with a mixed methods design in mind. Onwuegbuzie and Leech (2006) suggest that research questions for mixed methods should have both a qualitative and quantitative component. In this study, the quantitative and qualitative data have been collected concurrently and analyzed iteratively with each adding meaning to the other (Clark & Badiee, 2010). My questions for this study were:

- 1) What is the difference in experiences between middle grades ELA students in a flipped classroom and those in a traditional classroom?
- 2) How do the follow-up case study interviews extend, refute, or illuminate the findings about students' experiences with the flipped method?
- 3) What are the perceptions of middle grade ELA teachers when implementing the flipped classroom? What factors play a role when teachers consider flipping their ELA instruction?

Overview of Methodological Approach

I used a mixed methods approach for my data collection and analysis in order to effectively address the research problem. Creswell and Clark (2011) state:

Research problems suited for mixed methods are those in which one data source may be insufficient, results need to be explained, exploratory findings need to be generalized, a second method is needed to enhance a primary method, a theoretical stance needs to be employed, and an overall research objective can be best addressed with multiple phases or projects. (p. 8)

I combined both qualitative data and quantitative data collection and analysis to more effectively assess the “benefits and constraints” (Schutz, Chambliss, & DeCuir, 2011) of the data.

The qualitative data collection and analysis consisted of an embedded case study design (Yin, 2009) that takes into consideration the participants, as well as the environment in which they operate. The figure below illustrates this concept.

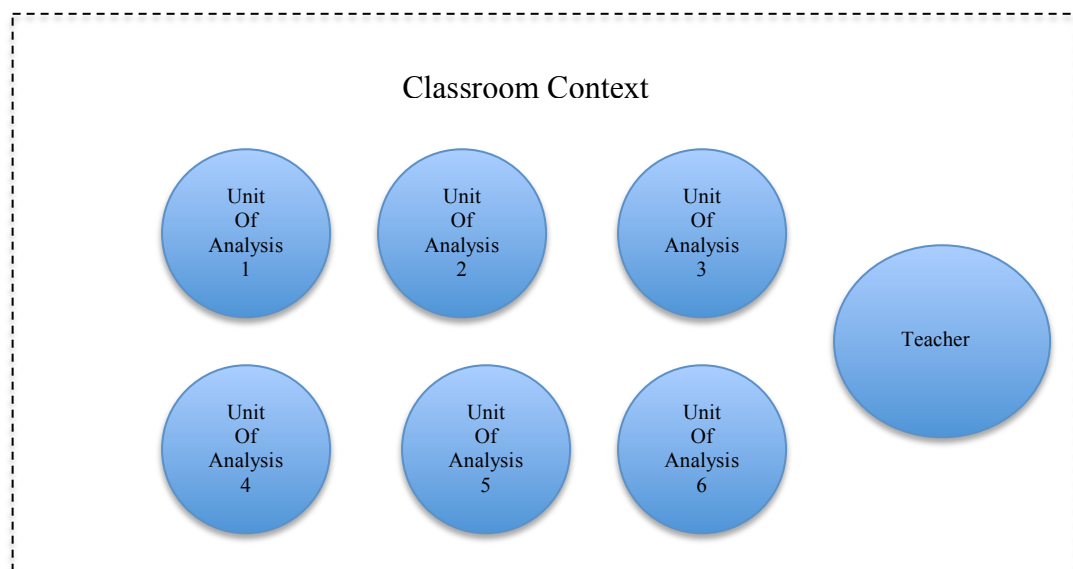


Figure 1.2. Embedded case study design with student units of analysis and teacher within the classroom context

I analyzed six students and their opinions about the flip – these are the subunits – within the broader context of a whole classroom that experienced the flipped paradigm. I used Pintrich and DeGroot’s (1990) validated Motivated Strategies for Learning Questionnaire (MSLQ) to determine which students in a single ELA classroom were engaged by the flipped method. The MSLQ has been used hundreds of times in a variety of school settings to measure the essential motivational components in self-regulated learning and engagement (Davis, et al, 2009). The results of the survey, as well as teacher input, allowed me to select six students for the embedded case study analysis. Two of the students chosen demonstrated high levels of engagement with the flipped method; two reported that they did not like or dislike the method, while the final two reported that they did not like the flipped method at all. I used interviews, as well as field observations, to try to understand the points of view of each of the students. I believe six is adequate to provide a sufficient degree of certainty about the results, as well as offer likelihood of theoretical replication (Yin, 2009). In addition, by selecting students with varying points of view, I was in a better position to “either clearly confirm or irrefutably falsify” (Flyvbjerg, 2006, p. 231) preconceived ideas about the flipped method.

The case study approach avoided the natural temptation to “fall back on the linear assumption of quantitative analysis” (Patton, 1990, as quoted in Merriam, 1998, p. 188). Using an embedded case study design for the qualitative portion of the study was useful for understanding the naturalistic context of the classroom, as well as the behaviors and attitudes of all students involved in the flipped paradigm. In addition, interviews with the purposeful

sample of six students provided a measure of triangulation with the observational data, as well as a chain of evidence advocated by Yin (2009) and Miles, Huberman, and Saldana (2013). This purposeful sample was chosen through “intensity sampling,” which Patton (2002) describes as “information-rich cases that manifest the phenomenon intensely, but not extremely” (p. 243). The six students were chosen based on their expressed like or dislike of the flipped classroom method.

In addition to the interviews and survey, I observed in eight classrooms led by two middle-grades ELA teachers for two days as they implemented an instructional unit in a traditional classroom paradigm. I was able to gather data on the behavior of the students and teacher as they went about the business of learning and teaching “as usual.” I was able to compare these initial, “usual” classroom experiences with the flipped classroom experiences that followed. My role was strictly one of observer, and I did not participate in the instruction or activities. In this sense, the observations allowed me to employ the role of evaluator and interpreter (Stake, 1995), as I attempted to make sense of the classroom dynamics and offer a “new interpretation, new knowledge” (Stake, 1995, p. 99).

I then observed the same students and teachers for three weeks as the teachers implemented the flipped method in their classes. The flip was implemented through a unit on poetry immediately following my observations in the traditional classroom. This allowed me to compare apples to apples, “making contrasts, comparisons” (Miles, Huberman, & Saldana, 2014, p. 234), as well as use the “tactic of following up surprises” (Miles, Huberman, & Saldana, 2014, p. 234). Yin (2009) indicates that direct observation in case study is particularly salient when researching technology and curriculum issues. Yin (2009) writes:

If a case study is about a new technology or a school curriculum, for instance, observations of the technology or curriculum at work are invaluable aids for understanding the actual uses of the technology or curriculum or any potential problem being encountered. (p. 110)

I also observed, interviewed and conducted ongoing conversations with both teachers – before, during, and after the flipped unit. This field work allowed me to come to a better understanding of the processes the teachers used when designing their version of the flip through a unit on poetry.

Analyzing the data sources required a systematic approach that I established prior to data collection (Yin, 2009). Yin (2009) advocates starting with theoretical propositions. I used a theoretical framework based upon Kearsley and Shneiderman's (1998) Engagement Theory for technology and learning, along with the principles of TPACK (Koehler & Mishra, 2009). In addition, I view a flipped ELA classroom as being reflective of Dewey's (1897) beliefs about the importance of creating new attitudes and new interests in students. In his seminal work *My Pedagogic Creed*, Dewey (1897) states, "The progress (of education) is not in the succession of studies, but in the development of new attitudes towards, and new interests in, experience." In effect, students are engaged with, motivated by, and learn from compelling interactive educational experiences. I also used the theoretical engagement framework developed by Fredericks, Blumenfeld and Paris (2004), which states that student engagement can be divided into cognitive, behavioral, and emotional constructs.

I analyzed all of the qualitative data with a systematic approach. Interview data were the most salient in this study, so I transcribed the interviews and then analyzed the transcriptions for codes, using the pre-established codes (Stake, 1995) from my pilot study as a guide. Since I also spent a great deal of time in the field, I also used field notes as part of my qualitative analysis. I took extensive notes every day in every class, and I looked iteratively for patterns in the field observation data.

The quantitative data gathered from the MSLQ was analyzed through statistics software using a related samples t-test and a two-way ANOVA to measure the differences between the responses regarding the traditional classroom unit and the flipped classroom unit. In addition, the descriptive statistics for each question was calculated. In addition, I tabulated mean scores from students, dividing them into gender groups and ethnoracial (Frederickson, 2002) groups. Questions with significant p levels greater than .05 were marked, as well as plotted on a histogram. Correlations also were investigated and those with significant p levels were indicated with asterisks.

Chapter Summary and Organization of the Study

The flipped classroom paradigm has received enormous media and academic attention in recent years. The advent of technology has allowed teachers to “flip” their instruction and provide lectures via video format outside the classroom, while their students engage in collaborative activities and active learning inside the classroom. Since the method is so new, there is scant empirical evidence or published research regarding its effectiveness. In fact, most of the research regarding the flipped method of instruction has been at the

higher education level or in STEM classrooms. To date, there has been virtually no published research on the method's use in an ELA classroom or in a middle grades classroom. Yet, despite the lack of evidence, many teachers are trying the method anyway – either because of pressure from administrators, or through a desire to more effectively engage their students and address the curriculum.

I conducted a mixed methods study of two middle grades ELA teachers who implemented the flipped method of instruction with their students. I observed the students and assessed their engagement in a traditional classroom. Then, I observed and assessed their engagement in a flipped classroom. I used a mixed methods design to compare the students' engagement in the two classrooms, as well as to better understand the pedagogical processes that the teachers used when designing flipped instruction.

In the next chapter, I will discuss the relevant literature and research related to the flipped method of instruction. I will offer a critique and synthesis of this literature, as well as the state of the current research. In chapter three, I will outline in greater detail the purpose and objectives of the study, as well as the methods used. I will discuss the sampling criteria, data collection and analysis, research validity and reliability, and limitations of the study. In chapter four, I will go into detail about the quantitative results of the study and provide statistics connected to the MSLQ. In chapter five, I will go into detail about the qualitative results of the study, particularly the experiences of the six case study students and the two teachers. Finally, in chapter six I will offer some conclusions and implications for further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

A Definition and History of Flipped Learning

The “flipped classroom” seems to have developed simultaneously in various parts of the country as technology access became more prevalent. J. Wesley Baker, a professor at Cedarville University in Ohio, decided to post his PowerPoint slides onto the school’s new computer network and have the students read the slides before coming to class. His idea, launched in 1995, was to use four key concepts to drive the model. The concepts were: “clarify, expand, apply, practice” (Baker, 2000, pp. 13-14) in order to shift his role from “sage on the stage to guide on the side” (Baker, 2000; King, 1993). Baker (2000) then clarified and explained the concepts at the start of class, expanding on the basic information in the slides. The students broke into small groups to apply and practice the concepts. Baker (2000) surveyed his students at the end of the term and discovered that they felt they had learned a great deal from their peers through the collaborative activities. He dubbed the new process the “Classroom Flip” around 1997 or 1998 (Baker, 2000, p. 3).

Simultaneously, another group of university instructors at Miami University in Ohio launched an “inverted classroom” (Lage, Platt, & Treglia, 2000) in an attempt differentiate their microeconomics lessons for different learning styles. The availability of technology was the spark that ignited the idea and allowed the researchers to turn the traditional classroom environment on its head by asking students to view PowerPoint slides and course content on a course website before coming to class. Once in class, the students worked in small groups to dissect the material. Lage, Platt, & Treglia (2000) wrote that “inverting the classroom

means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa” (p. 32). A survey administered at the end of the course indicated that students enjoyed the collaborative nature of the class and learning economics in a new way. The researchers concluded that “students generally preferred the inverted classroom to a traditional lecture and would prefer to take future economics classes using the same format,” (Lage, Platt, & Treglia, 2000, p. 41).

A few years later, in 2007, two high school chemistry teachers in Colorado began a collaborative effort to teach their content with the aid of screen capture software that allowed them to record lectures and spend class time working one-on-one with students (Bergmann & Sams, 2012a). Their idea was born independently of Baker’s (2000), but seemingly created from the same ingredients of the 21st Century: technology access and frustration over students’ lack of engagement. Anecdotal evidence suggested that the Bergmann and Sams (2012a) method was successful, so the pair began touting its benefits through conferences, a website, and blogs. They have since moved the basic flip idea into a “Flipped Mastery” concept (Bergmann & Sams, 2012a, pp. 51-93) in which asynchronous learning takes place as students work simultaneously, but at different paces, on projects. Bergmann & Sams (2012a) believe the flipped classroom model has tremendous potential to reduce the frustrations of teaching, because (among other things) it personalizes education, increases student-teacher and student-student interaction, and makes the classroom content transparent to parents and others.

Much of the impetus for the active learning strategies in the classroom portion of the

flip came from the work of King (1993), who pioneered the ideas behind “reciprocal peer questioning” (King, 1993, p. 3), as well as the phrase “from sage on the stage to guide on the side” (King, 1993, p. 1). King (1993) proposed that constructivist learning-based activities would help students “to think for themselves – to move away from the reproduction of knowledge toward the production of knowledge” (King, 1993, p. 9).

Much of the support for the flipped model comes from existing knowledge about the benefits of a collaborative learning environment – especially one in which technology is a component. A Technology Rich Environment, or TRE, is described by Lajoie and Azevedo (2006) as a “learning environment that is designed for an instructional purpose and uses technology to support the learner in achieving the goals of instruction” (p. 803, as quoted in Alexander & Winne, 2006). This environment is ideally suited to the flipped classroom model and its integration of technology into the curriculum. The possibilities for collaboration and scaffolding that the TRE provides can help motivate students and lead students to achieve mastery goals (Turner & Patrick, 2004). In addition, self-efficacy beliefs and motivation that typically decline during adolescence (Wigfield, Byrnes, & Eccles, 2006) can be bolstered in a classroom environment that emphasizes choice and inherent enjoyment of learning (Turner, et al, 2002).

Recent research indicates that middle school sometimes is the beginning of a slow decline in engagement with the academic and social aspects of schools (Li & Lerner, 2011; Wigfield, et al, 2006). Students of middle school age – typically 11-14 – may begin to fall prey to social expectations, stereotypes, and deficit thinking (Okagaki, 2006). However, high expectations and the positive influence of adults, such as parents and teachers, can help

mediate some of the negative societal effects and lead to academic and social success (Okagaki, 2006). In the flipped model paradigm, advocates believe that teachers have more interaction and increased direct contact with students – a component that potentially could have far-reaching effects for students “at risk” of dropping out or on a downward slide toward behavioral issues, substance abuse, and delinquency (Li & Lerner, 2011).

The specific classroom environment created by the flipped model may have an impact on student learning. Perry, Turner, and Meyer (2009) advocate for a classroom environment that motivates student learning through scaffolding and positive feedback. In addition, Turner and Meyer (2006) found that students were more willing to take risks in the classroom if they were emotionally invested in a positive way with the classroom culture and teacher. This classroom environment may be easier to achieve through a flipped paradigm as the teacher walks from desk to desk, informally assessing each student’s learning and answering questions in individual conferences. In addition, the flipped classroom may provide the teacher with more opportunity to help students develop independence, as much of the work in a flipped classroom is self-paced. Perry (1998) found that students were more motivated on a writing task when they were put in charge of their own learning, were given choices, and controlled the challenge level to suit their abilities. Although this is, ideally, the environment promoted in every ELA class, the flipped paradigm may offer students more agency over their own learning since they are able to watch instructional videos during their own time.

Media Darling

The flip has made its way into current educational practices with a large push from media outlets. Social media and YouTube helped propel Kahn Academy's 4,500 videos into the national conscience in 2006, as Google invested \$2 million, and the Bill and Melinda Gates Foundation invested \$1.5 million (Solomon, 2011). Kahn Academy videos on YouTube have received more than 100 million views, eclipsing founder Sal Kahn's alma mater, the Massachusetts Institute for Technology (MIT), which claims 32 million views (Solomon, 2011). Kahn Academy's videos, which offer tutorials on several math and science subjects, have been used in classrooms and helped supplement regular instructional materials as the flip evolved (Gupta, 2012). In the videos, Kahn's voice is heard in the background while a black screen is used as a blackboard for writing. Viewers never see people, fancy graphics, or pictures other than the black screen and neon-colored writing. However, this low-tech approach has become wildly popular. The TV news show "60 Minutes" detailed Kahn's success and predicted he may become "teacher to the world" (Gupta, 2012).

Print outlets also have weighed in on the idea of videos for instruction and the flipped method. A story in the Sept. 17, 2011, edition of *The Economist* began with the headline: "Flipping the classroom: Hopes that the Internet can improve teaching may at last be bearing fruit." *USA Today* claimed on Jan. 28, 2013, that the method is "catching on in schools across the nation as a younger, more tech-savvy generation of teachers is moving into classrooms" ("Teachers flip"), while *The Phi Delta Kappan* offered "10 Reasons to Flip" (Fulton, 2012). Yet, *Education Next* offered a darker view, warning that the "flipped classroom could be seen

as another front in a false battle between teachers and technology” (Tucker, 2012, p. 83). As the media attention has grown exponentially, the Internet has kept pace. The website Flippedlearning.org claimed 15,000 members at the end of 2013 – up from 2,500 in 2012, and Flippedlearningjournal.org launched in 2013 as an online consortium of teachers offering advice on the flip. In addition, hundreds of thousands of Google search engine hits in the past two years have reflected an interest in the “flipped classroom” or “flipped learning” – many of these postings from classroom teachers looking for directions on flipping or offering how-to advice. In short, news of the method has reached into virtually every media corner.

Pressure to Flip

This influx of media attention may have created pressure on teachers to implement the method. According to the Speak Up National Research Project (2012), 27% of principals wanted their teachers to try implementing flipped instruction during the 2013-2014 school year. (Speak Up, an online research project facilitated by non-profit group Project Tomorrow, is an annual survey of K-12 teachers, students, parents, and administrators in an “effort to gain insight into emerging technologies and innovations” (tomorrow.org)). A school district in North Carolina awarded a Teacher of the Year award in 2013 to a teacher who used the flip in his classroom. In addition, stakeholders in the same school district also trumpeted the benefits of the method through a widely circulated newsletter article (“Teachers flip classrooms,” 2013). Yet, despite the accolades, only 3% of teachers actually “did” the flip in 2013, according to The Flipped Learning Network.

Historically, many school districts have encouraged their teachers to integrate

technology and other innovations into their teaching, but provided little support (Young & Bush, 2004). Spires, Hervey, and Watson (2013) wrote “the pressure on teachers to embrace new literacies and to integrate effectively technology in the classroom is steadily increasing” (p. 34). The flipped method possibly is no different. Some teachers view the method with skepticism and point to the labor-intensive effort of creating videos and online lessons (Berrett, 2012). In addition, some teachers fear embarrassment in acknowledging they know very little about technology (Fabry & Higgs, 1997), a fact they likely do not want to admit to eager administrators. Teachers may be resisting the pressure to implement the flip – or technology in general – because of the “disconnect” between the glamour of using the method and the realities of constructing it (Young & Bush, 2004). Yet, others have found the technology aspects part of the fun and readily accessible through free programs like Weebly, Edmodo, and Voicethread (Moore, et al, 2014).

Another Reform

For the skeptical, the flip is simply another pedagogical fad that is being hyped in reaction to societal and governmental pressure to improve performance in schools. The pressure from many lawmakers to reform education has led to a number of initiatives to measure achievement (Fusarelli, 2011; Fusarelli & Fusarelli, 2003). Fusarelli and Fusarelli (2003) demonstrated that some of these initiatives, including increased standards and outcome-based strategies, have led to continued challenges and achievement gaps. In fact, students in high poverty homes or at an economic disadvantage may be most at risk for being left behind by reforms (Fusarelli, 2011). The flipped classroom paradigm, with its emphasis

on technology and videos that often are viewed at home, may be the type of new reform that disenfranchises students with technologically adverse parents or lack of Internet access.

Controversy, of course, is nothing new in the field of curriculum reform. Eisner and Vallance (1974) have pointed out that most controversies in educational discourse stem from a basic conflict in stakeholders' worldviews, as well as the dogmatic positions of those without a clear understanding of "conceptual underpinnings" (p. 2). Many people have used the curriculum as a platform for their personal views and orientations to the world, as well as a way to advance specific ideologies (Eisner, 2001; Apple, 2004). Eisner and Vallance (1974) categorized five possible orientations to curriculum: 1) a concern with the development of cognitive processes; 2) a focus on the curriculum as a technology, or process; 3) a view of the curriculum as a self-actualization or consummator experience; 4) a belief that the curriculum should have a role in social reconstruction or relevance; and 5) a sense that academic tradition and rationalism should take precedence. And all of these orientations have had their 15 minutes of fame in the history of curricular reforms, most without achieving much consensus among stakeholders. Indeed, Americans generally have felt dissatisfied with their schools throughout history (Ravitch, 1981). And although teacher preparation programs are more rigorous and extensive than ever, many Americans feel that something is lacking. The school and its curriculum often become the canary in the coalmine, the first signal that a shift in political ideology and priorities is occurring within the greater society. Curricular reforms become akin to political reforms (Apple, 2004; Eisner, 2001). Many Americans look to schools to reflect the changes in society and to build a new society

from the bottom up. After a failed back-to-basics initiative in the late 1970s, Ravitch (1981) wrote

In retrospect, it was folly to have expected the schools to transform society or to mold a new kind of person. The schools are by nature limited institutions, not total institutions. They do not have full power over their students' lives... (p. 201)

Yet, this retrospective reflectivity has not kept educators and other stakeholders from continuing to try to influence society through the curriculum. The flipped classroom paradigm could be the latest magic bullet within this historical struggle for the curriculum (Kliebard, 2004).

In the mid-19th Century, stakeholders tried to reform the existing curriculum by making it more in alignment with scientific principles that were popular at the time. This meant that students would be job-ready by the time they graduated – an important consideration during the Industrial Revolution. Interestingly, proponents of the flipped method have maintained that one of the primary benefits of the model is that it uses technology in a way that helps students to become job-ready (Bergmann & Sams, 2013a; Berrett, 2012; Hamden, et al, 2013). At least some of the support for the flip likely stems from a scientific curriculum perspective that advocates for a systematic approach to receiving the instruction (via video or other technology at home) and then producing a product that reflects knowledge. Although these same proponents decry the top-down delivery system of

a formal lecture by an expert, skeptics point out that the flip continues the lecture model – only via a video, instead of in person. The teacher continues to be cast in the role of “expert,” and students perform tasks that are then evaluated by the teacher. In this light, the flipped classroom begins to look like another, more technology-advanced version of the jobs-ready, STEM-focused, scientific curriculum of the 19th Century.

The flip also is a child of 20th Century Progressive reformers, such as Dewey (1916; 2008), who supported a child-centered, active-learning based curriculum. Nagel (2013) outlined “four pillars” of the flipped classroom, and all these likely would have Dewey’s support. These include: 1) flexible environments; 2) student-centered activities; 3) a variety of strategies; and 4) implementation by professional educators. Proponents of the flipped classroom method advocate for a Progressive-type approach when implementing the strategy (Bergmann & Sams, 2013a; Bergmann & Sams, 2013b; Berrett, 2012; Hamden, et al, 2013).

Another reformer, Harold Rugg (1928), felt that textbooks could be the tools for reorganizing and improving the curriculum (Boyle-Baise & Goodman, 2008). Interestingly, advocates of the flip have positioned videos as the medium for implementing change in the classroom. Kahn Academy’s pre-made videos are reminiscent of textbooks and take the “guess work,” as well as teacher bias, out of instruction.

In the late 20th Century, the Reconceptualists sought to reform the curriculum by highlighting a more autobiographical and individualized approach. Whether the flipped classroom allows for further individualization and less bias in the curriculum remains to be seen, but the method’s emphasis on asynchronous learning (Bergmann & Sams, 2013b) does foster a more autobiographical approach that likely has its roots in reconceptualism. In

addition, feminist theory undergirds the flipped classroom notions of collaborative and project-based work that is the hallmark of the flipped classroom. However, issues of equal technological access and equality in home support are still a concern (Herreid & Schiller, 2013).

The latest reform movement, often dubbed 21st Century Learning, is being positioned as a response to the proliferation of technology and the increasing interconnectedness of the world. Production of most American goods has moved to China, and technology industries have found a willing home in countries like India. Americans cannot keep up with the hundreds of thousands of engineering and technology graduates in India, the Philippines, and China (Pink, 2006). Reform advocates say that the school curriculum must be reshaped to reflect a different type of skill set and to prepare students for jobs we cannot yet anticipate. If we don't reform the education system, they say, then American workers are doomed to fall further behind.

In their 2009 book, titled *21st Century Skills: Learning for Life in Our Times*, businessmen Trilling and Fadel offer a list of necessary skills for the new millennium that includes critical thinking, creativity, digital literacy, flexibility, and cross-cultural skills. The book draws on the knowledge of other business leaders to construct a framework for student learning in a new age. Indeed, business and industry is seemingly leading the way for the latest school reforms. Desirable traits in today's student sound like the same desirable traits for a good 21st Century worker: collaborative, self-directed, resourceful (Little, 2013). A well-educated, competitive workforce may be the most important goal in education, and yet

today's students are not prepared to meet the challenges of the current job market (Trilling & Fadel, 2009).

The skills necessary for success in a flipped environment mirror those necessary for success in a technologically dependent workplace. Workers who can think for themselves, work well with their peers, collaborate on projects, do many things at the same time, and find the answers with minimal intervention from an expert are likely to succeed in today's economy. Likewise are students in a flipped classroom.

Looking at the flip within the context of reforms throughout the history of American schools, it is possible to see that the flipped method could be just another educational reform destined to fade away. Although it appears to be a new idea, it also bears the scars of many other past reforms. Little (2013) wrote that the 21st Century learning skills touted today are not much more than old ideas "dressed in a new suit" (p.86).

More than 100 years ago social meliorists demanded that students be groomed for jobs and the workforce. Advocates of the flipped classroom say the paradigm teaches students skills that are necessary to thrive in a future workplace (Barr, 2013; Berrett, 2012; Fulton, 2012). At the beginning of the 20th Century, Progressives called for the same child-centered curriculum that is the hallmark of the flipped classroom. In addition, the individualized approach that makes the flip appealing to students (Bergmann & Sams, 2012a) is the same approach advocated by the Reconceptualists back in the 1960s and 1970s. Whether or not the flipped paradigm can transcend the fate of so many other reforms remains to be seen, but one thing is clear: It owes its creation to the past.

Empirical Data on the Flip

The vast majority of the published research to date on the flip has been conducted in Science, Technology, Engineering, and Math (STEM) classrooms – and most of these at higher education institutions. Much of the data has been inconclusive, as well, as students and teachers cannot quite decide if they like the new method or not (Demetry, 2010; Moran & Young, 2013).

In one mixed methods study, Strayer (2007) compared two introductory statistics classes that he taught. One class was taught using the traditional lecture format, while the other employed the flipped method. Strayer's framework leaned on Activity Theory and active-learning theories posited by Vygotsky (1978) and Dewey (1990), which speculated that students learn best through activity and physical engagement with the content. Strayer (2007) used a video series to deliver the lecture content to his flipped class and followed up with activities and collaborative learning during class time. Both his quantitative and qualitative data found that students in the flipped classroom were less satisfied with the instruction they received. Although students in the flipped class were found to prefer collaboration and innovative teaching strategies, they said they felt less connected to the professor and that class time felt redundant after learning the content from a video. Strayer (2007) concluded that the students did not really know "how to do class" (p. 155) and that frequently the collaboration felt like "the blind leading the blind" (p. 135).

However, in another study, the flipped model outscored the traditional classroom paradigm in terms of student satisfaction with the course, as well as academic achievement.

The study, conducted by Marcey and Brint (2012) in two introductory biology classes at a private university in California, compared the Cinematic Lectures and Inverted Classes (CLIC) model to the traditional lecture model. Students in the CLIC class outscored the traditional class on all quizzes and tests in the first half of the semester. By the second half of the semester, however, the achievement gap had closed between the groups. The researchers posited that this was because students in the traditional lecture class had begun watching the videos too – an interesting finding that led them to conclude that the videos, not the collaborative activities, were the key to success in the class.

Other studies at higher education institutions have not shown such clear preferences for the flipped model. In a study conducted by Ferreri and O'Connor (2013) in university-level pharmacy classes, students demonstrated improved grades and learning outcomes in a class that emphasized collaborative learning over traditional lectures. However, the students in the non-traditional class turned in course evaluations that were more negative than those in the traditional class. In addition, a study in two university-level computer science classes found that students in a flipped class demonstrated high levels of engagement, compared to the traditional class (Gehringer & Peddycord, 2013). The students in the computer science flipped class watched videos for homework, then collaborated during class time while the instructor circulated among the groups and answered questions. The students reported enjoying working with a partner to talk through material, but they did not score as well on the final exam as those in the traditional lecture class.

Secondary Schools Evidence

A study conducted in a high school also indicated mixed results from using the flipped method of instruction. Johnson and Renner (2012) used a mixed methods switching replications design to study two, 12-week high school computer classes. One class was flipped; the other was traditional. Students were randomly assigned to each class, then switched half way. This way, students experienced both methods of instruction within the 12-week period. The researchers measured the success of the instruction through the cognitive levels of questions asked by students. They used Bloom's Taxonomy to assess the cognitive level. The researchers concluded that there was no evidence to support higher satisfaction with the flipped method and no significant difference in academic achievement. In fact, they found that more higher-level questions were asked in the traditional class. However, Johnson and Renner (2012) remained cautiously optimistic about the flipped method at the end of their study, noting the following

If a teacher is driven to implement the flipped approach and is willing to commit to the extra work required in order to ensure success, content area should not be a significant factor. Future research on determining the efficacy of the flipped method of instruction should only be conducted when teachers realize the need for drastic change in instructional practice and are willing to tackle the drawbacks associated with time, student work ethic, personal work ethic, technology access and history. (p. 67)

Other data on the flipped method is anecdotal, but indicates promise for the strategy. In a high school calculus class, student proficiency with course material increased after teachers adopted a flipped method (Fulton, 2012). In a middle school in North Carolina, teachers reported that student engagement and test scores increased after implementation of the flipped classroom in math and social studies (Barr, 2013). And nearly 99% of 453 teachers surveyed who implemented a flipped classroom said they planned to repeat the approach during the next school year (Flipped Learning Network, 2012).

Student Interest and Engagement in the Flip

A handful of recent studies have looked at student interest in the flipped classroom method (Atkins, 2013; Jaster, 2013; Johnson, 2006). However, these same studies used different definitions for engagement – or did not define it all. Johnson (2006) used both qualitative and quantitative data to look at student perceptions of the flipped method in three high school math classes. Through Likert-type questions, as well as open-ended questions, on a survey, Johnson (2006) measured his attempt to “create an environment that involved mastery learning in a self-paced environment” (p. 6) with his students (n=63). Johnson’s (2006) data analysis revealed that his students generally enjoyed learning through the flipped method. However, no validated instrument was used to determine this finding, nor was engagement operationalized as a specific construct with a clear definition.

Likewise, Atkins (2013) used a teacher-made survey and a teacher-made unit test to determine “student satisfaction” with two flipped high school chemistry classes in which she was the teacher. Her findings indicated that her students were slightly more satisfied with the

flipped method of instruction, although test scores in the flipped classes were not significantly different from those in a control group. Atkins' (2013) determination of "satisfaction" was not developed through a validated instrument, and her students' responses to an open-ended survey were mixed. In addition, she did not clearly define the parameters of "satisfaction" and whether it was directly related to student engagement.

Lastly, Jaster (2013) looked at student perceptions and engagement in a flipped college algebra class. Multiple regression analysis of Jaster's students (n=82) found mixed results on student engagement in a flipped math classroom. Jaster (2013) referred to measuring "levels of engagement" (p. 71), including levels of engagement in "video viewing, note taking, and problem solving" (p. 71). Jaster's (2013) survey was tested for internal reliability and validity, but he measured engagement through web page access counts and instructor assessment of note-taking skills. He determined engagement in problem-solving through field observation. Jaster (2013) did not operationalize the term "engagement" other than to claim that students were "engaged" by video viewing because they logged in. Jaster (2013) wrote

There was no other apparent reason for logging into the website other than to view videos, so it is assumed that webpage access is an external variable that provided an approximation of the actual level of engagement with video viewing. (p. 93)

In addition, Jaster's (2013) evaluation of student notes was the factor to determine

note-taking engagement. Students who received higher score on their notes were declared “more engaged.” Students were observed to be more engaged in problem-solving when they were on-task and not texting on their mobile phones. Jaster ranked engagement in levels from 1 to 5, but did not provide a framework for this ranking or a definition of each level. Although Jaster’s (2013) survey provided extensive data analysis on the flipped math classroom, the constructs of engagement were not clearly defined.

What Is Engagement?

Student engagement is a key issue to consider when thinking about the flipped classroom, since students who are engaged are more likely to succeed in school and less likely to drop out (Connell, Spencer, & Aber, 1994). In addition, students who are more engaged may be more likely to have positive academic outcomes, since there is a strong correlation between participation/behavioral engagement and academic achievement (Finn, 1989; Finn, 1993).

Engagement may be a crucial disposition for success in school. According to Davis, Chang, Andrzejewski, and Poirier (2010), *relational engagement* -- in which students feel a sense of belonging to the classroom, as well as teacher support – may be key to students’ motivation and willingness to commit energy to academic work. Davis, Summers, and Miller (2012) write that students “who have positive social relationship goals tend to care about others in ways that predict their ability to be successful in social situations, such as classrooms” (p. 29). Davis, et al (2012) also found that students who feel cared for and want to maintain positive relationships with their teacher and peers (i.e. are engaged) may work harder academically and be willing to take risks in the classroom.

Student engagement as defined by Fredricks, Blumenfeld and Paris (2004) is a three-pronged concept: 1) *behavioral engagement* “draws on the idea of participation” (Fredericks, et al, 2004, p. 60), as well as active involvement in the activities of the classroom; 2) *emotional engagement* includes the student’s “positive and negative reactions” (Fredericks, et al, 2004, p. 60) to the academic subject; and 3) *cognitive engagement* reflects the student’s willingness to put forth effort and consider higher-level concepts. Davis, Summer, and Miller (2012) view engagement as being composed of behavioral, cognitive, and relational constructs. This third component, *relational engagement*, or a sense of belonging, is tied most closely with a sense of caring about school, peers, and teachers (Davis, et al, 2009).

While there is some disagreement among researchers on which aspects of engagement are most important in the classroom, I view cognitive, behavioral, and emotional engagement as equally important when examining the flipped classroom. Students who are *cognitively* engaged must use self-regulatory strategies, metacognitive strategies, and motivation in order to perform a task (Pintrich & DeGroot, 1990) – all of which are important skills in the flipped classroom. Without this *cognitive* engagement, students are more likely to be unwilling to take an academic risk (Davis, et al, 2009). In addition, *cognitive* engagement in school reflects a willingness to complete the task at hand (Greene, et al, 2004). Students who are *behaviorally* engaged are most likely to demonstrate “effort, persistence, participation, and compliance with school structures” (Davis, et al 2009, p. 4). These behaviors are important in a flipped environment as students likely will struggle with the new paradigm. If they are *behaviorally* engaged, theoretically they would be more likely

to want persist and find ways to learn through the new method. Finally, students who are *emotionally* engaged are more likely to value their relationships with their teachers, peers, and school (Greene, et al, 2004; Walker & Greene, 2009). These same students may also be *relationally* engaged and interested in maintaining positive relationships – a marker for school success (Davis, et al, 2012). Since collaboration is a major component of most flipped classrooms, *emotional* engagement is a key construct in understanding students' overall willingness to work with others and maintain a positive and cordial working relationship with their peers.

Vygotsky (1978) posited that a learning environment in which individuals interact in both the social and material world, while being supported by others more knowledgeable than them, will result in increased motivation and engagement. Vygotsky's (1978) sociocultural theories are applicable to a flipped classroom paradigm, since students generally collaborate on active learning projects with the support of a classroom teacher.

However, no single method or classroom feature can be responsible for motivating students to learn (Perry, Turner, & Meyer, 2009). Students are more likely to engage in tasks when they expect they will be successful, and when they value the outcome of the task when the activity has been moderately challenging (Perry, Turner, & Meyer, 2009). Variety, novelty, and diversity are among the characteristics of tasks that engage students (Malone & Lepper, 1987).

Engagement Through Technology and Innovation

The flipped classroom paradigm is possible because of the proliferation of technology

(Bergmann & Sams, 2012b). Therefore, it is necessary to look at student engagement through technology and innovative pedagogies. Although technology should not be viewed as an add-on or an end unto itself (Koehler & Mishra, 2009), it can add interest to lessons and help facilitate engagement in the curriculum (Downes & Bishop, 2012; Fahnoe & Mishra, 2013; Hicks, Young, Kajder, & Hunt, 2012; Manfra & Lee, 2012). In addition, teachers who use technology are helping to prepare their students for the 21st Century workforce (Pope, 1999). Multiple studies have indicated that students are more interested and self-directed when they are given opportunities to use technology at school.

In one study, middle-school students who worked in a technology-rich classroom environment with access to digital tools had a higher degree of self-directedness than students doing the same work in a traditional classroom (Fahnoe & Mishra, 2013). The authors concluded that the students in the technology environment “were more likely to connect with their teachers online and after-school, share their work and ideas online, conduct information searching to solve their own problems, and initiate skill development on topics of interests” (Mishra, Fahnoe, & Henricksen, 2013, p. 6). Although the authors stopped short of declaring the students more engaged, self-regulation and self-directedness are considered by many researchers to be components of motivation and engagement (Fredricks, Blumenfeld, & Paris, 2004; Greene, et al, 2004; Pintrich & DeGroot, 1990).

Middle-grades students may be particularly drawn to a technology environment, as they are the group most likely to use social networking sites, such as Facebook (Downes & Bishop, 2012). Collaborative principles, access to computers, and the chance to share their work with a larger community can help engage these “digital natives” (Prensky, 2001) and

make them more likely to view schoolwork as interesting (Downes & Bishop, 2012). Manfra and Lee (2012) found that high-school students were more engaged by culturally relevant instruction when they used an educational blog to help facilitate classroom discussions. The students in the Manfra and Lee (2012) study used Edublog to comment on varying prompts related to a social studies curriculum. The authors found that the students' engagement with the curriculum, as well as their ability to engage in authentic intellectual work, was increased through the blog. The blog environment provided "opportunities for student interaction, new ways to interact with text by reading online, and the ability for students to direct their own learning" (Manfra & Lee, 2012, p. 127). Likewise, middle-grades students in Greece also were found to be more highly engaged in course content when they used educational blogs (Jimoyiannis & Angelaina, 2012). The likely common denominator between the Manfra and Lee (2012) and Jimoyiannis and Angelaina (2012) studies is the use of technology, which afforded the students more freedom to respond and interact. The blog acted much like Facebook or other social media platforms, and the young students likely found comfort and familiarity in the form.

However, it is worth noting that the flipped classroom paradigm does not necessarily utilize technology within the classroom environment. The technology use mostly comes *outside* school, where students must negotiate and juggle parents, siblings, issues of access, and extra-curricular activities. Teachers in most flipped classroom models post videos of lectures or screencasts of PowerPoints on class websites or YouTube. Students are expected to view these materials *outside* class and then complete related activities *inside* class.

Whether or not these in-class, related activities utilize technology is dependent on the school's access and the teacher's comfort-level with the digital world.

One framework for using technology-based teaching and learning is Engagement Theory (Kearsley & Shneiderman, 1999). This theory posits that students learn best in a technology environment when the tasks are collaborative, project-based, and have an authentic focus. The theory states that technology is a vehicle that helps drive the learning and heighten student engagement, while collaboration and project-based curricula allow students to reach higher levels of cognitive understanding. Kearsley and Shneiderman (1999) write

Engagement theory is presented as a model for learning in technology-based environments that synthesize many elements from past theories of learning. The major premise is that students must be engaged in their course work in order for effective learning to occur. (p. 23)

Although the authors do not indicate specific ways in which to measure engagement, the theory provides an overarching framework for designing curricula and thinking about ways to increase student interest and motivation in a flipped classroom environment.

The Flip in English Education

There is a dearth of published research on using the flipped paradigm in English education. However, the 2013 annual convention of the National Council Teachers of

English had three presenters speaking on aspects of blended learning or the flipped classroom. This means English teachers are taking the plunge without empirical evidence of the method's effectiveness. During a 2013 webinar sponsored by the Flipped Learning Network, Colorado high school English teacher April Gudenrath (2013) spoke on ways to meet Common Core State Standard guidelines while implementing a flipped classroom. Gudenrath (2013) talked about creating Advanced Placement English videos and PowerPoint presentations for homework, while implementing active learning strategies in the classroom. However, attendees at the webinar questioned the amount of work involved in the creation of the videos, and one attendee said using the flipped method was "almost like teaching twice as much."

Although he did not measure the flip in an English class, Johnson's (2006) survey found that students had reservations about using the flipped paradigm with social studies and English. In summarizing his qualitative findings, Johnson (2006) wrote

One student expressed the belief that, 'the Flipped Classroom is for learning concepts, not necessarily people and dates as in Socials Studies.' Another student stated, 'I think it works fantastically in math, but definitely not English. I would not be able to get through a course like English by watching it on video.' A third student answered, 'I feel like the flipped class would work for fact-driven classes like Science, but not for classes such as English because it's not all based on facts.' (p. 63)

Technology in English Education

English class historically has been the single content area in which the only consistency has been change. As grammar drills and sentence diagrams have given way to blogs and digital video composing, the ELA classroom has seen it all. Since most students take English every year, English teachers uniquely have been faced with the task of keeping pace with the latest in educational, societal, and technological change. As Young and Kajder (2013) wrote in the introduction to their book on technology in ELA, “the work of the English teacher has grown to include leveraging the unique practices students bring to the classroom as readers, writers, and users of a variety of textual spaces (both digital and print)” (pp. vii-viii). This means that the English teacher must be able to negotiate many different modalities and that the English classroom has become the testing ground for nearly every pedagogical strategy and method.

Much of the current research in English education supports the use of technology in the ELA classroom. Specific tools may be harnessed to help improve students’ reading comprehension, writing fluency, and engagement. Pope and Golub (2000) advocate for seven principles of technology infusion that facilitate an engaging learning environment in an ELA classroom. These principles are: 1) introduce and infuse technology in context; 2) focus on the importance of technology as a literacy tool; 3) model ELA learning and teaching while infusing technology; 4) evaluate critically when and how to use technology in ELA classrooms; 5) provide a wide range of opportunities to use technology; 6) examine and determine ways of analyzing, evaluating, and grading ELA technology projects; and 7) emphasize issues of equity and diversity.

Pope, Beal, Long, & McCammon (2011) found high engagement among middle school ELA students who used a TPACK framework (Mishra & Koehler, 2009), were empowered through curricular decisions, and received close instructional supervision. The students in the Pope, et al (2011) study used technology to facilitate their interest in the young adult novel *The Outsiders* (Hinton, 1967). Pope, et al (2011) wrote

The easy access of computer technology allowed students to pursue answers to their questions within the class, to use the Internet to satisfy their curiosity in a natural way, and to gain knowledge about the historical setting of the novel. In this instance the students were TPACK representatives, and the pedagogy was implicit in their questions and action. (p. 337)

In addition, Bailey's (2009) work indicated that a ninth-grade teacher who used technology was better able to enhance her students' learning. Bailey (2009) wrote

When new literacies were the daily work of the class, students learned literary elements, poetic devices, rhetorical elements, and used reading and writing strategies in ways that previous classes never had before. (p. 230)

Young and Kraut (2013, in Young & Kajder, 2013) wrote about a research study using Twitter as a platform to engage preservice ELA teachers. In their study, participants posted seven to ten tweets related to language use during one semester. At the end of the

semester, the authors concluded, “the students’ content knowledge was enhanced through the *Language Today* activity” (p. 319). In addition, McGrail and Davis (2013, in Young & Kajder, 2013) wrote about the effectiveness of blogs in ELA through one teacher’s use of blogs with her fifth-graders. In the study, the fifth graders came to see “writing as an interactive and social process as it provided a tapestry of ideas that evolved over time” (p. 283). Miller (2007) also found that digital video composing was an effective pedagogical strategy, and Myers (2013, in Young & Kajder, 2013) found that video composing “gave a space for the multimodal interplay between various symbolic systems” (p. 228). Young and Kajder’s (2013) book detailed many studies and uses of digital technology in the ELA classroom, much of which relied on a framework that integrated TPACK (Mishra & Koehler, 2009). In nearly every study, the researchers found that digital tools were an asset, not a hindrance, to instruction and that a curriculum based on TPACK was an engaging and successful one.

English Teachers, Technology, and New Pedagogies

While it is not easy to teach an old dog new tricks, the literature is clear that English teachers who continue to update their pedagogy likely will find a receptive audience. Teachers who reposition their pedagogical stance to reflect a “guide on the side” attitude likely will engage their students (Bailey, 2009) and find that students participate more actively in class (Miller, 2007). Teachers must recognize that a refusal to update their old practices will disenfranchise their students (Compton-Lilly, 2011; Dyson, 2005) and create in

them a sense of dread about the curriculum (Elbow, 2000). The result could be devastating. Disengagement could mean more dropouts, more illiteracy (Freire & Macedo, 1987), and a society that is unable to jibe its schools with the world.

Perhaps the easiest route for teachers who want to ensure their in-school practice keeps pace with the out-of-school “real” world is acceptance of technology. Many young teachers embrace technological tools and the positive impact they have on the ELA classroom, but some veteran teachers refuse to acknowledge that technology can actually enhance the curriculum. McVerry (2013, in Young & Kajder, 2013) wrote that Internet use in schools “has been cast as a technology issue when it is literacy issue” (p. 88). McVerry argued that the Internet should be the “one of the central texts used in the English classroom” (p. 91) and that classroom instruction across all disciplines should move from the “page to screen” (p. 88).

Teachers who use specific digital tools, as well as the Internet, in their lessons and activities enhance their students’ understanding of content (Young & Kraut, 2013, in Young & Kajder, 2013), increase engagement (McGrail & Davis, 2013, in Young & Kajder, 2013), and deepen learning (Miller, 2007). We are moving from a world dominated by print into a world dominated by the screen (Kress, 2003), and teachers must do what they can to prepare students for a new workplace (Pope, 1993).

Professional development that supplies teachers with clear ideas and a “cognitive strategies toolbox” (Olson & Land, 2007, p. 278) can help propel tired faculty into the 21st Century. Targeted instruction in how to manipulate and use specific digital tools can enhance

teachers' pedagogy (Spires, Hervey, & Watson, 2013, in Young & Kajder, 2013), and help them improve their instructional methods (Nichols, Young, & Rickelman, 2007; Whitney, et al, 2008).

English teachers may want to change their pedagogical practices, but many do not know how. The research, however, indicates that professional development could be useful in helping teachers alter their stance and become more effective in the classroom.

Nicols, et al (2007) found that professional development could help teachers become more effective at literacy instruction as they self-selected the strategies that were most appropriate for their content areas. The authors concluded that “a commitment to professional development that focuses teachers' attention on their own critical analysis of what they do helps them make connections between current research finding and their classroom practices has the greatest potential” (p. 113).

Olson and Land (2007) also studied the effect of professional development on teachers' instruction and concluded that teachers who received a “cognitive strategies toolbox” (p. 278), among other things, were more effective than those who had not received professional development. In addition, students enrolled in classes in which the teachers had received the professional training performed significantly better on end-of-grade assessments and high-stakes state tests than students in regular classes. They also reported that they felt more like writers and readers and were no longer intimidated by books.

Whitney, Blau, Bright, Cabe, Dewar, Levin, Macias, and Rogers (2008) compared a teacher who received professional development in writing strategies with one who had not.

The teacher who had not participated in the professional development project was observed to exhibit a prescriptive and didactic approach to writing instruction. She prefaced each lesson with a reference to standards, and she had her students fill out templates. The teacher who had participated in the project was observed to have a more fluid approach to writing and allowed students to work at their own pace. The students engaged in collaborative writing and were more self-directed. The authors concluded that more professional development was needed to help teachers teach the writing process.

Lastly, Hicks' (2013, in Young & Kajder, 2013) study on the use of digital portfolios as tools to enhance teacher's technological integration demonstrated that an inquiry approach could help teachers "to think rhetorically about their digital portfolio and their own use of technology in teaching" (pp. 23-24). Spires, Hervey, and Watson (2013, in Young & Kajder, 2013) demonstrated that teachers simply need to be shown *how* to use technology effectively. Spires, Hervey, and Watson (2013, in Young & Kajder, 2013) wrote "the pressure on teachers to embrace new literacies and to integrate effectively technology in the classroom is steadily increasing" (p. 34). Through a graduate course in new literacies practices, the teachers in their study were able to "see the value that technology could add to their teaching experiences" (p. 53) and "transform their teaching approaches" (p. 53). Nichols, Young, & Rickelman (2007) also found that appropriate professional development helped enhance middle school teachers' integration of literacy strategies – no matter what their specific content area. In short, support for teachers is key when implanting any new pedagogical strategy.

The thought processes behind implementing the flipped classroom have not been documented in the research. Yet, it is clear that teachers who reflect on their practice (Pope, 1999) and work to honor their students' cultural backgrounds and differences will be more successful in accomplishing their own professional goals – and better serving the needs of their “customers.” As Elbow (2000) noted: Teachers cannot teach with students, but students can learn without teachers.

Chapter Summary

The flipped classroom, in which the teacher gives direct instruction via out-of-class videos, has been positioned as a new reform that offers a technologically reliant solution to a myriad of educational problems. In a flipped environment, the teacher can go from student to student to check on progress, while the students complete projects and other active learning activities. The idea began as an “inverted classroom” in colleges and universities (Lage, Platt, & Treglia, 2000; Baker, 2000), and then gained traction in secondary schools when technology became widely available (Bergman & Sams, 2012a; Bergman & Sams, 2012b). Its popularity has ascended rapidly, and it has gained further notice through the online site Kahn Academy, as well as print and digital media.

Proponents tout its ability to alter the traditional classroom paradigm and put the student at the center of learning. Opponents argue that it is simply another reform movement in a long history of reform movements aimed at “fixing” schools. Many of the empirical studies conducted on the idea have focused on institutions of higher education and STEM classrooms. There is very little empirical data on what the flip looks like or whether it is effective in an ELA classroom. In addition, the majority of the research has centered on

whether the flip affects learning outcomes and test scores. Few studies have attempted to understand the teacher's or student's perspective and experiences with the flip. Student engagement, as defined by Fredericks, Blumenfeld, & Paris (2004) could serve as lens through which to view student perceptions and experiences with the flipped classroom.

Although engagement in ELA has been documented previously, there are few studies that attempted to measure student engagement in a flipped ELA environment. In addition, although there is a growing body of research on using technology in the ELA classroom, particularly as it pertains to a TPACK framework, there is little empirical data on the technological implications involved in flipped instruction.

CHAPTER III

METHODOLOGY

Research Design

The purpose of this mixed methods study was to understand the impact of the flipped classroom method on middle grades English language arts (ELA) students and their teachers. To date, there is little empirical research on the efficacy of the flipped classroom method, particularly in regard to student engagement and ELA. In addition, most of the published research has been in Science Technology Engineering and Mathematics (STEM) classrooms and has focused on the efficacy of the method for learning outcomes, not on student experiences. There also is little empirical research published on the pedagogical considerations inherent in designing flipped instruction in any content area.

This study addressed student perceptions and engagement in a flipped ELA classroom, as well as the pedagogical processes involved in designing flipped ELA instruction. The flipped classroom may be the latest in a line of educational reforms pushed onto unprepared teachers (Young & Bush, 2004). Spires, Hervey, and Watson (2013, in Young & Kajder, 2013) wrote “the pressure on teachers to embrace new literacies and to integrate effectively technology in the classroom is steadily increasing” (p. 34). With its emphasis on technology, the flipped method possibly is no different. This mixed methods study addressed student perceptions and engagement in a flipped ELA classroom, as well as the pedagogical processes involved in designing flipped ELA instruction. A hybrid embedded design (Creswell & Clark, 2011) (quan → QUAL → quan), as well as follow-up case study interviews, was used to assess student engagement in both the traditional

classroom paradigm and the flipped classroom paradigm. Quantitative data were gathered in a pre-test to assess students' engagement through the Motivational Strategies Learning Questionnaire (MSLQ) (Pintrich & DeGroot, 1990). Then, qualitative data were collected during the treatment phase of the study through field observations. The treatment phase consisted of the flipped method implementation for approximately a one-month period. At the end of the treatment phase, the MSLQ was administered again as a post-test. Finally, follow-up case study interviews were conducted with six students. Drawing on Herreid and Schiller's (2013) use of case study to investigate the flipped classroom, as well as the work of Perry (1998) in selecting specific students for observation, the six students were observed during field observations and interviewed. Three of the students came from one teacher's classes and three from the other's. The students were purposefully selected with input from the teachers. The students were purposefully selected to be from different ethnoracial backgrounds, as well as differing in ability in ELA so as to get a more accurate cross-section view of the students. The students selected for the case studies were: two Black girls; two White boys; one Asian girl; one Hispanic boy. One of the Black girls was designated as "gifted" and high-achieving, while the other was in an In-Class Resource (ICR) class. One of the two White boys was reported by his teacher to be "pretty good" at ELA, although not at the top of the class; while, the other White boy was in an ICR class and had a behavior contract. The Asian girl was identified as "gifted," while the Hispanic boy was considered by his teacher to be on grade level for ELA, based on his end-of-grade test scores. Three engagement clusters (Perry, 1998) were created: one pair of students who were highly

engaged in ELA; one pair of students moderately engaged in ELA; and one pair of students who demonstrated low levels of engagement in ELA. The students were selected after discussing with the teachers which students they felt were representative of each of the engagement clusters. The teachers offered two or three names of students they felt best represented each engagement cluster, and the researcher made the final selection based on the students' ethnoracial background and gender.

A mixed methods design was important for this study, since it helped obtain a different level of data and provided a more comprehensive picture than one type of data alone (Morse, 2003). I combined both qualitative data and quantitative data collection and analysis to more effectively assess the “benefits and constraints” (Schutz, Chambliss, & DeCuir, 2011) of the data. A qualitative analysis alone would not have described sufficiently student engagement, as it would have relied heavily on the observations of the researcher. The quantitative MSLQ data allowed for a verifiable source of data and a measurable score that could be directly compared to other students in the class.

The MSLQ is one of the most widely used and empirically validated measures in educational psychology (Davis, Chang, Andrzejewski, & Poirer, 2009). However, reliance on the MSLQ alone to assess student engagement would have missed nuances of human interaction, as well as the human voice. Creswell (2012) writes that good qualitative research involves “an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes” (p. 37). This approach allows for a more complex description and interpretation of the problem (Creswell, 2012) than would the quantitative data alone.

Research Questions

In order to understand student engagement in a flipped ELA classroom, as well as the pedagogical processes involved in designing flipped, ELA instruction, three questions guided this study. The first question related to the collection of quantitative data, while the second and third questions related to the collection of qualitative data.

My questions for this study were:

- 1) What is the difference in engagement when middle grades students learn in a traditional ELA classroom and then a flipped ELA classroom?
- 2) How do the follow-up case study interviews extend, refute, or illuminate the findings about middle grades ELA students' engagement with the flipped method?
- 3) What are the perceptions of a middle grade ELA teacher when implementing the flipped classroom? What factors play a role when an ELA teacher considers flipping her instruction?

Theoretical Framework

I utilized a framework of sociocognitive theory based on the work of Vygotsky (1978), as well as situated learning theory grounded in constructivist principles in a technology-rich learning environment (TRE) (Lajoie & Azevedo, 2006). In addition, Engagement Theory (Kearsley & Shneiderman, 1999) posits that students learn best in a technology environment when the tasks are collaborative, project-based, and have an authentic focus. These concepts are rooted in the basic assumption that students learn best through interactive processes in a technology-rich environment with a sociocultural component.

The tenets of Vygotsky (1978) and his studies on student achievement through the zone of proximal development (ZPD) provide a backdrop for a flipped classroom model. Vygotsky (1978) believed that students learned best when caring adults gave tasks to children that were slightly challenging, but not overly so. The “sweet spot,” or ZPD, reflected the challenge level at which a child needed a little adult help to accomplish a task. As soon as the child achieved the task with adult help, “scaffolds” of support were gradually removed until the child could complete the task alone without any help at all. Likewise, the collaborative classroom that features peer support can offer a model for students to learn from each other. The more-able peer can help model effective problem-solving strategies until the less-able peer is finally able to complete a task on his own (Perry, Turner, & Meyer, 2006). This would be the ideal environment for a flipped paradigm.

Sociocognitive theories indicate that allowing students to co-construct their environment through collaboration and project-based learning motivates and engages them. Students are more engaged when they can take an active role in their own learning. In addition, sociocognitive theories applied to motivation and engagement are directly connected to Vygotsky’s (1978) view that learning occurs when a student interacts with material and social world, participates in a community, and is supported by that community, which includes people more knowledgeable than themselves (Perry, Turner, & Meyer, 2009). A flipped paradigm in which the teacher is not a sage on the stage, but rather a “guide on the side” (Lajoie & Azevedo, 2006, p. 815), allows the learner more agency. Proponents of the flipped model advocate for a relationship in which the teacher remains the “sage” in the room, but does not lecture. Rather, the teacher facilitates a “guided discovery method”

(Mayer, 2004). In this guided discovery method, “the teacher provides enough guidance to ensure that the learner discover the rule, principle, or concept that is the goal of instruction” (Mayer & Wittrock, 2006, p. 295). In one study, this method resulted in better performance on problem-solving tests than “pure discovery” in which the child was left to solve problems on his own (Shulman & Kiesler, 1966). Sociocognitive concepts, as well as Vygotsky’s (1978) theories are at the heart of a flipped classroom model that emphasizes project-based learning, collaboration, teacher guidance, and peer support.

Overview of Methods

This research study employed a hybrid embedded design (quan → QUAL → quan) in that quantitative data were collected first, followed by qualitative data, then quantitative data were collected again. This design was followed up with qualitative case study interviews that further explained the findings in the first set of data (Yin, 2009).

The quantitative data were collected through the MSLQ before the treatment (pre test). The MSLQ was designed in 1990 by Pintrich and DeGroot to measure college students’ motivational orientations and learning strategies for a college course (Pintrich, 1991), but it has since been adapted for use with 7th and 9th graders (Davis, et al, 2009). Qualitative data were collected during the treatment phase through field observations in which I acted in an observer-as-participant (Hesse-Biber & Leavy, 2011) role in the classroom, meaning that my identity was apparent, but that my interactions with the teacher and students during the treatment phase were limited. Qualitative data also was collected through case study interviews after the conclusion of the flipped classroom unit and after the MSLQ was administered again (post test). Figure 3.1 describes the research design.

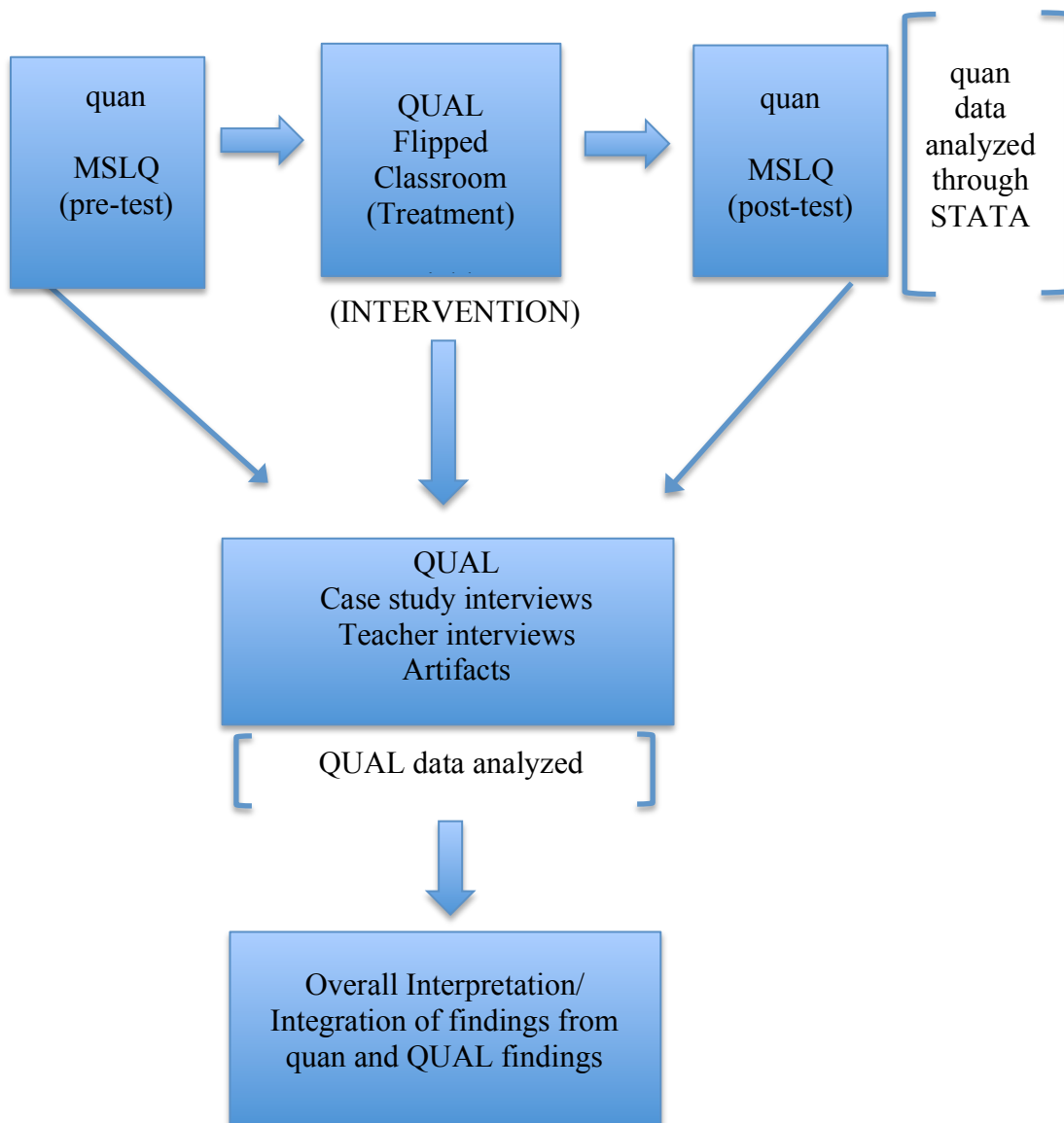


Figure 3.1 Diagram for a Research Study Using a Mixed Methods Embedded Design With a Case Study Follow-up

Site Selection and Sample

Two ELA teachers and their 7th grade students (n=185) were used as the sample. The teacher and students were chosen through purposeful, snowball sampling in that I was friendly with another teacher at the same school, and she recommended that I approach the first participant as a potential research subject. The second participant was obtained when she asked to be part of the study after hearing about it from the first participant.

The school used in the study, Lakeview Middle School, is a suburban middle school in the Southeastern United States. Based on county school system demographics from 2011-2012 (the latest information available), about 16.4% of Lakeview's students are eligible for free and reduced lunch – one of the lowest percentages in the school district (60.4% is the highest; 34.4% on average).

Lakeview Middle has approximately 924 students, with the vast majority (64%) White. The second largest ethnoracial group is Hispanic/Latino (a), which makes up 17.5% of the student population. Asians account for 9% of the population; Blacks make up 5.7%; and about 3.6% of the students claim two or more races.

In addition, there is one identified American Indian or Alaska Native and one identified Native Hawaiian or Other Pacific Islander.

Field Observations

Field observations occurred in two 7th grade ELA teachers' classrooms. Both teachers taught four sections of 7th grade ELA, or about 120 students each, and their class periods lasted approximately 50 minutes. Both teachers taught one ICR class in which a special education teacher came into the classroom.

Data Collection

The data collection for this study followed a mixed methods design, in that quantitative and qualitative data were collected independently, but each informed the other. To address the specific requirements of each method, I have isolated the collection and analysis procedure for each research question.

For Research Question #1: What is the difference in engagement when middle grades students learn in a traditional ELA classroom and then a flipped ELA classroom?), data will be collected as follows:

Instrument

Student engagement was measured using subscales of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich & DeGroot, 1990), one of the most widely used and empirically validated measures in educational psychology (Davis, Chang, Andrzejewski, & Poirer, 2009). The complete MSLQ consists of 81 questions on a seven-point Likert scale, from “not at all true of me” to “very true of me.” Since the study had less than 200 participants, four subscales were used – Intrinsic Value, Extrinsic motivation, Cognitive and Metacognitive Strategy-Organization, and Effort Regulation – for a total of 16 questions in order to give enough power to the EFA. Davis, et al (2009) used the Intrinsic Value subscale, the Self-Regulation subscale, and the Cognitive and Metacognitive Strategy subscales “to explore changes in students’ cognitive engagement as captured in their perceived value and relevance of academics as well as students’ motivation with regard to learning strategy use in the transition to high school” (p. 15).

The study's primary focus was on student engagement, particularly behavioral and cognitive engagement (Fredericks, Blumenfeld, & Paris, 2004). The Intrinsic Value subscale, in particular, allowed for an understanding of behavioral engagement, as the scale measures "the degree to which the student perceives herself to be participating in a task for reasons such as challenge, curiosity, mastery" (Pintrich, 1991). The Extrinsic Value subscale measured behavioral engagement, since it looks at the reasons a student completes a task for external reasons, such as a grade or reward. The Cognitive and Meta-cognitive-Organization subscale measured cognitive engagement, since it looks at organizing strategies that indicate a learner's close involvement in a task. Lastly, the Effort Regulation subscale measured cognitive engagement, because it looks at self-management and "reflects a commitment to completing one's study goals, even when there are difficulties or distractions" (Pintrich, 1991).

Procedures

The MSLQ was administered to each participant with a signed consent form prior to the unit of study (pre). It was administered again after the treatment (the flipped classroom method) was completed (post).

Research Question #2: How do the follow-up case study interviews extend, refute, or illuminate the findings about middle grades ELA students' experiences with the flipped method?

Instruments

Attempting to understand the opinions, attitudes, and behaviors of "typical" (Lichtman, 2010) middle school students in a flipped ELA classroom requires a careful

analysis of multiple forms of data (Yin, 2009). Yin (2009) states that using a variety of data sources will increase the validity and reliability of the study, as well as provide a triangulation of the evidence. In addition, Miles, Huberman, and Saldana (2013) advocate for a well-documented process in which the researcher is the main instrument of collection, but relies on multiple sources of data to draw conclusions. Creswell and Plano Clark (2011) encourage “creative qualitative data collection” (p. 179), as well as a carefully-selected quantitative instrument. In addition, Creswell and Plano Clark (2011) indicate that mixed methods researchers should make certain the data is collected in an effort to answer the research questions. Yin (2009) recommends six sources of evidence: documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts (p. 102). Of these, I used: documentation, interviews, direct observations, and physical artifacts.

Documentation

The documentation I used included school and county demographic information, as well as overall school performance on End of Grade tests and data on NC School Report Cards available through the North Carolina Department of Public Instruction (NCDPI).

Yin (2009) writes that the strengths of documentation include: stability since it can be viewed repeatedly; exactness as it contains exact names and references; and “broad coverage,” since it is longitudinal data collected over several years (p. 102). However, the documentation from NCDPI is difficult to find and may reflect a reporting bias (Yin, 2009).

Interviews

I interviewed the two teachers and six students individually in an effort to tell their stories (Fossey & Crow, 2011) and discover codes and patterns that allowed for a sense of

“correspondence” (Stake, 1995). I used a semi-structured interview format, which means that the interviews were like guided conversations (Yin, 2009), relying on a series of basic questions, but allowing for detours and additional questions as they spontaneously occur. The interviews were “focused interviews” (Merton, Fiske, & Kendall, 1990, as quoted in Yin, 2009, p. 107) and lasted from 45 minutes to an hour per student and about one to two hours per teacher. The advantages of interview data included its ability to provide targeted and insightful information (Yin, 2009, p. 102), while its disadvantages included unintentional, subjective bias (Flyvbjerg, 2006) in the questions and probing.

Direct Observations

I observed the teachers, the six students, and the entire classroom setting, in a traditional classroom setting and during the flipped unit. The observations in the traditional classes lasted two days. The observations in the flipped unit took about three weeks. I took on the role of observer-as-participant (Hesse-Biber & Leavy, 2011), meaning that my identity was apparent, but that my interactions with the teacher and students during the treatment phase were limited. In this sense, the observations allowed me to employ the roles of evaluator and interpreter (Stake, 1995), as I attempted to make sense of the classroom dynamics and offer a “new interpretation, new knowledge” (Stake, 1995, p. 99).

Yin (2009) indicates that direct observation in a case study is particularly salient when researching technology and curriculum issues. Yin (2009) writes

If a case study is about a new technology or a school curriculum, for instance, observations of the technology or curriculum at work are invaluable aids for

understanding the actual uses of the technology or curriculum or any potential problem being encountered. (p. 110)

Physical Artifacts

Lastly, used the teachers' lessons plans and classroom communications as a source of data. These consisted of paper worksheets and activities, as well as videos uploaded to the Internet, and the teachers' classroom websites. These artifacts allowed me to understand the teachers' perspectives in planning flipped instruction. The main weakness with this data source was the selectivity of the artifacts (Yin, 2009). Since other teachers not involved in the study helped prepare the lessons, I was not entirely sure which ones were prepared specifically by the teacher participants in the study. This may have led to unintentional bias.

Procedures

I observed all students and their teachers during the traditional classroom implementation, as well as during the flipped instructional unit. In addition, I interviewed six students after analyzing the quantitative data. By selecting students with varying points of view, I was in a better position to "either clearly confirm or irrefutably falsify" (Flyvbjerg, 2006, p. 231) preconceived ideas about the flipped method.

Research Question #3: What are the perceptions of a middle grades ELA teacher when implementing the flipped classroom? What factors play a role when an ELA teacher considers flipping her instruction?

Instruments

In order to understand the teachers' perspective, I conducted field observations of the teachers in which I acted as participant-as-observer (Hesse-Biber & Leavy, 2011) in the

classroom, meaning that I acted as a source of information in implementing the flipped instruction. I provided the teachers with information about how to record videos, specific software programs to use, and suggestions and ideas for using the flipped approach in an ELA classroom. Prior to the implementation of the flipped unit (the treatment phase), I held ongoing conversations and unstructured interviews with the teachers to better understand their frustrations, successes, and thought processes as they designed instruction. I continued to have conversations with the teachers throughout the implementation of the flip. I also conducted unstructured interviews with both teachers throughout the flipped unit, as well as more structured interviews at the conclusion of the unit. All observations and conversations were recorded as on-the-fly field notes (Hesse-Biber & Leavy, 2011) and then transcribed into more detail later the same day. The structured interviews were recorded and then transcribed by a transcription service.

Procedures

Observations in the field took place in the traditional classroom setting before the MSLQ was administered the first time. Observations continued during the treatment phase (flipped classroom). Conversations and unstructured interviews took place on a daily basis before, during, and after the treatment phase.

Data Analysis

Analyzing the qualitative and quantitative data sources required a linear approach (Creswell & Clark, 2011) that looked at both sources of data sequentially. Onwuegbuzie and Teddlie (2003) recommend a seven-stage process for data analysis in a mixed methods study.

This involves: 1) data reduction; 2) data display; 3) data transformation; 4) data correlation; 5) data consolidation; 6) data comparison; and 7) data integration.

First, I reduced the quantitative data by conducting descriptive analysis, as well as a two-way, non-directional ANOVA to look for similarities and differences in the MSLQ survey data collected in the traditional and flipped classrooms. I reduced the qualitative data by use a data analysis approach similar to the one outlined by Miles and Huberman (1994, in Yin, 2009, p. 129). The following analysis was used:

- Each of the data sources was put into different arrays
- A matrix of pre-established codes was made and evidence from each data source was put into the categories
- The frequency of codes and events was tabulated
- Interview data were transcribed by a transcription service and then the transcriptions analyzed for codes, using the a-priori codes (Stake, 1995) from my pilot study as a guide.

Second, I displayed results of the quantitative data analysis in a table that indicated the means, standard deviations, p value significance, and effect sizes for each question on the MSLQ. I also provided a table that describes the results of the ANOVA and indicates significant differences with an asterisk. I displayed the results of the qualitative data analysis by providing a table that lists the most frequent themes, as well as a frequency count for each theme. Finally, I provided a category/theme display in a merged data analysis (Creswell & Clark, 2011).

Third, to transform the raw qualitative data, I looked for patterns (Yin, 2009) that emerged and worked to “winnow” (Wolcott, 1990, in Stake, 1995) the data, setting aside the information that was not directly related to student engagement. As I am inclined to generate codes and patterns intuitively (Stake, 1995), I did not use a software program to help categorize codes. Instead, I color-coded utterances and patterns manually and analyzed them through open coding (Creswell, 2012). This was followed with a check for validity by asking another researcher to code some data for interrater reliability.

Merriam (1998) advocates a two-step approach that includes a within-case analysis first and then a cross-case analysis. This approach allows the researcher to “learn as much about the contextual variables as possible” (Merriam, 1998, p. 194) and provide an in-depth view of the phenomenon being studied. I utilized this two-step analysis by coding the individual students’ data first, then attempting a cross-case analysis that compared and contrasted each student.

Fourth, I correlated quantitative data with qualitative data by looking across codes and significant p values. Fifth, data were analyzed sequentially, with quantitative data from the MSLQ analyzed first, then the qualitative case study data analyzed second. After each data source was analyzed, I consolidated the data by combining the two to create one data set with themes that emerged from both the qualitative and quantitative analyses. Sixth, I compared each data set visually, making certain that I selected the most frequent themes, as well as the most significant p values and combined the two into a single data set. Finally, I integrated this analysis into a whole set that I described.

Validity and Reliability

Although the MSLQ is one of the most widely validated surveys in educational psychology (Davis, et al, 2009), I conducted Exploratory Factor Analysis (EFA) on the survey items to assess validity. The EFA was conducted on the subscales of the MSLQ and were compared to the norms established by Pintrich (1991).

In order to provide a degree of “trustworthiness” (Creswell, 2012) and reliability within the qualitative data, I provided my codebook to another peer coder and asked her to code a sample of the data to provide intercoder reliability (Creswell, 2012). I also utilized “thick” descriptions (Lincoln & Guba, 1985) that provided the reader with a clear picture of the classroom setting the participants’ behavior and interactions so that the reader can draw his or her own conclusions about the data (Merriam, 1998). I also spent a period of “prolonged engagement and persistent observation in the field” (Creswell, 2012, p. 207) in order to add value to the study.

Ethical Issues and Limitations

Since I set about helping the teachers understand how to implement the flipped classroom method, I may unconsciously have biased them against the method, as I have serious doubts about its ability to revolutionize instruction. I also may become such an integral part of helping them design the instruction that I may have come to believe that I am “one of the natives” (Hesse-Biber & Leavy, 2011, p. 208) and unwittingly weighed in during the planning phase of instruction without allowing the two teachers enough space to design on their own. I also observed in the classroom for a prolonged period of time and became

friendly with several students. Also, interviewing young adolescents is a difficult process and I may have questioned the students in a way that they found uncomfortable, or that biased their answers.

A limitation of the embedded mixed methods design was that I did not have a control group, which typically is used in a design with a treatment phase. In addition, although the MSLQ is considered a valid instrument, there could be issues of face validity, meaning that the test looks like it measures engagement when, in fact, it does not. Since the MSLQ is asking students about study habits and their motivational orientations, it also could have a social desirability bias in that respondents answer the questions on the survey based on how they wish to be perceived (Nestor & Shutt, 2012, p. 120). It is highly possible that young adolescents do not want their teacher to know they are not motivated or engaged.

The qualitative data also was limited by the inherent bias of the teachers conducting the flipped unit, the controls and regulations applied to the study by WCPSS and the school principal, as well as the researcher's inherent bias toward the method. I have no control over the teacher's attitudes toward the flipped method, but documentation, research, and a book (Bergmann & Sams, 2012b) were provided to them. In addition, I have no control over the regulations and limitations put on the study by WCPSS and the school principal, although every effort was made to establish a cordial working relationship.

In addition, since scant research exists on the method, there are few pre-established studies to replicate or theories to verify. This study marked new territory, and this makes it difficult to determine whether the results are an anomaly or generalizable.

Significance of the Study

This study is significant because it provided validated, quantitative and qualitative evidence on whether a flipped classroom was more engaging to students than a traditional classroom. Since nearly all of the empirical research to date has been conducted in STEM classrooms, this study offered a unique look at the flipped method in an ELA classroom. It also measured engagement in middle school students, a measure that has not been conducted previously. In addition, this study is significant in that it looked at the teachers' perspective during the flipped model design – a perspective that has not been investigated in previous research on the method.

Chapter Summary

I used a hybrid embedded mixed methods design to investigate middle school ELA students' engagement in the flipped classroom model, as well as the pedagogical processes involved in designing flipped ELA instruction. This research design utilized both quantitative and qualitative data in order to gauge student engagement and perceptions. It utilized qualitative data in order to assess teacher perceptions of the flip. In this design (quan èQUAL è quan) quantitative data were collected first, followed by qualitative data, then quantitative data were collected again. This design was followed up with qualitative case study interviews that further explained the findings in the first set of data (Yin, 2009).

The quantitative data were collected through the Motivated Strategies for Learning Questionnaire (Pintrich & DeGroot, 1990) in a pre-test and post-test format. The qualitative data were collected during the implementation of the flipped unit (the treatment phase)

through field observations and ongoing conversations with the teachers. The follow-up case study interviews were conducted after the flipped unit concluded and after the administration of the MSLQ post-test.

Quantitative data were analyzed through STATA statistics software, and qualitative data were open-coded. Themes were generated from the codes. The quantitative and qualitative data were reported separately.

The study is limited by the researcher's biases, as well as face validity issues and social desirability bias. It is significant because it addresses student engagement with the flipped method, ELA instructional processes during a flip, and teacher and student perceptions in a flipped ELA environment for the first time.

CHAPTER IV

ANALYSIS OF QUANTITATIVE DATA

The quantitative data were gathered through a pre- and post-test in the form of the Motivational Strategies for Learning Questionnaire. Students were administered the test prior to the flipped unit of instruction, and again at the end of the unit. Results between the pre- and post-test were compared using statistical analysis through STATA software. This chapter details the findings in the survey and provides charts and tables to better understand the results.

Survey Design

The MSLQ was designed by Pintrich and DeGroot (1990) to measure the motivational and self-regulated components of individual students in a classroom. The original, 81-item survey featured Likert-type questions that were divided into two sections: a motivation section and a learning strategies section. The MSLQ was designed to measure 1) student motivation; 2) cognitive strategy use; 3) metacognitive strategy use; and 4) management of effort. These components generally are believed by educational psychologists to reflect a student's motivation and success in an academic environment (see Davis, et al, 2009; Sciarra & Sierup, 2008; Skinner & Belmont, 1993). A student who is motivated to achieve – either intrinsically or extrinsically – likely will put forth effort and regulate his or her actions so that he or she is successful academically. This can involve following rules, putting forth effort, and feeling interested in the content.

The MSLQ is considered one of the most validated instruments in educational

psychology (Davis, et al, 2009) and has been used with middle-school students to assess their ability to self-regulate and measure their motivation to succeed (Pintrich & DeGroot, 1990). The original survey was broken into 15 subscales – six in the motivation section and nine in the learning strategies section. Since my sample size was relatively small (n=183), and I wanted to give enough power to the statistics, I chose to use four of the subscales to measure engagement. I chose “intrinsic motivation” and “extrinsic motivation” from the motivation section, and I chose “cognitive and metacognitive strategies – organization” and “resource management – effort” from the learning strategies section. This resulted in a total of 16 questions on our version of the MSLQ (see Appendix E). Using Fredricks, Blumenfeld, and Paris’ (2004) definition of three-pronged engagement (behavioral, cognitive, and emotional), I felt that the extrinsic and intrinsic subscales most closely reflected the idea of *behavioral engagement* and its emphasis on a student’s “effort, persistence, participation, and compliance with school structures” (Davis, et al, 2012, p. 23), as well as *emotional engagement* and a student’s feelings about the class. The cognitive and metacognitive/organization subscale reflected the idea of *cognitive engagement* and its connections to how students feel about their work, as well as the strategies they use to master their work. The resource management/effort subscale reflected *cognitive engagement* and *behavioral engagement*.

Survey Use

Ms. Harper and Ms. Nash issued the surveys to all students prior to the flipped unit and at the end of the flipped unit. I then matched up surveys to students with consent forms. Students who did not have a consent form and who had not completed *both* the pre-flip

MSLQ and the post-flip MSLQ were not included in the sample. Some of the students were absent on one of the days, and a few others missed class when they were pulled out by a special education resource teacher for individualized instruction. So, although Ms. Harper and Ms. Nash have a combined total student population of close to 220 students, 183 met the criteria for having completed a consent form and both surveys.

On our version of the MSLQ, the 16 items were scored on a seven-point Likert-type scale, ranging from 1 = “not all true of me” to 7 = “very true of me.” The means for each subscale were derived. Questions #10 and #14 were reverse coded, as advised by the MSLQ use manual (Pintrich, et al, 1991). This meant the items were negatively worded so that students who marked “1” were scored as “7.” Students who marked “2” were scored as “6” and so on. Question #10 stated: “I often feel so lazy or bored when I do the work for this class that I quit before I finish what I planned to do.” Question #14 stated: “When the work for this class is difficult, I give up or only study the easy parts.” Using this negative wording required students to read closely, rather than circling the same number for all questions. The other questions were positively worded, stating, for example, as #12 did: “I work hard to do well in this class even if I don’t like what we are doing.”

Findings

Again, I wanted to know if students were engaged by the flipped classroom method or not. To determine student engagement, I used the MSLQ to measure intrinsic motivation, extrinsic motivation, organizational strategies, and effort regulation before the flipped unit and after the flipped unit. The flipped unit was used as an “intervention” or treatment method, and I wanted to know if it affected the students’ engagement or not.

I organized the questions into their subscales and then calculated the means and standard deviations for each question on the pre-flip survey and post-flip survey. I then ran a related samples t-test on each scale and measured the size of the effect. Results showed that the students' engagement decreased in three of the four subscales after the flipped unit.

Detailed results for each subscale are as follows:

1. Intrinsic motivation decreased after the flipped unit.

Intrinsic Motivation Pretest (Before): M=4.63, SD=.98

Intrinsic Motivation Posttest (After): M=4.39, SD=1.18

Students' intrinsic motivation decreased after the flip, $t(366) = 2.13$, $p = .0331$, two tailed. The effect of the flip on students' intrinsic motivation was small. Specifically, about 22% of the variation in the students' intrinsic motivation from pre- to post is explained by the flip, $\eta^2 = .22$.

2. Extrinsic motivation decreased after the flipped unit.

Extrinsic Motivation Pretest (Before): M=5.58, SD=1.03

Extrinsic Motivation Posttest (After): M=5.06, SD=1.18

Students' extrinsic motivation significantly decreased after the flip $t(366) = 4.50$, $p = .0000$, two tailed. The effect of the flip on students' extrinsic motivation was medium. Specifically, about 47% of the variation in the students' extrinsic motivation from pre- to post is explained by the flip, $\eta^2 = .47$.

3. Organizational strategies decreased after the flipped unit.

Organization Strategies Pretest (Before): M=3.98, SD=1.20

Organization Strategies Posttest (After): M=3.54, SD=1.32

Students' organization strategies significantly decreased after the flip, $t(364) = 3.29$, $p = .0011$, two tailed. The effect of the flip on students' organization strategies was medium. Specifically, about 34% of the variation in the students' organization strategies from pre- to post is explained by the flip, $\eta^2 = .34$.

4. Effort regulation remained about the same after the flipped unit.

Effort Regulation Pretest (Before): $M=5.72$, $SD=1.06$

Effort Regulation Posttest (After): $M=5.76$, $SD=1.03$

Students' effort regulation remained about the same after the flip, $t(364) = -0.37$, $p > .64$, one-tailed. The effect of the flip on students' effort regulation was small. Specifically, less than 3% of the variation in students' effort regulation was explained by the flip, $\eta^2 = .03$.

Table 2. Means, standard deviations, difference scores, and p values for the pretest and posttest MSLQ

Scale	Pretest		Posttest		Difference	p level
	Mean	SD	Mean	SD		
Intrinsic motivation	4.63	.98	4.39	1.18	0.24	.03*
Extrinsic motivation	5.58	1.03	5.06	1.18	0.52	.00**
Organization	3.98	1.20	3.54	1.32	0.44	.00**
Effort	5.72	1.06	5.76	1.03	-0.04	.64

* Related samples t-test significant at .05 level

** Related samples t-test significant at .001 level

The difference in mean scores for each subscale is also visible in a bar chart of the results, which shows that means for each subscale were higher before the flipped unit. A bar

chart below demonstrates that the results in three of the four subscales were decreased in the post-test.

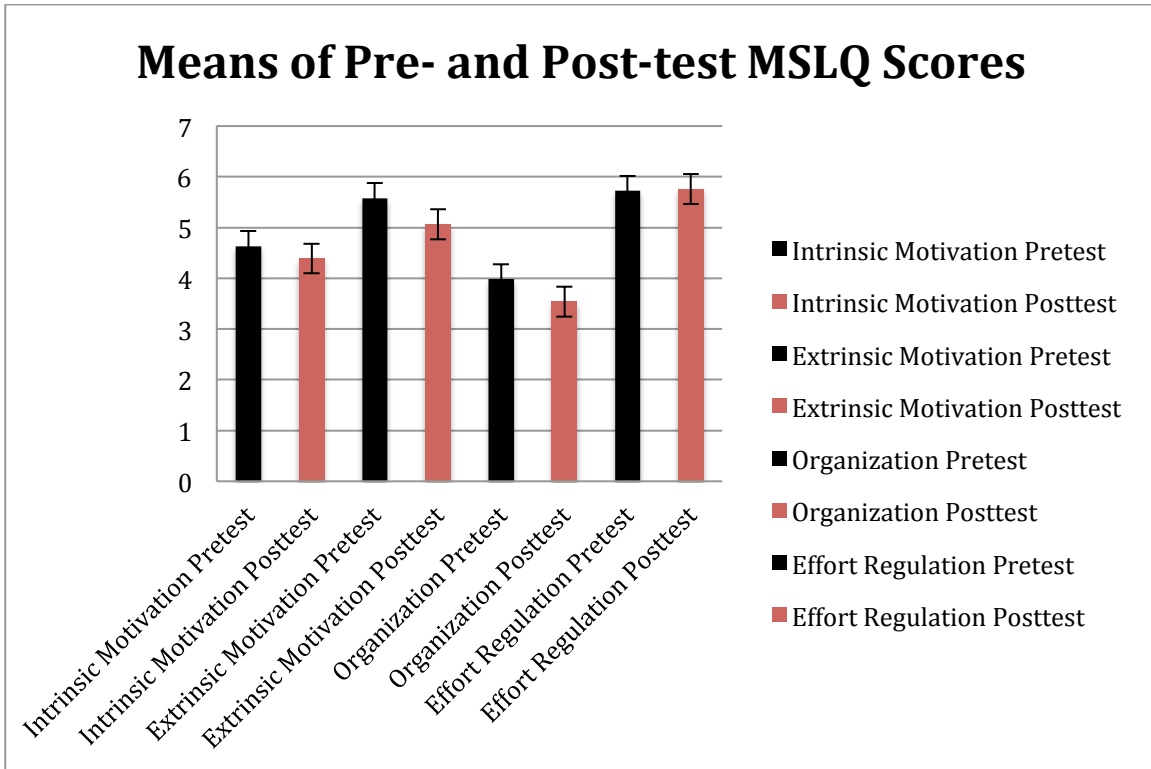


Figure 4.1. A bar graph with confidence intervals of the means for subscales in the pretest and posttest versions of the MSLQ.

I also was interested in learning whether there were any differences between males’ and females’ responses to the flipped method of instruction, as well as any differences between different ethnoracial (Frederickson, 2002) groups. We asked students to self-describe their gender as either male, female, or “prefer not to say.” We also asked students to

select their ethnoracial group from the choices provided on the original MSLQ. These were: African American, Asian, Caucasian, Hispanic, Native American, and Other¹.

Within these parameters, our sample consisted of 103 females, 79 males, and one student who “preferred not to say” what his/her gender constituted. The sample’s ethnoracial breakdown included 10 African Americans, 19 Asians, 112 Caucasians, 15 Hispanics, 1 Native American, and 23 “others.” This is fairly comparable to the school’s demographics as a whole. Our sample consisted of 5% African Americans, compared to 5.7% in the school; 10% Asians, compared to 9% in the school; 61% Caucasians, compared to 64% in the school; 8% Hispanics, compared to 17.5% in the school; .1% Native Americans, compared to .1% in the school; and 12% “others,” compared to 3.6% “two or more races” in the school. It is entirely possible that some of our “others” were students who did not know what the word “Caucasian” meant. We did not ask the 7th graders to self-report family income or whether they were eligible for free or reduced lunch, as we felt that they might not know this information or be too embarrassed to report it accurately. In addition, obtaining this information was not part of the IRB permissions.

Survey results were tabulated for boys and girls, and then into ethnoracial groups, and the means and standard deviations then were calculated for each of these distinct groups for the pre-test and the post-test. The results of the post-test findings indicate that girls were more engaged by the flipped classroom than boys. Although empirical results have been inconclusive, some researchers theorize that girls may do better in collaborative learning

¹ These ethnoracial delineations were devised by Pintrich and DeGroot (1990). We maintained this original language in our version of the MSLQ.

environments when paired with friends (Swenson & Strough, 2008). This phenomenon also could be at work in a flipped classroom, where collaboration during activities is important. Girls also tend, in general, to outpace boys in language arts (Osler & Vincent, 2003; Sadker, 2002). However, generalizing about the results is difficult, as the girls were found to be more engaged *before* the flip, as well. Findings from the MSLQ posttest show:

* Girls were more intrinsically motivated during the flip than boys. Girls (n=103), M=4.60, SD=1.17. Boys (n=80), M=4.13, SD=1.16.

* Girls were more extrinsically motivated during the flip than boys. Girls (n=103), M=5.13, SD=1.14. Boys (n=80), M=4.97, SD=1.23.

* Girls' organizational strategies increased during the flip more than boys. Girls (n=103), M=3.81, SD=1.34. Boys (n=80), M=3.21, SD=1.22.

* Girls' effort regulation increased during the flip more than boys. Girls (n=103), M=5.97, SD=.93. Boys (n=80), M=5.48, SD=1.10.

Table 3. Means, standard deviations, difference scores by gender on the posttest MSLQ

Scale	Boys		Girls		Difference
	Mean	SD	Mean	SD	
Intrinsic motivation	4.13	1.16	4.60	1.17	-0.47
Extrinsic motivation	4.97	1.23	5.13	1.14	-0.16
Organization	3.21	1.22	3.81	1.34	-0.60
Effort	5.48	1.10	5.97	.93	-0.49

Girls were more engaged in the traditional class, as well as the in the flipped classroom. The following tables demonstrate engagement in both genders before and after the flip.

First the boys:

Table 4. Means, standard deviations, and differences for boys' pretest and posttest MSLQ

Scale	Boys' Pretest		Boys' Posttest		Difference
	Mean	SD	Mean	SD	
Intrinsic motivation	4.48	.99	4.13	1.16	0.35
Extrinsic motivation	5.46	1.06	4.97	1.00	0.49
Organization	3.57	1.21	3.21	1.22	0.36
Effort	5.39	1.13	5.48	1.10	-0.09

And now the girls:

Table 5. Means, standard deviations, and differences for girls' pretest and posttest MSLQ

Scale	Girls' Pretest		Girls' Posttest		Difference
	Mean	SD	Mean	SD	
Intrinsic motivation	4.75	.97	4.60	1.17	0.15
Extrinsic motivation	5.68	1.00	5.13	1.14	0.55
Organization	4.31	1.08	3.81	1.34	0.50
Effort	5.97	.93	5.97	.93	0.00

The bar graph below gives an overview of engagement by gender. As the figure illustrates, girls were more engaged than boys on all four subscales – both before and after the flipped classroom.

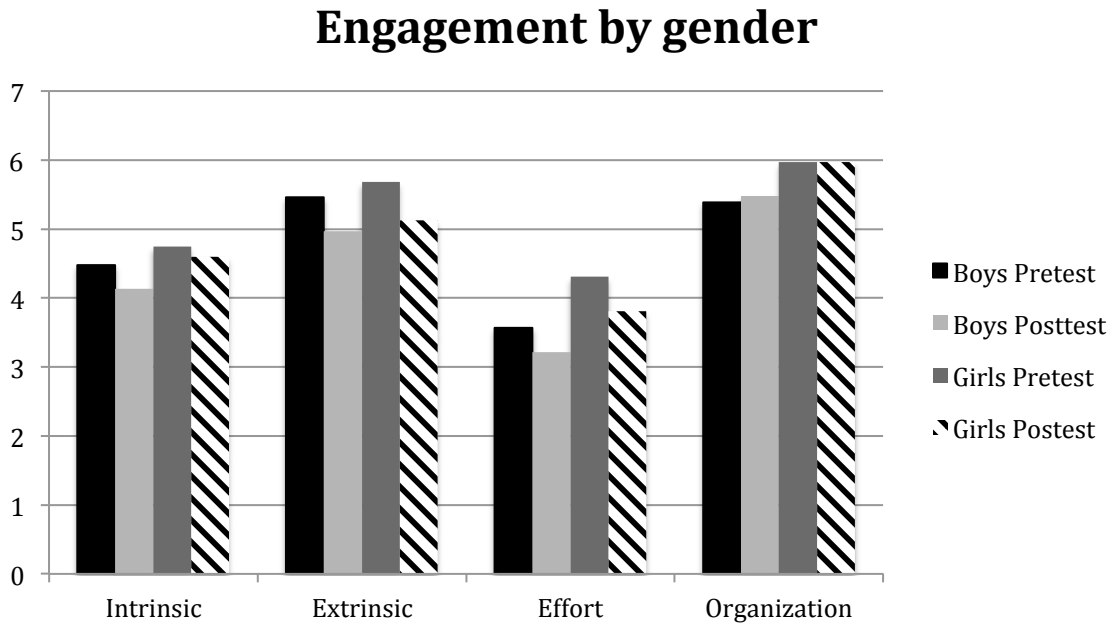


Figure 4.2. *Pretest and posttest engagement in boys and girls.*

When the survey data were subdivided into ethnoracial groups, the results indicated that African Americans were the most engaged by the flipped classroom method, as the mean scores were highest in every subscale for this group. This was an unexpected finding, but one that could point to a successful strategy for teachers interested in engaging students in this particular ethnoracial group. Again, as with girls, the collaborative aspects of the flipped classroom may be responsible for this difference, as cultural norms in African American culture value oral communication and collective problem-solving (Marshall, 2002; Moll,

1992). However, since our sample of African Americans was very small (n=10), generalizing the results is difficult. The results from the MSLQ post-test indicate:

* African-Americans (n=10) were the most intrinsically motivated during the flip, M=4.9, SD=1.14. Other ethnoracial groups were intrinsically motivated during the flip in the following descending order, according to their mean scores:

Caucasians (n=113), M=4.43, SD=1.18
Others (n=24), M=4.40, SD=1.01
Hispanics (n=16), M=4.17, SD=1.17
Asians (n=20), M=4.08, SD=1.40
Native Americans (n=1), M=3.25, SD=0

* African-Americans (n=10) were the most extrinsically motivated during the flip, M=5.65, SD=1.04. Other ethnoracial groups were extrinsically motivated during the flip in the following descending order, according to their mean scores:

Hispanics (n=16), M=5.0, SD=.80
Native Americans (n=1), M=5.25, SD=0
Caucasians (n=113), M=5.11, SD=1.15
Asians (n=20), M=4.81, SD=1.61
Others (n=24), M=4.57, SD=1.04

* African-Americans (n=10) utilized the most organizational strategies during the flip, M=3.92, SD=1.22. The other ethnoracial groups utilized organizational strategies during the flip in the following descending order:

Others (n=23), M=3.77, SD=1.37
Hispanics (n=16), M=3.58, SD=1.06
Caucasians (n=112), M=3.57, SD=1.34
Asians (n=20), M=2.95, SD=1.27
Native Americans (n=1), M=2.5, SD=0

* African-Americans (n=10) utilized the most effort regulation strategies during the flip, $M=5.98$, $SD=.65$. The other ethnoracial groups utilized effort regulation strategies during the flip in the following descending order:

Others (n=23), $M=5.84$, $SD=.88$

Caucasians (n=112), $M=5.83$, $SD=1.04$

Native Americans (n=1), $M=5.75$, $SD=0$

Asians (n=20), $M=5.53$, $SD=1.26$

Hispanics (n=16), $M=5.29$, $SD=1.02$

The table on the following page shows each ethnoracial group and the mean scores and standard deviations for each of the subscales on the MSLQ given after the flipped unit. These are the raw scores, and caution is urged in interpreting these or generalizing the results beyond this particular study. While we maintained the ethnoracial delineations and language adopted by Pintrich and DeGroot (1990) in our version of the MSLQ, the student identification with each of these categories cannot be assumed to be ironclad. Yet, as Davis, et al, (2014) confirm, the MSLQ remains the gold-standard for determining engagement. We did not wish to muddy the results or the established norms by changing the ethnoracial categories that Pintrich and DeGroot (1990) created.

Table 6. Mean scores and standard deviations for specified ethnoracial groups on the posttest MSLQ

Scale	Af-Am		Asians		Cauc		Hisp		Native Am		Others	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Intrinsic												
Motivation	4.90*	1.14	4.60**	1.17	4.43	1.18	4.17	1.17	3.25	0	4.40	1.01
Extrinsic												
Motivation	5.65*	1.04	4.81	1.6	5.11	1.1	5.0	.80	5.25**	0	4.57	1.04
Organization	3.92*	1.22	2.95	1.27	3.57	1.34	3.58	1.06	2.50	0	3.77**	1.37
Effort	5.98*	.65	5.53	1.26	5.83	1.04	5.29	1.02	5.75	0	5.84**	.88

* indicates highest mean score for subscale

** indicates second-highest mean score for subscale

Note: Af-Am = African-American; Cauc = Caucasians; Hisp = Hispanics; Native Am = Native Americans. These ethnoracial delineations were used by Pintrich and DeGroot (1990) on the original MSLQ.

This table shows the significant differences between ethnoracial groups on the MSLQ. African-Americans were more engaged on all four subscales than any other ethnoracial group. Asians were the second-most intrinsically motivated, while Native Americans were the least intrinsically motivated. Interestingly, Native Americans were the second-most extrinsically motivated, while the nebulous “others” were the least extrinsically motivated. These same “others” were the second-most able to utilize organizational strategies during the flipped lessons, while Native Americans were the least able to use organizational strategies during the flip. The students who identified as “others” also were the second-most likely to apply genuine effort to understanding and learning during the flipped lessons. Asians were the least likely to apply effort in the flip.

While these results are interesting, it is difficult to generalize the results to larger populations of students, since the sample size was so small. For example, the sample of Native Americans consisted of only one student, making it nearly impossible to generalize the results to other Native American students.

Next, I wanted to test whether there were significant differences between the pretest scores and the posttest scores. I submitted the results of each subscale to a one-way analysis of variance. Results revealed a significant main effect on intrinsic motivation, $F(4, 179) = 6.14, p < .001, \chi^2 = 22.18$. Our obtained $F(6.14)$ is greater than our critical $F(3.91)$, which means that the ratio of between-group variance to within-group variance is larger than what we would expect by chance alone. Other results revealed:

- a significant main effect on extrinsic motivation, $F(4, 179) = 9.63, p < .001, \chi^2 = 30.38$.
- a significant main effect on organizational strategies, $F(4, 179) = 5.71, p < .001, \chi^2 = 44.49$.
- a significant main effect on effort regulation, $F(4, 179) = 9.78, p < .001, \chi^2 = 39.49$.

Chapter Summary

Analysis of the MSLQ survey data before and after the flipped classroom method reveal, overall, that the 7th-grade ELA students (n=183) were less engaged in a flipped ELA classroom environment than in a traditional ELA classroom environment. Students' intrinsic and extrinsic motivation, as well as their organizational strategies, decreased after the flipped poetry unit. Students' effort regulation strategies stayed about the same. Interestingly, girls appeared more engaged by the flipped method than boys, as their mean scores on all scales on the post MSLQ were higher than the boys'. African-American students also appeared to be more engaged by the flipped method than other ethnoracial groups. African-American students had higher mean scores on every subscale than all other ethnoracial groups.

The survey data also seems to show that students, in general, were working hard and were very engaged in both the traditional and flipped classrooms. Students' mean scores in most every subscale were above "4" on a 7-point Likert scale. We can consider 3.5 be to the middle ground, or mean, of the Likert scale. In this light, it appears that students in the traditional classroom and flipped classroom were very engaged, as the pretest and posttest mean scores showed high levels of intrinsic motivation (Ex: "The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.") and extrinsic motivation (Ex: "I want to do well in this class because it is important to show my ability to my family, friends, employer, or others."). They also showed high levels of effort regulation (Ex: "Even when course materials are dull and uninteresting, I manage to keep working until I finish."). Students' mean scores in both the traditional and flipped classrooms fell below "4" in organizational strategies (Ex: "When I study the readings for this course, I outline the

material to help me organize my thoughts.”), perhaps because adolescents’ organizational abilities increase with age (DeLaPaz, et al, 2012).

The quantitative survey data, however, tells only one side of the story. For a broader understanding of the students’ experiences in the traditional and flipped classroom environments, it also is important to capture the qualitative aspects of the study and to look for inherent meaning (Hesse-Biber & Leavy, 2011) through observation. The next chapter provides a more holistic look at the flipped classroom environment, as well as a more nuanced glimpse into the experiences of individual students.

CHAPTER V

ANALYSIS OF QUALITATIVE DATA

The qualitative data were acquired during a one-month period of observations in February 2014. The findings revealed surprising insights into the flipped classroom environment, as well as student and teacher responses to the method. This chapter details the findings during field observations and also provides the results of interviews with the teachers and selected students. Overall findings from the entire study are given first, followed by teacher reactions and then specific student reactions. The aim of this chapter is to build on the understanding provided by the quantitative data and to offer a more detailed view of the flip than that provided by the quantitative results alone (Creswell & Clark, 2011).

A Surprise

When I set out at the beginning of the study, I knew that the qualitative data collection would lean heavily on field observations, as well as interviews with the six selected students (the cases) and the two teachers. What I did not expect, however, was an additional rich data source from the other students. This came in the form of a single question at the end of the MSLQ, which prompted students to share anything that we did not think to ask. (The question read: “Please write down anything you would like to tell us about this class.”) This resulted in an unexpected treasure trove of responses from the students on the survey. In the pilot study, the high school participants hardly wrote anything extra on the survey, but this time, more than half of the middle school participants wrote something “extra” on their form. These responses, as well as the observations and interviews, gave a

rich picture of middle school student engagement in the flipped ELA classroom. I was able to triangulate the responses from the cases – my six selected students – with the written comments from their classmates and the field observations.

Since I spent more than a month in the field, the amount of data collected was enormous. However, the impromptu comments on the surveys helped me to focus the experience – and often gave me a reason to smile as I navigated comments like, “I want to be entertained when I learn. Just add a bit of flare somehow to not bore us to death.”

Winnowing

As stated previously in chapter three, in part of my qualitative data analysis, I worked to “winnow” (Wolcott, 1990, in Stake, 1995) the vast amounts of raw data into themes. I color-coded utterances and patterns manually and analyzed them through open coding (Creswell, 2012). I utilized Merriam’s (1998) two-step analysis process by coding the written responses on the MSLQ first and then coding the individual cases second. I then conducted a cross-case analysis that compared the responses from my six case studies with the responses of the students at large. I consulted the field observations to triangulate this data. Finally, I coded the interviews and field observations of the two teacher participants.

I was able to condense the teachers’ interview responses into themes since I spoke with them every day during the flipped unit, interviewed them at the end of the study, and observed them daily in their classrooms. I also sought the help of another researcher in coding the data to check for interrater reliability and provide validity to the findings.

I will first reveal the information gleaned from nearly one month’s worth of field

observations, then provide a richer picture by discussing the general themes that emerged from the MSLQ qualitative data analysis, as well as the specific experiences of the six case study students. Finally, I will provide an analysis of the teachers' pedagogical processes during the flip.

Field observations

Field observations were conducted over a one-month period at Lakeview Middle School in a suburban area of the southeastern United States. The area is in a fast-growing region and is known for its influx of new residents from other parts of the United States, as well as a large number of immigrants from Mexico and Central America. The town in which the school is located has about 40,000 residents and reports a median income that is nearly double that of the state average. Still, mobile homes are within a mile of the school, as are vestiges of the rural community that used to reside there. A tractor dealership is at an intersection near the school, and an animal feed store also is close by.

The school sits on a large piece of rural land surrounded by trees and a small pond. There is an elementary school on the same campus, and many parents enjoy the idea of their children moving across the parking lot to the middle school as they age out of the elementary school. At drop-off and pick-up time, a long line of cars snakes into the driveway that serves both schools, and mostly White mothers can be observed sitting in their cars reading or using their cell phones as they wait to drop off or pick up their children. They wave to each other out of car windows and occasionally get out of their cars to lean into the driver's side window of a friend and chat. A convenience store is located just on the other side of the

schools' driveway in a small strip mall, and it sports a sign out front warning students that they should not come inside during school hours unless they have permission from a parent. A popular coffee and smoothie establishment sees a steady stream of parents and students.

Inside Lakeview Middle School, an alert secretary makes certain that visitors check in through the county's computer system. She is in the office before school starts and after it ends, and she keeps a running memory of who has visited and what his or her purpose is, as well as other goings on in the school. She keeps a keen eye on all who walk past the office, waving to familiar faces and sending a helper student or staff member after someone who fails to check in.

The school is two stories and sprawls out in several directions. Students are assigned to "teams" consisting of an ELA teacher, a math teacher, a science teacher, and a social studies teacher. In addition, they take elective classes that are designed to reflect their interests or provide additional support in academic subjects. The students stay in these teams and change classes with the same cohort of students. The teams allow the administration to cluster students, and they are tracked into math classes.

Based on county school system demographics from 2011-2012 (the latest information available), about 16.4% of Lakeview's students are eligible for free and reduced lunch – one of the lowest percentages in the school district (60.4% is the highest; 34.4% on average). Lakeview Middle has approximately 924 students, with the vast majority (64%) White. The second largest ethnoracial group is Hispanic/Latino (a), which makes up 17.5% of the student population. Asians account for 9% of the population; Blacks make up 5.7%; and about 3.6%

of the students claim two or more races. In addition, there is one identified American Indian or Alaska Native and one identified Native Hawaiian or Other Pacific Islander.

My field observations occurred in two 7th grade ELA teachers' classrooms. Both teachers taught four sections of 7th grade ELA, or about 120 students each, and their class periods lasted approximately 50 minutes. Both teachers I observed taught one In Class Resource (ICR) class in which a special education teacher came into the classroom.

Ms. Harper is a second-year teacher who won an award at Lakeview last year for being an outstanding first-year teacher. Ms. Nash is a third-year teacher who enjoys incorporating technology into her classroom. Both teachers are in their 20s and White, and both are married but have no children of their own.

Since Ms. Harper and Ms. Nash have the exact same schedule, I had to scramble to figure out how to observe all of their classes. I ended up observing half of each teacher's class for every period, alternating the start days. For example, I started on day one in Ms. Harper's class and stayed for about 30 minutes, then went downstairs to Ms. Nash's class, where I observed the last 30 minutes of her class. I then stayed in Ms. Nash's room for the first 30 minutes of her second class and then went upstairs to Ms. Harper's room to observe the second half of her second class. And so on for the four class periods. I alternated the class in which I started every day. There was much running up and down the stairs with this method, but it allowed me to see all of the students every day, although I never saw one whole class from start to finish.

The students watched me curiously at first and several glanced at me shyly and

smiled. By the end of the study, however, they were used to my coming and going and hardly gave me a second look. I tried to remain a neutral observer and never a participant, as I perched quietly in a chair in the corner of each classroom, my laptop on my lap. I did not ask questions or speak directly to students, but remained an observer only. However, the teachers sought my advice frequently, and I helped them flesh out the initial plan for the flipped unit and provided some guidance on the best ways to flip based on research. So, in this sense, I was a participant. It is probably best to call my role a participant-observer since I played a part in the construction of the lessons, guided the teachers' thinking, and was a conspicuous presence in the classroom. My presence may have affected the students' behavior in some way, as well.

Traditional classes

I observed two days' worth of "traditional" lessons and used these first observations as a baseline from which to form opinions of the students in the flipped classroom. I was scheduled to observe more traditional lessons, but school was canceled due to snow. In fact, snow days disrupted much of the study, and the teachers were unable to give students as much time as they had planned because of canceled classes, and on one day, a power outage.

During the traditional lessons, Ms. Nash discussed an anticipation guide on poetry and led a whole-class discussion. Students used clickers to record their responses to the anticipation guide, and then Ms. Nash was able to display these on a screen for the whole class to see. Despite this integration of technology, students remained very quiet. Ms. Nash admitted to me that she likes an orderly classroom, and this was evident. She was the primary

speaker who initiated questions and then asked for student responses. She was a master at probing the students for deeper thinking, and she posed questions that went far beyond surface-level thinking. In addition, she was able to manage classroom behavior easily through a clear punishment-reward scheme to which the students seemed receptive. Those who had neglected to do homework had to take off a shoe and leave it at the front of the room. Students who were on task and working hard were rewarded lavishly with verbal praise from Ms. Nash. Students who were off task or talked out of turn were corrected immediately and dispassionately.

However, I began to notice that the same students were answering Ms. Nash's questions every time and receiving her praise. Others just sat passively and let their classmates do the work. I tallied this response in two classes. In one class, just 10% of the students raised their hands to answer questions. In another, just 7% raised their hands.

In Ms. Harper's class, the students met in the computer lab to finish work on an end-of-unit project. They were given some choice on this project, and many elected to create either a Prezi or an Animoto video. The students were hard at work on this task, which was not a typical "traditional" classroom lesson. Ms. Harper expressed some frustration because several students were unable to finish their projects on time, and she knew she would be forced to call them into her room during lunch to finish up. The students were spending too much time on the Internet looking for images or going off topic – a foreshadowing of what was to come for some students in the flipped classroom. On another day, Ms. Harper asked students to write letters to a prominent political figure, as well

as work on the same anticipation guide that Ms. Nash had used with her students. Ms. Harper's students seemed to be the most engaged when they were able to talk back and forth with her as she led a whole-class discussion on the anticipation guide.

However, I noticed again that the same students answered Ms. Harper's questions. As she initiated a question, the same hands went up to respond. She was able to joke with the students and several who did not put up their hands smiled or laughed at her jokes, indicating that they were paying attention. Her animated teaching style resulted in most students watching her and remaining alert during class time, yet it was difficult to assess who was really getting the most from the lessons. The vast majority of students remained quietly on the fringes of the classroom, uninvolved.

The Flipped Lessons

On the first day of the flipped classroom unit, students were introduced to the concept of flipping, as well as the nuts and bolts required for successful navigation of the poetry unit that would serve as the flipped unit. Ms. Harper and Ms. Nash told their students they should expect the poetry unit to last about 2 ½ weeks from start to finish, but did not give them a final deadline or due date – perhaps a mistake that could lead to better time management among the students in the future. The teachers had planned and photocopied eight different “stations,” or activities, associated with poetry. These ranged from figurative language terms, such as hyperbole or metaphor, to poetic analysis. Each station featured a remediation component for students who needed extra practice, as well as an enrichment component for students who found the original station too easy. In addition,

they created and photocopied a poetic forms activity, as well as specific poems for students to annotate. Finally, they each made three videos to act as the instructional tools for the students. With advice from me, the teachers decided to make their own videos so that students could hear their voices and see their faces, a component of a successful flipped classroom video (Bergmann & Sams, 2012a). We also theorized that students would be more engaged if they could see their own teacher, rather than a canned video from another source.

The teachers envisioned the unit as divided into three parts, and each part was to be accompanied by a teacher-made video that students would watch at home. The three parts were:

- 1) the eight poetic language activity “stations” and video #1 (a PowerPoint video of the teachers showing the terms and then using a voiceover to define the terms with examples). This part was expected to take about five days.
- 2) a poetic forms activity sheet and video #2 (a live-action video of the teachers showing their faces and then a PowerPoint voiceover discussing the different genres of poetry, such as haiku or concrete poems). This part was expected to take one-two days.
- 3) poems to annotate and video #3 (a video made with the video feature of a document camera in which the teachers annotated poems on the document camera while talking through the annotation process). This part was expected to take one-two days.

A poetry “passport” – a piece of paper with each station written on it – was to serve as the check for students and let them know what they needed to do. The teachers would stamp or initial the passport after verifying that each student clearly understood the poetic term or form. The teachers wanted to try the asynchronous learning strategy suggested by Bergmann and Sams (2012a), in which students are allowed to work on any aspect of a unit that they desire as long as everything is completed by a certain date. They would be given free reign to work on any of the stations in any order, and they could keep track of their progress through the poetry passports.

Finally, the teachers created an end-of-unit culminating project in which the students would work in groups to choose a poem and then shoot a video explaining the symbolism in the poem. The students were supposed to draw figures onto paper; then one group member would act as cameraman and shoot a second group member while he or she turned the drawn pages, and a third group member read the poem out loud. Because of the cancellation of school for snow, however, most students did not get the chance to complete this project. This may have had an overall negative effect on the students’ perception of the unit, since this final project was meant to be a creative and collaborative endeavor. A few speedy students who were able to complete all parts of all three units, however, were able to make a final video and reported that they enjoyed the process.

The teachers felt that a unit test was important, as well, so we agreed that they would give the test after the project was completed. In all, about three weeks of instructional time were devoted to the plan.

The students were visibly excited as their teachers explained the unit to them. They were full of questions and concerns, particularly connected to the video watching. “Does this mean we’ll have homework every night?” one student in Ms. Nash’s class asked. When assured that the videos would be the only homework, hands shot up.

“I’m worried about how hard the activities are going to be. I had some of these activities last year, and it took me a whole day,” a girl said.

“You’re worried about the time,” Ms. Nash stated.

“Yeah,” the girl agreed.

“Because you’re saying usually for homework you can take as much time as you want,” Ms. Nash said.

“Yeah,” the girl nodded.

“If I see that you are going to need extra time, I’ll give it to you,” Ms. Nash said.

The girl nodded and seemed to relax.

Students were given a guided notes sheet to fill out while they were watching each video, as this would be proof that they watched the video. This accountability is recommended by Bergmann and Sams (2012a), and the teachers agreed that it would be important for their students. In addition, the students were given three days to watch the video – another Bergmann and Sams (2012a) recommendation – and were to come into class on Monday ready to go through the stations.

On the first day of the flip, it was clear that not all students had watched the first assigned video. They did not have the notes sheet filled out. However, the teachers allowed the students to watch the video with earphones on one of the three computers in the

classroom. In Ms. Nash's first period class, five students out of 32 had not watched the video, so two had to sit and wait for an available computer so that they could continue. In Ms. Harper's first period class, which also is her ICR class, 10 out of 25 students had not watched the video. Ms. Harper looked exasperated. She asked the ICR teacher to take the 10 students to the computer lab and allow them to watch the video there. As the day wore on, fewer students in each class arrived without having watched the video, and the teachers theorized that the students were watching on Smartphones or other devices during lunch.

As the week progressed, the students began to get the hang of coming directly into the classroom and getting the information for a station to begin work. They were allowed to collaborate with their peers if they did so quietly. As they finished each station, they were instructed to put their names on the board at the front of the room so that their teacher could come over to them, assess their understanding and then check off their passports. This was slow work.

Ms. Harper made a point of quizzing each student as she checked his or her work, and those who did not clearly demonstrate mastery were instructed to go back and revise. The names began to pile up on the board, and many students took advantage of this backlog to socialize.

By the fourth day of the flip in Ms. Harper's fourth-period class, the noise volume in the room became very loud, according to my field notes:

Students are laughing and talking. One student tosses bits of paper onto his

friends. There is one student at the back of the room on the computer on his knees. (Where is his chair?). One student is VERY loud. In fact, he is shouting. He comes over to his friends, laughing. When he returns to his chair, he continues shouting across the room at his friends. Boys near me do not appear to working at all. They are laughing and slapping their desks. Someone complains to Ms. Harper that she has been waiting a long time to talk to her. Ms. Harper says she's sorry but there are "36 of you" and she will get there when she can. One student gets up to come over and talk to her friend. Her friend shows her the poem she has written. Another student shares the comic strip he has written with his friends. The students write their names on the board with flourish and with different color markers. There is no order to their names. At least 16 kids are socializing and not working with 25 min. left in the period.

(C.M. Moran, 02/27/2014)

This lack of order ebbed and flowed in Ms. Harper's room. Some days, the students would be focused and working hard on their activities. Other days, they would be loud and appearing to socialize instead of doing schoolwork. Ms. Harper confessed to me that she felt overwhelmed by the sheer number of students. While she enjoyed conferring with individuals, she felt like the other members of the class went unsupervised.

In Ms. Nash's class, the volume was lower, but the students also appeared to take advantage of the self-paced situation to do a great deal of socializing. Ms. Nash experimented

with having students write their names on the board so that she could go to their desks, rather than have them come up to her.

The next day she switched and asked students to get up and come to her while she sat at the front of the room. She could not quite decide which method worked better. She also expressed frustration over not having enough time to talk with “every student, every day,” as Bergmann and Sams (2012a, book title) had promised as a key selling point in their promotion of the flipped method in their book.

The students got into the rhythm of the new classroom dynamic fairly quickly, and most began working on a station as soon as they came into the room. However, transitions were difficult. When they completed a station, many students would sit and stare into space for a while, rather than get up and go get the activities for the next station.

However, the collaborative aspects of the flip seemed to appeal to most all of the students. A few preferred to work alone, but most enjoyed the camaraderie of their peers. Field notes from the eighth day of the flip in Ms. Nash’s class support this claim:

Students are working quietly. Two sets of students are talking together – one student kneels at the other’s desk. One student rubs her eyes (has she been crying?) Students work together and do a mixture of social talk and on-task talk. They spend about half their time together smiling over secret jokes and talking, then switch gears rapidly and devote their attention to the activity. They seem to want to just sit near each other, write on each other’s desks, rather than actually complete a task

together. They talk for a bit, then do their own work on the same desk. Occasionally, they will share completed work. They do not do much co-construction. Some students never collaborate. They work alone every day, all the time.

(C.M. Moran, 02/28/2014)

Comparisons

In my field observations, I kept a running tally of students' behavioral, cognitive, and emotional engagement in the classroom. Using Fredericks, Blumenfeld, and Paris' (2004) definition of engagement, *behavioral engagement* can be measured through participation in classroom activities, as well as the physical actions of students. Students who demonstrate negative behaviors would not participate, would yawn or put their heads on their desks, and act in a physical way to show they did not find the classroom engaging. Students who demonstrate positive behaviors would participate in class, be alert, perhaps smile, and generally possess a disposition that indicated they found the classroom engaging. *Cognitive engagement* speaks to a student's effort, intellectual focus, and self-regulation. A student who is cognitively engaged is one who tries hard, concentrates on the academic work expected of him or her and is able to regulate his or her attention and stay on task. A student who is not cognitively engaged would not do his or her best work, would get off task easily, and would not push himself or herself to higher levels of intellectual interest. Finally, *emotional engagement* relates to a student's positive and negative reactions to work, the teacher, his or her peers, and the school environment. A student who is positively emotionally engaged would have generally positive reactions to the work, to his or her peers,

to the teacher, and to the school. One who is negatively engaged would have the opposite disposition. I used these parameters to broadly assess engagement every day in every class period during my field observations. I wrote “cognitive,” “behavioral,” and “emotional” in my notes and then gave a score from 1-5 to assess the engagement of students in that class. The table below demonstrates the mean scores from these observations. However, I was the only one doing the scoring, and my criteria for each number fluctuated as I got to know the students and understood better what they were capable of. This should be considered a limitation when viewing this table.

Table 7. Mean score of observed engagement components in eight 7th grade ELA classrooms over a one-month time period.

Engagement component	Ms. Nash’s Traditional Classroom (8 observations)	Ms. Nash’s Flipped Classroom (25 observations)	Ms. Harper’s Traditional Classroom (8 observations)	Ms. Harper’s Flipped Classroom (25 observations)
<i>Cognitive</i> (effort, on task intellectual focus)	3.80	3.47	3.33	2.85
<i>Behavioral</i> (participation, physical actions in classroom)	3.66	3.52	3.63	2.57
<i>Emotional</i> (positive and negative reactions)	4.71	4.61	4.66	4.52

Note: Scored from 1-5 with 1=very disengaged; 2=disengaged; 3=neutral; 4=engaged; and 5=very engaged

Behavioral engagement

On the whole, the students' behavior was more subdued and easier to manage in the traditional classroom setting. Because of the large class sizes – from about 32-36 in each class – the teachers both expressed frustration at not being able to talk with every student who wanted to talk to them in the flipped classroom. In this study, students in Ms. Nash's flipped classroom demonstrated more positive behaviors of participation, including more attention on the tasks, more participation in classroom activities, and generally positive dispositions. There was far less yawning and glazed eyes in Ms. Nash's flipped class than in her traditional class. In Ms. Harper's traditional class, students seemed slightly less behaviorally engaged than they did in her flipped class, primarily because few students raised their hands to answer questions in the traditional class, and more students actually participated in the flipped classroom.

Cognitive engagement

Students in both Ms. Nash's and Ms. Harper's classes were more cognitively engaged during the traditional class than in the flipped class. Although students started the flipped unit with great hopes and eagerness, they quickly became bored with the method and resorted to socializing with friends. Many students were off-task and unable to regulate their time. One of the chief complaints from students was that they did not have enough time to finish all the activities, yet I observed these same students talking for most of the class periods. Their levels of cognitive engagement appeared to go down as the unit progressed, and only a handful of students remained focused by the end.

Emotional engagement

The students' positive engagement seemed to be about the same in both the traditional and flipped classes. The students generally were a happy bunch of 7th graders, eager to socialize with friends, pleased to be at school, and upbeat in attitude. There were virtually no "moaners and groaners" in the whole 240 students. They all seemed to like their teachers very much, perhaps because both are young and animated. The students approached the work in the traditional classroom with an optimistic attitude, and when it came time to flip the class, they remained cheerful. Although the quantitative results on the MSLQ indicated otherwise, it appeared to me that the students would be happy with any method of teaching, as long as their beloved teachers were conducting it.

Students appeared happy to work together and to collaborate, as well as to enter the classroom. They greeted both teachers with cheer and were remarkably happy to receive a piece of candy as a reward for their efforts. Only once did I witness a student acting angry about one of the teachers, and this was after he was gently scolded for doing some of the stations work at home rather than saving it for school. Later, the teacher confessed to me that the student had "teared up" and that she knew he was upset because his mother was doing the work for him at home and pressuring him to bring it home.

General Themes from Students

The middle school students' responses to the flipped classroom seemed to confirm the findings in the pilot study. In short, the students could not quite decide if they liked the flip or not. There was no real consensus among the students, who ranged from expressing intense dislike of the method to enthusiastic support. Overall, the positive

comments about the flip seemed to have a slight edge over the negative ones. Table 8 below shows a frequency count of the students' comments written on the MSLQ.

Table 8. *Frequency count of themes found in student comments written on the MSLQ*

Positive time/pace	Negative time/pace	Enjoyed the flip	Disliked the flip	Had reservations	Enjoyed less home-work	I hope we do it again
4	12	17	8	6	7	12

1. Pacing: I like the pace OR I felt rushed.

Students who responded positively about the self-pacing required for the flipped poetry unit said they “liked that there was more time to practice each poetry skill,” and they liked the flipped unit “because I got to go at my pace/faster.”

However, twelve students wrote comments expressing their frustration and dislike of the self-paced nature of the flipped unit. Since the unit took approximately thirteen days, the students had a limited amount of time to watch the three videos and complete the eight stations connected with the videos. They were allowed to complete the stations in any order they chose, and as they completed each one, their teachers would mark or stamp their “poetry passports.” This promoted asynchronous learning, a component of a successful and “master” flipped classroom (Bergman & Sams, 2012). However, it seemed to generate a great deal of stress for the students. Typical comments were:

- “I felt rushed, but managed to finish everything. Several people did not, so I'd prefer that everyone has more time, especially for our 'final product.'”
- “During the flip, I felt as if I didn't have enough time to finish what I needed, so I felt rushed. For this reason, I didn't really enjoy the flip and know I would have liked it more if we had more time.”
- “I believe my main problem was getting it done on time.”

Field observations corroborated this theme, as many students seemed stressed or unsure what to do next. Their teachers repeatedly reminded them to get their passports stamped, go get new activities when they were finished, or stop socializing. Most students were rushed because they did not seem able to regulate themselves. A question to a friend frequently turned into four or five people having a social conversation about everything from basketball to the snow in the region. One day about mid-way through the unit, I counted 16 students in a class of 36 who were socializing off-task with 25 minutes left in the period. These same students later expressed dismay that they had not gotten much done when the bell rang. One even confronted Ms. Harper and wanted to know why he couldn't take the work home to complete. He said he felt rushed. When Ms. Harper told him it was because she wanted him to work in class, he sighed audibly and with great annoyance. This same student was among those who had spent the majority of the period chatting.

2. I like the flip

Many students wrote generally positive comments about the flip and the parts that

they particularly enjoyed. The overriding component that led to enjoyment was collaboration and the chance to work with their peers. The students expressed a clear preference for working with others, rather than working independently. Although Ms. Nash asked students to work alone during the first few days of the flipped unit, her students still managed to whisper with friends and assess the progress of others in their classroom. On one occasion, Ms. Nash allowed the students to collaborate, but the noise level in the classroom exceeded her comfort level, so she retracted the collaboration and told them to work alone. This seemed to serve as an effective “punishment” for the students, who were visibly chagrined at having to work without the social aspects of collaboration. When the privilege was restored the following day, the students were careful to keep their interactions to a whisper so as to avoid losing the ability to work together again. One student wrote, “I liked that we got to work with partners.” And another wrote, “I really enjoyed the flip. I liked learning new things at home. The projects were also very fun & interactive, especially the partner activities.”

Other reasons for enjoying the flipped unit included the novelty of a new strategy (“This was a cool change.”) and the variety of in-class activities (“I liked it because we where (sic) always doing something in class.”).

3. I don't like the flip

The main reason students stated for disliking the flip was that they found it boring. They were not particularly engaged by the in-class activities and preferred the traditional method in which their teacher spoke to the whole class. As a side note, Ms. Harper is a

particularly animated teacher who talks loudly, moves quickly, and infuses humor into her lessons. Students in her traditionally taught class (pre-flip) demonstrated remarkably engaged behaviors and there were very few yawns or overt signs of boredom. Some of these same students were the ones who indicated they found the flip “boring.” Perhaps they missed their teacher’s animated style. Others were students in Ms. Nash’s class and indicated that the pace of the flipped unit was too slow for them. Although Ms. Nash provided additional exercises that she called “enrichment,” one student wrote “Honestly, I didn't like the flipped unit because I finished before most of classmates & I sat in my seat doing nothing for 1-5 whole class periods.” This also could be because Ms.

Nash was more uncomfortable with asynchronous learning and wanted all students in the class to finish the first video and its activities before anyone could move to the second. Likewise, all students in Ms. Nash’s class were required to finish the activities associated with the second video before anyone could move to the third. Perhaps this forced pacing created frustration for the student who sat in his/her seat “doing nothing.”

Other selected comments that indicated dislike of the flip were

- “I think it did not challenge me at all so I was bored.”
- “I think the flip classroom was extreamly (sic) boring and that we would learn much faster if we just learned normaly (sic).”
- “The flip made me focused on getting work done, but not learning.”

4. I like having less homework

One of the main themes echoed in field observations, interviews, and the comments on the MSLQ was the lessened homework load. Students enjoyed having what they perceived to be “less” homework, and they also enjoyed the change of pace of watching videos as an assignment. Several students noted that this single factor was the biggest decider in whether they enjoyed the flip or not. Today’s students are woefully hurried and overscheduled (Elkind, 2007), and homework often takes a backseat to dance lessons, music lessons, sports practice, and church activities. The students in the study seemed to appreciate the lessened workload at home and the opportunity to do most of the written work in class. One student wrote on the MSLQ, “It was better for me because I did not have to take more than 10 mins (sic) to do this HW (sic) and that was better because I get home very late at night.”

The students also were observed talking happily about less homework and expressing mild shock that all they had to do was “watch a video.” When Ms. Nash introduced the flipped unit to the students, she told them, “In theory you’re going to have only three nights of homework over the next few weeks.” The students chorused, “Yay!” in response. Other selected comments on homework were

- “I really liked that there was no homework. It gave me time to work on other subjects.”
- “The work we did out of school/homework was easier then what we did in class!”
- “This made my nights a little easier, just having to watch videos.”

5. I have reservations. School is school.

Perhaps the most telling theme that emerged was one in which students indicated that they did not really care *how* their teachers taught, since it was all just school anyway. This was a major theme that emerged during the pilot study and in the pilot focus groups, and it was corroborated with the middle-school students. Whether a teacher talked directly to her class, asked students to watch a video, or created collaborative exercises, for these students school was still school. This comment seemed to get at the heart of the matter for many, who said they were not overly fond of poetry or ELA or any subject actually. They were a large group of scholarly agnostics, who seemed to take little joy in academic pursuits and really just wanted to be somewhere else. A large number of these students were boys, although I do not have hard data to back up this anecdotal observation.

In the field, these scholarly agnostics seemed to file in dutifully to class, settle in to work as they were told to do, and whisper occasionally with their neighbor. They generally were hard-working, but seemed to have little enthusiasm in either the traditional or flipped classroom. The most joy I witnessed in these students was in the hall after class, where they suddenly perked up and began talking loudly to their friends near the lockers.

For these students, the flip just did not make much of a difference in their engagement. They liked it, but they had reservations. Or they didn't like it, but they could see the benefit of it for "other students." They did not commit to one side of the fence or the other. A typical fence-sitter comment was: "I actually understand material better in the non-flipped classroom, but a flipped classroom is more fun to learn in." Other selected comments that fell into this theme were

- “It was rather difficult and un-easy but once I read/looked at the videos I sorta understood some what of the stuff.”
- “I like the flip, however sometimes I find myself confused.”
- “I would rather have the teacher teach in class, but I think (with minor edits) the flip helped other students.”
- “It was helpful to have the lecture at my hands but it was also a little difficult because you couldn't ask questions directly to the teacher.”

6. Let's do it again.

Although several students remarked in interviews that they did not think the flipped method was ideal for daily use in ELA, many students agreed that it was “fun” to do *sometimes* and that they hoped their teachers would do another flipped unit or lesson in the future. Those students that liked the flipped method seemed to agree that it was a creative way to teach and expressed their desire to do it again (“I really want to do it again” and “I would like to do it more often.”).

Three students wrote that they wished that their class could be taught with the flipped method regularly or “on a normal day basis.” One of these students wrote: “I have really enjoyed doing the flipped study. I want to do a flipped study all the time!”. While another remarked in capital letters how much she enjoyed the unit and drew a smiley-face emoticon at the end of her comment for emphasis (“Please keep doing this! I LOVE IT! ☺”).

The Student Cases

Drawing on Herreid and Schiller's (2013) use of case study to investigate the flipped classroom, as well as the work of Perry (1998) in selecting specific students for observation, I observed and interviewed six students as case studies. Three of the students came from Ms. Nash's classes and three from Ms. Harper's. The students were purposefully selected with input from the teachers. I intentionally chose three male and three female students, and I also wanted these selected students to be from different ethnoracial backgrounds, as well as differing in ability in ELA so as to get a more accurate cross-section view of the students. I chose: two Black girls; two White boys; one Asian girl; one Hispanic boy. One of the Black girls was designated as "gifted" and high-achieving, while the other was in an ICR class. One of the two White boys was reported by his teacher to be "pretty good" at ELA, although not at the top of the class; while, the other White boy was in an ICR class and had a behavior contract. The Asian girl was identified as "gifted," while the Hispanic boy was considered by his teacher to be on grade level for ELA, based on his end-of-grade test scores. I sought to create three engagement clusters (Perry, 1998): one pair of students who were highly engaged in ELA; one pair of students moderately engaged in ELA; and one pair of students who demonstrated low levels of engagement in ELA. I selected these students after discussing with the teachers which students they felt were representative of each of the engagement clusters. The teachers offered two or three names of students they felt best represented each engagement cluster, and then I made the final selection based on the students' ethnoracial background and gender.

I watched these six students particularly closely during field observations each day, taking separate notes on their behavior. I positioned myself at the back of the classrooms so that I was unobtrusive. However, one parent of a selected student wanted more information about the study and its purpose, so I talked with her at length on the telephone. This shifted my role from observer to observer-participant. (I also was asked questions directly by several students, and I felt obligated to answer them. As much as I tried to distance myself from the students and the classroom, I found myself a marginal participant.) I then interviewed the six selected students alone in a workroom at the conclusion of the flipped unit. I recorded these interviews and then transcribed the text. The interviews lasted approximately one hour each.

Highly engaged student cluster – Allison and Emily

Allison is a Black girl who was brought to my attention when her mother sent a concerned note to Ms. Nash before the study began. Allison is the youngest of four siblings and recently moved to Lakeview Middle School from another school system outside the state. The mother is experienced with schools and active in the Parent Teacher Association. She also has a particular interest in curricular issues. Her concern was that Allison would be forced to teach herself through a video, rather than have the benefit of her teacher's expertise. I called her mother and spoke with her at length, assuring her that Allison would have the benefit of her teacher in the classroom. Allison's mother revealed that Allison is academically gifted and needs to be stretched and challenged intellectually.

I observed that Allison was incredibly quiet and focused in the classroom. She sat with laser focus in Ms. Nash's room, and she hardly even wiggled in her chair. She appeared

far more mature than her peers. During the flipped unit, Allison worked quietly alone. She never once collaborated with her peers, but preferred to work through all of the activities with precision and that laser focus. She was highly engaged during the flipped unit, and she completed all of the activities easily.

When I interviewed her after the flipped unit had concluded, Allison said that she “kind of liked” the flip because “we got to focus a lot on each concept.” She said she was never bored during the flipped unit and felt like she had plenty to keep her busy. She felt the flipped method was best for memorization, rather than deep discussions, since it relied on a video for direct instruction. She said,

It helps you better memorize each concept, like, if you’re learning vocabulary and things, like, um, new figurative terms, it helps because you can keep going over and over it again, like you can pause it when you need to and you can go over it again, and then in class you get even more practice with it.

Allison felt that the flip was not an effective method for ELA since “there is less class discussion.” She said she would not be interested in an ELA class that used only the flip every day.

It would be a bit difficult for discussions or things. I think it’d be kind of fun to mix it up but it’s not worth doing every single thing on my time.

Technology access was not a problem for her, and watching the videos was easy “because it’s like relatively quiet in my house and there are a bunch of computers.”

For Allison, the flipped method was an interesting experiment, and she enjoyed the new challenge, but she also looked forward to going back to the traditional classroom. Her mother confirmed this, as well. Allison’s teacher, Ms. Nash, does many interesting things in the classroom already, and Allison did not need the flipped method to engage more fully in ELA, according to the mother.

For Emily, another student identified as highly motivated and engaged in ELA, the flip helped the medicine of poetry go down a bit easier. Emily is an Asian girl whom I observed to also exhibit intense focus in the classroom. She is identified as academically gifted, according to Ms. Harper, and she worked diligently throughout the flipped unit. I observed her chatting occasionally with another girl who sat next to her, but her conversations were always about the school work and rarely deviated from this. She was consulted by her seatmate on several occasions, and she answered questions quickly and pointedly, then turned back to her own work. She is a physically small girl with short, dark hair and glasses, but she seemed far more mature than most of the students around her.

Emily said she really liked the flip because she was able to learn new material in the quiet of her home, away from the antics of her classmates. However, she did not like having to wait to ask an individual question of the teacher.

I think learning with the flip was much more effective than class because it’s easier than concentrating in class. There might be distractions. Whereas at

home, you can review the tape, or video, whenever you feel like it. But I also feel like if you have a question, since the class is so large, sometimes it's hard to get a chance to talk to the teacher.

Emily said poetry "isn't one of (her) strengths," and that the flipped unit allowed her some measure of engagement in a subject she did not particularly enjoy. However, she repeated that she did not like having limited access to her teacher when she had a question. She said she was familiar with the flipped method because "my math teacher and eighth-grade math has used it." However, she did not think it was an effective use of the flip because "sometimes you really need to ask a question, but she can't respond to you until the next day in class."

One of the flip's greatest benefits is that it relies on a video that can be rewound repeatedly, according to Emily.

I feel like sometimes if she's teaching a lesson in class that it's easy to get distracted and then you miss crucial parts, and then you can't go back and write them down in your notes, so then when you need help you can't get it.

However, like Allison, Emily said she would not enjoy an ELA class that used only the flip every day. Here is a snippet of my conversation with Emily:

INTERVIEWER – How would you feel if this entire language arts class was taught only through the flipped method? If at the beginning of the year, Ms. Harper said, “OK. The whole year we’re going to use the flip.”

EMILY – I think some of the contents at the beginning of the year would not have been as clear because we asked a lot of questions, and during her lectures in class...yeah, it was a lot of like more student-teacher response, which you can’t do with a video. It’s only her to you.

INTERVIEWER – Right. But the next day you can ask questions.

EMILY – Yeah.

INTERVIEWER – If she gets a chance to get to you. Right? How would you feel if this language arts class used the flipped method only once in a while, like on a specific unit.

EMILY – I think I would like that, because some units you can learn faster, but other ones you might need more help. So, varying distractions of how you learn.

(C.M. Moran, 03/12/2014)

As a whole, the students in this academically gifted, highly motivated and engaged cluster seemed to like the flip as an occasional method of instruction in ELA, but not as the sole strategy.

Moderately engaged student cluster – Daniel and Matthew

Daniel stood out to me from the beginning of my observations because he appeared to be one of the most popular students in Ms. Harper's class. He is an Hispanic boy and seemed to be very well-liked by most all of the other students. During the flipped unit, he was a frequently sought collaborator, and he spent much time out of his chair and leaning over other students' desks to help them. He also garnered quite a few back slaps and high fives as he strode through the classroom – either to sharpen a pencil or get a new activity from the bin in the front of the room.

Throughout the study, he wore the same plaid flannel jacket over his clothes, and I observed that he had on the same pair of pants for several days in a row. However, he always appeared clean and tidy, and the other students did not seem to mind his lack of fashion sense. Daniel was described by Ms. Harper as being “very good” in ELA. Although he socialized some, he also spent many hours doing work at his desk – even while some of his classmates cavorted and joked around him. He seemed to have a balance between school work and socializing, allowing himself a little socialization, but returning quickly to his work.

When I asked him how he felt about the flipped unit, he echoed the refrain we heard so many times in the pilot study -- he didn't really care: “I guess it's like a pretty... it's like...it's kind of like pretty efficient, but I mean it's not that much more helpful than the regular, the not-flipped. I feel.”

Daniel was fairly tight-lipped about his feelings regarding the flipped unit, giving

mostly monosyllabic answers to questions and being very guarded. He was familiar with the flip, he said, because his math teacher used it. His main issue with the method was that it was conducted at school – a place he did not particularly like.

DANIEL -- Uh yeah. I'm actually doing the flip in math. Cause, uh, yeah, so she like gives us video notes and then we do some more stuff in class and, yeah, it's kind of like what we did in language arts too.

INTERVIEWER -- Do you like it in math?

DANIEL -- Mmmm....yeah. It's OK. It's almost the same as like the regular curriculum.

INTERVIEWER -- Really? So, school is school.

DANIEL -- Yeah!

(C.M. Moran, 03/10/14)

When pressed, he said he actually preferred the type of class in which Ms. Harper would lead the discussion rather than a video, “because like instead of someone with like personal experience teaching you, you’re listening to a machine, so it’s like all the same. And, like, you don’t get to interact.”

Daniel said access to a computer was not a problem for him or for his friends, and he said he and his friends agreed that the flipped unit was not much different from a traditional class.

INTERVIEWER -- Do you think that the flipped method would keep you from being bored in a language arts class?

DANIEL -- Not really. Like I said, it's kind of like the same as a regular class, except we do different things in class and at home.

INTERVIEWER -- And school is school.

DANIEL -- Yeah.

INTERVIEWER -- OK. What do you think your friends would say, like say your friends who are not in Ms. Harper's class. Did you talk about the flip with them at all?

DANIEL -- Yeah. They kind of agreed with me. They thought it was OK, but, like, it's not that helpful. Like, it doesn't let you learn more than the regular.

INTERVIEWER -- That's what your friends think too?

DANIEL -- Yeah.

(C.M. Moran, 03/10/14)

By contrast, Matthew was an enthusiastic supporter of the flipped method in ELA – and any subject. Matthew was identified by Ms. Nash as being “pretty good” in ELA, and he appeared competent during collaborative exercises with his seatmates. He is a White boy with dark hair and quite tall. He was fairly engaged during the flipped unit and did not socialize much. Occasionally, a friend would get up and come over to his desk

and lean over him, writing on his own paper. Matthew tolerated this, and this sort of side-by-side work became prevalent with him and some of the other boys in his class. However, transitions were difficult for him, and he was observed frequently gazing out the window when he finished his work, unable or unwilling to move on to the next activity.

Matthew frequently wore sports attire to class and appeared as if he were about to go play a sport as soon as he left class. He maintained an air of competence and maturity, and he was looked on with deference by the other boys in his class. One day a group of four boys were working together with Matthew, and they were puzzled by the alliteration activity.

“What starts with ‘N’,” one of the boy asked.

“Hmm,” Matthew said. “Hmmm. Hmmm.”

“You’re supposed to draw,” pointed out a boy as he walked over to the group.

“I have no idea how I’m doing this, but I’m a genius,” Matthew said.

The other boys smiled, but did not disagree.

(C.M. Moran, 02/28/14)

In my interview with him, Matthew said he thought the flipped method was “good because we watched the videos at home and did the work in the classroom.” When pressed, he said he actually felt he could understand the video lecture better than if Ms. Nash had lectured to the class. He said he really enjoyed the collaborative aspect of the flipped unit, although he admitted that “not everyone was doing a good job of staying on

topic.” He said the flipped method would definitely keep him from being bored in an ELA class, primarily because he was allowed to work with friends.

Technology access was not a problem for him, he said, but he knew a couple of people who had difficulty watching the videos because of computer issues. However, he defended the reliance on videos.

MATTHEW: Ms. Nash gave us options. She gave us two days for each video, so she had us come after school or before school or during lunch. Cause she was here for each of those times every single day.

INTERVIEWER – And you think that’s enough for those kids that don’t have a computer at home?

MATTHEW – Mhm. [AN AFFIRMATIVE UTTERANCE]. She gave them two days to do it! The second one she gave us a week notice!

INTERVIEWER – There was a bit more for the second one than there was for the first one. So it was no problem for you to find access to an Internet enabled device?

MATTHEW – No

INTERVIEWER – Do you have a Smartphone?

MATTHEW – No, I have a laptop.

INTERVIEWER – Do you think anybody watched the videos on a Smartphone?

MATTHEW – I’m sure somebody did. My friend, B., did.

INTERVIEWER – Did the videos load quickly enough for you? Was it annoying?

MATTHEW – Well, the first one was, but then she put the second and third one on YouTube and the first one again. That way it loads faster. When you did the first one, it would take like a couple minutes. That was time to get my stuff out, so it was OK.

(C.M. Moran, 03/12/14)

When asked how he would feel if the ELA class were taught only through the flipped method every single day, Matthew replied, “I’d love it!” When I questioned this and asked if he would miss whole-class discussions over novels and short stories, Matthew did not budge. “It’d be good to hear other people’s opinion...but I’d still like the flip more.”

As a whole, the students in the moderately engaged cluster seemed to enjoy the collaborative aspects of the flipped classroom method the most. They thrived on the opportunity to consult with their friends and exercise some of their social capital in class. Interestingly, both boys in this cluster were considered popular and well-liked. The results from students who do not have as many friends could be different.

Less engaged student cluster – Arthur and Shakira

Shakira is a Black girl with an infectious smile and a highly social personality. She was identified as being “low” in ELA by Ms. Nash, and she was a student in Ms. Nash’s ICR class. During the flipped poetry unit, I observed her frequently getting out of her seat to socialize with others. She appeared to try hard to focus at the beginning of the

unit, but by the end, she was doing far more chatting and walking around the room than work. I frequently observed her dancing in her chair to an unheard song or jumping up and then sitting down again. On the sixth day of the flipped unit, I wrote the following field note about Shakira:

Shakira sits and bobs her head at her desk as if she is dancing. She stares into space. She walks the room, stopping to visit with a friend across the room. She writes her name on the board, then plays with the dry erase marker. She goes back to her desk and highlights two lines, then stands up again. She stands at her desk staring at the page. She sits. “My pencil just went missing,” she says out loud. She begins to write with a tiny stub of a pencil about two-three inches long. She notices me watching her and looks up at me. I try to act like I’m doing something else. Is she performing for me? I glimpse back at her and see that she is watching me. Darn. I look away. When I look back over at her, she is standing and writing at the same time. The ICR teacher comes over to her to check her work. The ICR teacher silently reads over the paper as if she is grading it, then smiles at Shakira and stamps her passport. There has been no interaction or discussion – as there is when Ms. Nash checks work. Shakira gets up and walks to the back of the room to correspond with a student very near me. She then parades across the room to talk to another student.

(C.M. Moran, 03/05/2014)

When I interviewed Shakira, she was very shy and did not look at me, but rather at her hands during the entire interview. She said she “liked” the flipped unit because “it seemed much easier, I guess.” When I asked her how it was easier, she said:

Like, when she teaches in class, sometimes you can’t really understand it. But it was much easier on the computer because you got to go back and over hear it, because she usually doesn’t re-say the stuff.

When I questioned her about the flip’s use in ELA, she continued to assert that the flip was “better.” She said that the video component allowed her to slow the lesson down and repeat it as needed so that she could get a better handle on the content. She said Ms. Nash’s traditional teaching style occasionally went too fast for her, but with the pause-rewind feature of video content, she was able to better understand her teacher.

I know it’s her doing the flip, but it’s more understanding. Cause she just gives the definition like right away, but it takes her a while to explain it, so, like, she uses, like, really hard words that some of us can’t understand. You have to try to figure it out. But in the flip, she explains the words or she uses it in a sentence, so you can, like, guess right away.

Shakira said she did not have trouble with the technology or with finding an

Internet-enabled device, but that she did have to wait for her sister to finish with the family's computer before she could watch her video homework. Having a few days to watch the video allowed her to plan ahead for this and to advocate for time at home on the computer, she said. Despite her positive attitude toward the flip, Shakira said she did not think it would be good to do the flip every single day, because she "would miss some things that she [Ms. Nash] taught." I interpreted this to mean that she would miss some of the content that was taught in a traditional way.

Arthur was identified as "very low" in ELA by Ms. Harper, who said she also had trouble getting him to turn in work. Arthur is a White boy with blonde hair and a serious countenance. He was in Ms. Harper's ICR class and was not particularly well-liked by the other students. He frequently seemed on the sidelines and somewhat of an ostracized outsider. He called out to students at inappropriate times, yelling, "Hello!" whenever someone came into the classroom. During the flipped unit, he rarely sat in his chair. He walked around the classroom, visiting other students' desks and generally just wandering without direction. Although both the resource teacher and Ms. Harper occasionally asked him to sit down, they were distracted by trying to check the passports of the other students in the classroom and not completely aware of what Arthur was doing at all times. By the end of the unit, Ms. Harper expressed worry and concern that Arthur had not completed even one station during the entire two weeks. Here are selected excerpts from a field note I wrote on the third day of the flipped unit:

Arthur slaps every desk around him with a ruler, commanding each person: “Work!” He then takes the ruler and slaps his friend on the head. All students except for Arthur and another boy are seated. . . . Arthur looks around the room. He watches other students write their names on the board. He continues to stare straight ahead. He gets up and asks Ms. Harper if he can go to the bathroom about 15 min after class has started. She asks why he didn’t go before class. He shrugs. She says, “the answer is no.” He returns to his desk, puts his head on his hand and watches the room. About 17 minutes after the start of the period, he looks down at the paper. He then puts his head in his hand and watches the room. After 20 minutes, he gets up and writes his name on the board. When he returns to his desk, he turns around and engages his neighbor in conversation. More than half the period has gone, and he has done nothing more than sit in his desk and stare straight ahead.

(C.M. Moran, 02/27/2014)

During the interview with Arthur, he was surprisingly articulate and focused in his answers. I interviewed him after lunch and worried that this would be a bad time of day for him, but he did not fidget much and looked directly at me. He tried to be polite at first when I asked him what he thought about the flip, but he soon got to the point: he did not like it at all because there was too much in-class work.

ARTHUR: I don’t really know what to think about it.

INTERVIEWER: Did you like it or not?

ARTHUR: Not really.

INTERVIEWER: Not really? How come?

ARTHUR: Cause it's just like, it was hard to, like, keep track and do everything.

INTERVIEWER: Right. So she gave you a list of a lot of stuff that you had to do, right?

ARTHUR: Mmmhmm. [AFFIRMATIVE RESPONSE].

INTERVIEWER: Was that overwhelming to see that list?

ARTHUR: I guess so. Yeah.

INTERVIEWER: And did you think, 'Oh man! How am I going to get all of this done?'

ARTHUR: [Nods to indicate 'yes']

INTERVIEWER: Yeah? OK. Can you think of a time during the poetry unit that you really liked something? That you really enjoyed something?

ARTHUR: Not really.

INTERVIEWER: OK. Can you think about something during the flipped unit that made you feel unhappy or that you really did not enjoy learning?

ARTHUR: Umhmm.[AFFIRMATIVE RESPONSE]. Like when I would just take a break, people would tell me to get back to work and stuff.

INTERVIEWER: So, you had to be really focused, and you wanted to just...whew!...take a break!

ARTHUR: Uh huh. [AFFIRMATIVE RESPONSE]

INTERVIEWER: So, normally, when Ms. Harper is teaching, like when she is standing in front of the class and teaching everyone, right? What do you do when you feel like you want to take a break?

ARTHUR: Um. Just like not listen or like, just, I don't really know...

INTERVIEWER: Just kind of tune out?

ARTHUR: Uh huh. [AFFIRMATIVE RESPONSE]

INTERVIEWER: Yeah. OK. But with this, you couldn't tune out because there was nobody talking to you, right?

ARTHUR: Yeah.

INTERVIEWER: It was just like, 'get busy, get busy.'

ARTHUR: Yeah. [Nods head vehemently].

(C.M. Moran, 03/10/2014)

Arthur said he did not have trouble getting access to an Internet-enabled device, but that he actually did not watch the videos because he didn't "like doing educational videos or stuff I don't have to watch." He said he felt the videos "were like sort of like wasting my time, I guess." He said the third video in particular, the one in which Ms. Harper had demonstrated how to annotate a poem, had been too long (it was 8 minutes). When I asked how he managed to get the required notes to turn in and prove he had watched the videos, he confessed that he had copied them from someone else. In fact, he said, many other people copied the notes rather than watch the videos from start to finish.

Arthur said he definitely would not want his ELA class to be taught through the flipped method and that he much-preferred the traditional method of teaching. In fact, he said, “I’d be fine with the same thing every day.”

As a whole, the students in this cluster had different views on the flip with one loving it and one hating it. Both of them seemed to agree that the traditional method of teaching was preferable to the flip for day-to-day work, and both were observed having a very difficult time regulating themselves and finishing the required work without a teacher watching them. Arthur, in particular, seemed to resist being held accountable for his work during the flip, rather than having the luxury of tuning out while his teacher talked.

The Teachers

Planning and pre-flip

The teachers’ work on the flipped classroom began, as most teachers’ work does, long before the students had an inkling of what was about to take place. Both Ms. Nash and Ms. Harper met with me on a snowy day at the beginning of the second semester in the first of several meetings to hash out *how* to flip and *what* to flip. We knew from the pilot study that the most successful flips in ELA are with very fact-based content (Moran & Young, 2013). Since both teachers already use a variety of research-based instructional methods – such as collaboration, literature circles, and think-pair-share – they wanted to make certain that their flipped lessons would suit their teaching styles. They decided to flip a unit on poetry because poetry was an identified weakness in semester one’s Case 21 benchmark tests (state-mandated standardized tests), as well as a unit that was heavy with necessary memorization. Students would be required to memorize and understand terms,

such as “hyperbole,” “onomatopoeia,” and “alliteration” for the next benchmark tests. Students also would need to know how to annotate a poem and indicate specific aspects of the poem’s structure, such as its rhyme scheme, the author’s use of repetition, and the poem’s form or genre. Flipping this unit would give the teachers the opportunity to really drill these necessary terms into the students. They had allotted three weeks for the unit when they outlined the curriculum at the beginning of the year, so this was a good chunk of time with which to work. Both Ms. Harper and Ms. Nash also agreed that they wanted to try the “asynchronous” flipping that Bergmann and Sams (2012a) advocated in their book. This meant that each student would work at his or her own pace, but that everyone would be finished with all parts by the end of the unit.

After deciding *what* to flip, the teachers turned to me for advice on how to create the videos and how to break the information down. We decided to divide the unit into three parts: 1) poetic terms; 2) poetic forms; and 3) annotation of a poem. Using this three-part idea, the teachers agreed to each make three videos, one for each part of the unit. The first video was a PowerPoint with a voiceover; the second was a live-action video with the teacher’s face to start and then a PowerPoint with voiceover; the third was a live-action video shot through the classroom’s document camera that capture the teachers’ annotating Robert Frost’s “The Road Less Traveled.” All videos were uploaded to the teachers’ personal Weebly websites.

Although the initial idea was to use Jing screen capture software to make the annotation video, Ms. Harper decided that the limitations of Jing were too great and that the document camera would allow her more freedom to annotate and talk at the same time. In

addition, I was supposed to film both teachers talking to the camera, but both Ms. Harper and Ms. Nash ended up using the cameras on their computers and filming themselves. We all agreed this was easier.

After the videos were made, the teachers then turned to their other team members at Lakeview Middle for help in creating the stations and the poetry activities. The other 7th grade ELA teachers also planned to use the instructional activities, but did not want to flip. Collaboratively, the teams came up with eight stations, each one with an activity for remediation, as well as enrichment. In addition, the teams came up with an activity on poetic form and several more poems for students to annotate.

Finally, I suggested they tell students about a hierarchical questioning strategy I had heard from Troy Cockrum, a teacher who flips his middle-grades ELA classes in Indiana: If students have a question they should 1) rewatch the video; 2) ask a friend; then 3) ask a teacher. This, I theorized, would cut down on the number of kids clamoring for the teachers' attention.

In total, the planning process for the flipped unit took about three weeks – a far longer period of time than the teachers normally took to plan a unit.

During the flip

With the folders for each station nested inside plastic milk crates, the teachers announced to their classes that the flip was about to begin. Students were visibly excited on this first day and a few clapped. The teachers prepped students in advance by explaining the process and by demonstrating how to take notes on a video. They emphasized to students that

the pause-rewind feature of video was a huge advantage. Ms. Harper gave her first-period students a little speech that incorporated everything she wanted them to know:

I'm thinking that to watch a 5 minute video will take you about 15 minutes. The idea is that the length of time it takes you is the time it takes you to understand the concept. The power for the amount of time it takes you to hear things is now in your hand (sic). You are the ones who are responsible for this. You are now in charge of what you need. You are also now in charge of how you need to learn in class. These activities will happen at your pace. You will work through these, and when you're finished, you will move on to the next one. If you feel like this is easy as pie for you, you can go on to an enrichment. You don't come running to me if you have a hangnail, figuratively. You need to learn to solve your own problems. The first place you're going to go is to the video. The second place is to a friend. The third place is to me. You're going to write your name on the board if you need an appointment with me. You're not just waiting for me. Go on to the next station. The purpose of the flip, in theory, is to make sure that each student can learn at their (sic) own pace. There are students who are going to learn it super fast, and there are students who need a little more time. The idea behind the flip is that hopefully kids can get what they need. There are

few studies at the middle school level. We want to hear your feedback. All I ask is that those of you who have had a positive or negative experience, is that you give it a fair shot.

(C.M. Moran, 02/24/2014)

The teachers both did a great deal of walking around the classroom and going from desk to desk and student to student during the flip. I overheard them answer the same question many times, and I watched them sigh in exasperation as they continually encouraged students to “go on to the next station,” or “put your name on the board and then work on the next thing.” Students did not adapt easily to the three-part hierarchical questioning method. Many continued to just raise their hands when they finished a station and needed someone to check it. They frequently forgot to put their name on the board for an “appointment” with the teacher. Many students also looked annoyed when they could not get the teacher’s attention. This concerned both teachers. In addition, the teachers began to worry about students who were not doing a good job pacing themselves in the unit.

I talked with both teachers separately at the end of each day, as well as during a formal interview following the flipped unit. This final interview lasted approximately 1.5-2 hours for each teacher and was recorded and transcribed. In addition, I corresponded regularly with the teachers through email and phone calls and transcribed the notes from these interactions.

General Themes from Teachers

Through these interactions and interviews, three main themes emerged as major issues for the teachers: 1) Class size and classroom management; 2) Grading and assessing student work; 3) Concerns about students not finishing/doing work. In addition, both teachers agreed independently that the flipped method of instruction was appropriate as a once-in-a-while tool, but not as a sole means of instruction in middle grades ELA.

1. Class size and classroom management

The large class sizes allowed by the state in which the teachers work made the flipped method incredibly challenging, both teachers agreed. This was the major issue that created the most headaches and frustrations. For Ms. Nash, class size and classroom management spoiled her experience of the flipped classroom. Since she is the type of teacher who appeared to prefer a calm and controlled classroom before the flip, the asynchronous learning, collaboration, and general noisiness and chaos of the flip were very challenging.

MS. NASH: Calling it "control" seems bad, but I missed some of the control. I felt that at a certain point in the class—and we talked about this—it started to get a little bit out of control. The last 10 minutes got louder and a little bit more off task. If I was in front of the class, I don't think that would've happened if they were doing the same activity, but because I was on the side helping students, I felt like some of the classroom management got a little more out of control than I'm used to or than I'm comfortable with.

So many students were vying for her attention at the same time, Ms. Nash said it was difficult to remain focused on the one student with whom she was supposed to be conferencing. She frequently felt as if she didn't know what was happening in the classroom as students moved around the room unchecked.

MS. NASH: There were times where, in between conferences, I tried to stand up and walk around the room to eyeball what was going on. But yeah, I had that thought in the back of my mind because when I was meeting with a student up front, I'd want to give them (sic) my full attention, but then sometimes I'd hear something going on over here. In the corner of my eye, I'd see something wrong. That part was hard, trying to give that student your full attention, because you're trying to assess them (sic) and see if they (sic) know it, but at the same time, also having an eye out for the 30-some other people. I'm sure that there were some things that were going on that I didn't catch.

Ms. Harper also expressed extreme frustration at trying to conference with one student while the other 35 students were unsupervised. She said she really had hoped to “reach every student, every day,” as promised by Bergmann and Sams (2012a, front cover), but that with so many students, it was impossible.

INTERVIEWER: In the kids that you were conferring with, do you feel like you got to almost every kid every day?

MS. HARPER: Nuh-uh. [NEGATIVE RESPONSE]

INTERVIEWER: Okay. What percentage of kids do you feel like you got to?

MS. HARPER: On the busy days, 50 in those classes with 34 and 35.

INTERVIEWER: How did that feel, as the teacher trying to—?

MS. HARPER: [Interposing] Stressful.

INTERVIEWER: —you've got this list of 25 names on the board.

MS. HARPER: Stressful, and I felt frustrated at times because I felt like students were so frustrated with me. That was frustrating. I was talking to Ms. Nash about this; Track 3 was supposed to have an early release. We were supposed to have an early release last Friday, so a lot of the Track 3 students left. Her third and fourth core was half sizes. She was like, "The flip worked so perfectly with small classes!" I noticed that even between my third and my fourth core. My fourth core has 27, 28, and my third has 33, and even that is a huge difference.

INTERVIEWER: Do you feel like you got around to every kid, and how did that feel?

MS. HARPER: No. I was trying to be purposeful, like if I knew I had spent a lot of time with this particular kid, I might not spend a lot of time with them (sic) today, but make sure I spend a lot of time with them (sic) tomorrow.

At the same time, I found myself—which is not ideal—knowing that they didn't get something to the full extent that I want them to get it, just got it enough. Like they understood what alliteration is, but they couldn't do the analysis piece that I was asking them to do—but I didn't have time to explain it for an 80th time to that student because I hadn't talked to this other kid who's got his name down at the bottom. I feel guilty and I know that's not best practices, and I know that's not ideal, but there's only so much time.

(C.M. Moran, 03/26/14)

2. Grading and assessing student work.

Another major issue for the teachers was the grading and assessing of student work. As they checked off each student's passport, both teachers orally quizzed students to assess their understanding of the poetic terms and forms. They coached individual students to go back and revise poems they had created, and they helped others brainstorm and think of topics about which to write. They worked tirelessly every day, and it was impressive to watch them employ higher-level questioning strategies to encourage their students to think deeply. Both Ms. Harper and Ms. Nash were not easily satisfied with the students' work and did not simply check off the passport and move on. They probed and questioned and *taught* in a way that might have been very difficult if they were not speaking directly to individual students.

However, their careful and diligent instruction meant a huge backlog of students waiting to talk to them. As the unit wore on, the students began to fall behind. School was

canceled twice due to snow, and the teachers worried that the students would not finish the required work. Ms. Nash confessed that she badly wanted just to teach the terms to the whole class; she could do this much faster through whole-class instruction.

By the end of the unit, the teachers each were faced with 120 folders that required a final grade. This daunting task took Ms. Harper six hours to get through. Requiring each and every student to do the same things was difficult, and Ms. Harper said she would tweak the unit to allow for more differentiation next time.

The teachers also struggled with how to grade students who just were unable to work quickly. If they had taken the work home, they would have had more time, but doing it in class gave every student the same amount of time – a disadvantage for students who were just naturally slow.

MS. HARPER: It's the kids who just work slowly that I just can't validate giving them a poor grade. I have this girl, S.G.; she was on Station 4. Should've gotten 40 on the quiz grade, but her poems—she's super-high AG and had spent hours laboriously making beautiful poems. I'm not going to fail her. That's so wrong to me.

Some students I let bring home folders because I noticed they were really behind. But then at the same time, I felt like it wasn't fair to the students who I hadn't let. I tried to do it, like the students who were working hard and couldn't get done, I let them take it home before I did the quiz

grade. The students who I noticed were off task, I graded it as is. But I don't like that. I'm not okay with that.

(C.M. Moran, 03/25/14)

Based on advice from me, the teachers opted not to allow the students to take the folders home and work on the in-class activities out-of-class. The main reason for this rule was to be able to measure more accurately what the students were capable of doing inside the classroom. However, this also served as an issue for the teachers, who wanted to allow students to finish the work whenever and however they were able.

MS. HARPER: Some students I let bring home folders because I noticed they were really behind. But then at the same time, I felt like it wasn't fair to the students who I hadn't let. I tried to do it, like the students who were working hard and couldn't get done, I let them take it home before I did the quiz grade. The students who I noticed were off task, I graded it as is. But I don't like that. I'm not okay with that.

INTERVIEWER: What don't you like about that?

MS. HARPER: I'm not okay with their grade being indicative of behavior rather than understanding.

(C.M. Moran, 03/25/14)

Ms. Nash also agreed that grading was a major issue during the flip, particularly at the end of the unit when many students scrambled to get all the activities finished and turned in their folders. When I asked Ms. Nash if she might grade as they finished each station next time, she said,

MS. NASH: That's a good idea. That would have been good. Then again, some students when they came up to me, they were either missing parts or didn't understand something. For some of them, I did want to relook at them because I told them, "You're not really understanding rhyme scheme. Here's the explanation. Go back." Then I rechecked it when I went through them for a grade. For some of those kids, there were things that they didn't understand that I needed them to go back and work on.

INTERVIEWER: At one point, you were asking kids to come and see you after they finished two stations. What made you make that decision?

MS. NASH: I made that decision because I just could not keep up with all the kids finishing. I didn't expect them to be finishing so many at the same time. Every day, there were 10 to 15 names. Then the next day, I would start with them and there'd be 10 to 15 more. So I thought that maybe if I did them after two, then I could get more people in. And I did, but I would need to, if I did it again next year, rethink how to do all the many assessments, how to check the work. I forget if I mentioned that when you

asked what was frustrating. That was a little frustrating, wanting to assess all the kids, but time-wise not getting to all of them.

(C.M. Moran, 03/26/14)

3. Concerns about students not finishing/doing work

The final major issue that emerged from the teacher interviews had to do with students who did not finish the required work in the allotted time period. The teachers were at a loss as to explain whether this was due to the students' self-pacing ability or the workload. They both agreed independently that many students, particularly those in the ICR classes, did not finish the required work. At the end of the unit, after so many snow day interruptions and issues, they both decided to let students take their folders home on the final weekend and turn them in the following Monday. Ms. Harper said she suspected some of her students' parents would do the work, but at least it would be done, and she could move on. She expressed extreme discomfort with forcing students to complete all work in class, because many required longer than the 50-minute class period.

MS. HARPER: There's one who works so diligently... major attention problems. She's very aware of her attention problems. She'll come up and say, "I can't focus. I can't focus. What can I do?" She takes forever to do anything, but she was in Resource last year, and she's getting B's on

everything; she's growing so much. I'm not going to punish her for taking a long time to work. I'm just not. That's what I've struggled with the most.

But I understand the concept of not letting them work at home. I totally get that, but I think it's more important that I give them a fair... I would still assess. Yes, maybe their parents helped them, and yes, maybe they copied, which is more than likely, but the way that I checked most of the stations was talking with them. Yeah, I would've lost the knowing for sure that they know it, but I'm just not comfortable with grading on speed. I'm just not.

(C.M. Moran, 03/25/14)

Ms. Nash agreed that forcing students to finish within a class period was perhaps unfair, but she also had concerns about ways in which to see if all students were watching the required videos. She said most students had the homework notes indicating they had watched the video, but she worried that they had copied from each other. She said she could tell quickly from talking individually with students who had actually watched the video and who hadn't, but nearly everyone completed the required sheets.

MS. NASH: I don't know if I'm just paranoid or what it is: I just get this feeling that not all the kids really watch the video. Part of the reason I feel that is when I upload the videos to YouTube, you can see how many people viewed it. When I looked at my views—I looked at it the morning of the day

those notes were due—there were always 20 or 30 less views than I have students... but when I would check the homework, there would only be two or three kids in each class that didn't have it.

At some point, I've given the benefit of the doubt: maybe they watched it with a partner and that's why it was one view. Or they did copy it. That's tough when they're supposed to be getting the instruction from that and they're just copying it. That was a little frustrating, knowing that somewhere along the line someone was copying, but not really being able to catch them; not being able to know who. That was frustrating.

(C.M. Moran, 03/25/14)

The Flip and ELA

Finally, both teachers characterized their opinions about the flipped method of instruction as being “in the middle.” They liked being able to talk one-on-one with some of their students, and they felt that students were working harder on understanding the content of the poetry unit than in past years. They also felt that students appeared to enjoy the chance to collaborate with peers and listen to someone else besides the teacher talk. However, neither teacher felt that the flipped method was really “right” for ELA, particularly not for daily instruction. Occasional lessons, such as those that emphasized vocabulary or terms, were appropriate for the flip, they said. However, discussions about literature were better served with teacher-led, whole-class conversations, or through literature circles.

MS. NASH:... if I had to pick a side I would say it doesn't work in language

arts. I think there's units it can work with. If it's basic vocabulary, like getting those vocabulary words or getting basic plot words, for vocabulary-based units it could work. But with analyzing a novel or doing writing – No.

MS. HARPER: I would fall in the middle because I would say it can be appropriate for certain units. I would never flip my whole classroom. Well, at this point after this experience, I would not just flip. I think I would do this unit similarly next year, but I would not be comfortable with a total flip.

Both teachers said they missed the opportunity of standing in front of the room, talking to the whole class. Ms. Nash said she found the flip “boring” after a few days because there was not much for her to do other than repeatedly check students’ passports. The repetition of checking each and every student separately, day after day, wore on her, she said. Ms. Harper said she felt as if she had a good “rapport” with her class. “We laugh a lot,” she said. “I miss that, and I feel like the kids miss it too.”

English language arts could be considered “flipped” already, the teachers said, since many lessons revolve around students reading at home, then coming into class to talk about the reading. The deep, philosophical discussions inherent in excellent ELA classes also would be missed in the flip, they said, since most interactions are student-to-student.

When I asked if they would ever consider flipping their ELA classes every day, both teachers emphatically said “no.”

MS. HARPER: I am more comfortable with a "sort of" flip. I'm more comfortable with flipping this one lecture that I usually do, but it's not going to be a totally flipped classroom.

MS. NASH: There's definitely units that I could look next year and say, instead of doing that lecture, I could flip that. There's definitely units where I can see that, but looking back there's definitely also units that I don't know how I would do it in video. So, yeah, I think it's useful in some, but in language arts I can't see it being completely (flipped).

Chapter Summary

A complete and rich picture of the flipped classroom was achieved through analysis of a variety of data. Field observations, which took about one month, indicated that students had difficulties with self-regulation and time management during the flipped activities, but also appeared to enjoy working with their peers and collaborating. The three levels of engagement, as defined by Fredericks, Blumenfeld, and Paris (2004), decreased slightly from the traditional classroom to the flipped classroom. However, as the methods used to assess this engagement in the field observations was subjective, and the data entered only by one researcher, the results cannot be called conclusive.

Student comments written on the MSLQ also served to cast a light on the student experience of the flipped classroom. Students were evenly divided between liking the method without reservation and disliking it or having reservations.

Six case study students were divided into engagement clusters and observed during the flipped classroom unit, as well as interviewed after it was finished. The students in the highly engaged cluster liked the flipped method as a once-in-while strategy, but not as a sole means of instruction in ELA. Students in the moderately engaged cluster particularly enjoyed the collaborative aspects of flipping, and students in the less-engaged cluster were divided in their opinion: one liked the method, and the other did not.

Finally, the experiences of the teachers in the flipped classroom indicated that large class sizes and classroom management issues were a major concern, as were ways in which to assess students on in-class work. Another major concern revolved around students who were unable to finish the required work in the allotted time period. Both teachers involved in the study said the flipped method had aspects that were positive -- such as the ability to talk directly with individual students -- but that it was not appropriate as an everyday strategy for middle grades ELA.

The next chapter will offer some conclusions about the findings and limitations, as well as recommendations for further study.

CHAPTER VI

CONCLUSIONS, LIMITATIONS, AND IMPLICATIONS

The flipped classroom method has garnered a great deal of media attention and interest. Some of this interest has come from stakeholders within education, while others outside the education sector also have weighed in with their opinions. However, a lack of empirical evidence on the efficacy of the method – particularly as it relates to student engagement, middle grades education, and ELA – was the impetus for this research.

This chapter describes the overall findings of the month-long study, as well as the ways in which these findings connect to the existing literature. Theoretical conclusions are given, followed by the limitations of the study. Finally, suggestions for practice and areas for further study are given.

The Flipped Study

This study followed a pilot study (Moran & Young, 2013) that investigated the effects of the method on 11th grade Advanced Placement English students. In the pilot study, results were mixed and indicated that the method had some positive aspects, but might not be appropriate for ELA as a sole means of instructional delivery. This new study aimed to assess student engagement and teacher pedagogical processes with the flipped model in two 7th grade ELA classrooms. By viewing student and teacher perspectives within the context of middle school, I hoped to “find significant meaning” (Stake, 1995, p. 78) and better understand the behavior and attitudes of middle school ELA students, as well as teacher pedagogical considerations, in a flipped classroom. I used a hybrid embedded design (Creswell & Clark, 2011) (quan → QUAL → quan), as well as follow-up case study

interviews, to assess student engagement in both the traditional classroom paradigm and the flipped classroom paradigm. Quantitative data were gathered in a pre-test to assess students' engagement through the Motivational Strategies Learning Questionnaire (MSLQ) (Pintrich & DeGroot, 1990). Then, qualitative data were collected during the treatment phase of the study through field observations. (QUAL (+quan)=enhance experiment) (Creswell & Clark, 2011) in that quantitative data were collected as a pre-test, then qualitative data were collected during the treatment/intervention (the flipped classroom), then quantitative data were collected again as a post-test. This design was followed up with qualitative case study interviews that further explained the findings in the first set of data (Yin, 2009).

I observed two 7th grade ELA teachers and their students (n=183) as they worked through a flipped unit on poetry. This unit, which lasted about three weeks, included three videos for students to watch in order to understand the content, as well as several activities to practice the new concepts in the classroom. I wanted to measure student engagement during the flipped unit as defined by Fredericks, Blumenfeld, and Paris (2004), looking at the students' cognitive, behavioral, and emotional engagement. I collected data by observing the two teacher participants and their students in a traditional classroom setting; then, I administered the MSLQ survey to measure the students' engagement in the traditional classroom. This was followed with field observations during the flipped unit and ongoing conversations with the two teachers. During field observations, I also carefully observed six pre-selected students. These students were chosen based on the teachers' recommendations using their level of engagement in ELA as the determining factor, as well as my desire for

case studies who represented a cross-section of the classes – in terms of gender, ethnoracial background, and ELA ability. Two students were considered highly engaged; two were moderately engaged; and two were considered to have low levels of engagement. At the conclusion of the flip, I administered the MSLQ again to assess the students' engagement during the flipped unit. I then interviewed the six pre-selected students, as well as the two teachers.

The quantitative survey data were analyzed using exploratory analysis techniques, including observing patterns in means and standard deviations. Also, related samples t-tests were performed, as well as an analysis of variance to look for differences between the pre- and post-test data.

The qualitative data were coded by looking for utterances and patterns manually and analyzed through open coding (Creswell, 2012). I utilized Merriam's (1998) two-step analysis process by coding the written responses on the MSLQ first, then coding the individual cases second. I then conducted a cross-case analysis that compared the responses from my six case studies with the responses of the students at large. I consulted the field observations to triangulate this data. Finally, I repeated the same process with the two teacher participants. I also sought the help of another researcher in coding the data to check for interrater reliability and allowed the teacher participants to review the findings and verify the information.

Overall findings

This mixed methods data analysis revealed that overall student engagement decreased

in the flipped unit and that students were divided in their reactions to the flipped method of instruction. Compared to the traditional classroom, “intrinsic and extrinsic motivation,” as well as “organization” and “effort,” decreased during the flipped unit. Students were observed enjoying the unit at the outset, but having trouble regulating their behavior and finding the motivation to pace themselves. This could have been a result of the length of the unit, which was nearly three weeks long. The students’ enthusiasm for flipping seemed high at the outset, but waned as time went on. The results indicated that the flipped method was not a magic bullet for all subject and ages, as widely claimed in the literature, but could cause a decrease in student engagement in middle-grades ELA.

Written responses on the MSLQ, as well as the case study interviews, indicated that some students liked the flip method, while others did not or had reservations about it. This confirmed the results of the pilot study in which the 11th grade students also were polarized in their responses to the flip. Students in the current study, as well as in the pilot, were unanimous in their opinion that the flipped method of instruction was not appropriate for everyday use in ELA. Many students cited the in-class discussions and teacher-led debates that are the hallmark of engaging ELA classes. The students said they would miss the whole-class discussions of literature and preferred that a knowledgeable teacher lead these. Students also said they enjoyed whole-class read-alouds and hearing their peers’ thoughts and opinions on literature. They said they would miss this in a flipped classroom. The MSLQ written data, however, cannot be considered conclusive since we did

not require all students to write a response about the method. Those who chose to do so may already have developed strong opinions one way or the other about the flip. Students who loved it may have wanted to let us know they loved it, while students who hated it, may have felt it was important that we know they hated it. The vast majority of students probably fell somewhere in the middle and did not feel inclined to write a spontaneous comment.

However, this should not minimize the importance of the written comments or the comments made during the in-depth case study interviews. Students were adamant that quantitative content, such as content delivered in math and science classes, is much better-suited to the flipped method of instruction than the holistic, qualitative content of ELA classes.

However, many instructors have had success with the flip, particularly those working in math/science disciplines and in higher education (Moore, et al, 2014; Jamaludin & Osman, 2014; Gehringer & Peddycord, 2013; Annetta, et al, 2012; Johnson & Renner, 2012; Marcey & Brint, 2012; Demetry, 2010). Drawing on these successes, the results of this study indicate that the flipped method may work better with older students. The middle-school age students may be too young to self-regulate without heavy support and scaffolds from a teacher. While some students were able to self-regulate, these tended to be the highly motivated ones who would do well with any method of instruction.

The six student case study participants ranged from highly supportive of the flipped method of instruction to disliking it intensely. Most agreed that having less work at home was a positive benefit of the flipped classroom method, and they enjoyed the ability to pause and restart the teacher-made videos. However, several said they disliked having to work on

their own in the classroom without their teachers' normally animated whole-class instruction. As a whole, the six case study students agreed that the flip was an effective strategy for ELA once in a while, but would not support an ELA classroom model that was flipped every day.

The results also indicated that the teacher participants fell "in the middle" in terms of their support of the flipped method, citing their enjoyment of working one-on-one with students but frustrations with large class sizes and assessment issues. The teachers cited the heavy workload prior to the flipped unit as a deterrent, since they spent many hours preparing activities and recording videos for the flipped unit – hours they did not spend in preparing a similar unit on poetry the previous year. Technology considerations were not a hindrance for the teacher participants, who felt comfortable integrating technology in their classrooms and with creating the videos. The biggest hurdles came once the flipped unit was underway and the teachers felt forced to race around the classroom, checking student work, repeatedly answering the same questions, and attempting to monitor the students' behavior. The large class sizes in the school district where the teachers worked made this a significant challenge, and the participants both confessed to feeling exhausted and frustrated by the day's end during the flipped classroom instructional unit. They were unable to speak to every child who wanted to speak with them, and they struggled with the heavy grading load by the time the unit concluded. In addition, one of the teacher participants worried about the students who did not finish all of the required activities and wondered how she should assess the work as she was not comfortable with giving a failing grade to students who did not complete the assignments during class time. She felt that a traditional method of teaching would have

allowed the student more time at home to complete the assignment, rather than the 45-minute block allotted to ELA class. At home, she reasoned, the student could have taken as long as she needed to do the assignment and not been rushed to finish within 45 minutes. Grading work on a time limit was outside her comfort zone.

Both teacher participants, however, said they enjoyed the conversations they had with students in the one-on-one conferences, and they felt they had a much better understanding of who had mastered the material than they would have in a traditional classroom. The two teacher participants said they did not believe the flipped method of instruction was appropriate as an everyday strategy for middle-grades ELA, but rather as a once-in-while strategy for select units of study. The teacher participants' frustration with the one-on-one conferences, as well as the assessment worries, may have been a product of the teachers' inexperience since both had been teaching for less than five years. A more seasoned teacher may have been better able to have "eyes in the back of her head," and monitor the whole class' behavior while working with an individual student at the same time. Since was the teachers' first time using the flipped method, there was a natural learning curve for them. Both teachers said they "might" try the same flipped poetry again next year and that they had learned a few tricks that might make classroom management and assessment easier next time.

Conclusions

Conclusions and the literature

The quantitative findings were quite unexpected, as much of the initial research on the flipped classroom in STEM classes and higher education has indicated that students

enjoyed learning with the method and were engaged by it (Marcey & Brint, 2012; Gehringer & Peddycord, 2013; Johnson & Renner, 2012; Barr, 2013; Johnson, 2006; Jaster, 2013). The results from the MSLQ in this study indicated that overall student engagement decreased during the flip. However, this decrease in engagement corroborates the findings in the Strayer (2007) study, which demonstrated that students in the flipped classroom were less satisfied with the instruction they received and felt less connected to their professor. It also corroborates the findings of Jump (2013), who investigated undergraduate students in a flipped course and found that the participants expressed low levels of satisfaction with the course delivery. It is difficult to position the results on engagement in terms of past research since few studies to date have investigated “engagement” as a clearly defined and operationalized construct and have used the word “engagement” as a loosely understood idea connected to students’ likes and dislikes (Johnson, 2006; Atkins, 2013; Jaster, 2013). However, Jamaludin and Osman (2014) found that 24 undergraduate students were most engaged emotionally by the flipped classroom, followed by behavioral engagement, cognitive engagement, and then “agentic engagement,” which the authors defined as student self-learning. Jamaludin and Osman (2014) did not compare their results to a traditional classroom.

The MSLQ findings support previous research that indicates girls tend to be more engaged than boys in ELA classes in general (Sadker, 2002; Osler & Vincent, 2003). However, most surprising was the quantitative finding that indicated African-American and Hispanic students could be the ethnoracial groups most engaged by the flipped method.

Although the sample size was very small and generalization would be difficult, the finding corroborates research indicating that African Americans and Hispanics benefit from collaborative learning (Strayhorn, 2008; Marshall, 2002; Rivera & Zehler, 1990). Since the culture of these ethnoracial groups is rich in oral tradition and values collective problem-solving (Marshall, 2002), it stands to reason that students who identify with these groups would benefit from an educational strategy that relies on collectivist (Marshall, 2002) activities. In addition, the findings support Engagement Theory (Kearsley & Schneiderman, 1999), which posits that students learn best in a technology environment when the tasks are collaborative. However, the work of some other researchers indicates that all students benefit from collaborative learning within a technology environment (Fahnoe & Mishra, 2013; Manfra & Lee, 2012; Downes & Bishop, 2012), so it is inconclusive to point to the flipped method as a single, “silver bullet” that could engage students of color.

Qualitative findings supported the results of the pilot study (Moran & Young, 2013), as students could not quite decide if they liked the method or not, and most agreed that it was not appropriate as an everyday tool for ELA. Although past research indicates that students have increased self-efficacy in a classroom environment that emphasizes choice (Turner, et al, 2002), it is possible that students in this study did not feel they had much choice – even though their teachers encouraged them to complete activities in any order. The simple fact that they were required to do all activities and did not have choice in terms of which poems to study or which activities to eliminate may have contributed to negative perceptions. However, Perry (1998) found that students were more motivated when put in charge of their

own learning and controlled the challenge level – both components of the flipped unit in this study. The findings from this study do not refute Perry’s (1998) research, but do call into question whether *all* students are motivated by self-pacing.

One explanation as to why students’ interest began to wane as the flipped unit progressed is that the daily use of the flip may have begun to seem less like the familiar construct of “school” as the students understood it. They could operate in this new paradigm for a short while, but switching to this new way of teaching and learning may have challenged their notions of what “school” entailed. In one recent study, students did not like an Advanced Placement U.S. History course that emphasized project-based learning because the course did not resemble “school” as the students believed it should (Parker, et al, 2011). Middle-school age adolescents, in particular, are reticent to accept new academic ideas (Li & Lerner, 2011) and often fall prey to deficit thinking (Okagaki, 2006). This mental attitude and negative disposition, which is the hallmark of early adolescence, could make any new method or tool a hard sell.

The teachers’ efforts at planning flipped instruction was an attempt to incorporate a new tool into their “cognitive strategies toolbox” (Olson & Land, p. 278), but also created additional pressure and stress for them. This increased stress when designing new instruction has been supported in the literature, particularly when it comes to new integration of a technology-based instructional strategy (Spires, et al, 2013; Liu, 2013). The teachers’ comfort with technology, however, seemed less salient in the findings than the class sizes and their difficulties with differentiation. These issues corroborate research on differentiation that

indicates new teachers recognize the need for it, but have some difficulty in implementation (Santagelo & Tomlinson, 2012). It also supports past findings that point to frustration and lowered motivation in teachers with class sizes that they perceive to be “large” (Cakmak, 2009).

Theoretical conclusions

This study’s results loosely support the theoretical ideas proposed by Kearsley and Shneiderman’s (1999) Engagement Theory, which states that students learn best in a technology environment when the tasks are collaborative, project-based, and have an authentic focus. The theory states that technology is a vehicle that helps drive the learning and heighten student engagement, while collaboration and project-based curricula allow students to reach higher levels of cognitive understanding. Students cited the collaborative aspects of the flipped classroom as the most engaging, and several case study participants reiterated that they enjoyed working with their peers. This study, which included several activities and asynchronous learning, did not include a project-based learning component. Although a final project was in the original plans, snow day cancellations forced the teacher participants to rush the end of the unit and eliminate the final project. This may have contributed to the decline in engagement.

Interestingly, few students commented on the technology aspects of the study. Those who did reflected on the advantages of pausing and rewinding the video so as to better absorb the content of the lesson. No students commented on the delivery of instruction via video, the fact that the homework was via video (not papers), or that their teachers made the videos and

uploaded them to YouTube. Instead, the students seemed to take this technology inclusion in stride, perhaps reflecting their general comfort level with technology and their possible status as digital natives (Prensky, 2001), or the fact that their teachers regularly use technology in the classroom. The principles of TPACK (Koehler & Mishra, 2009) were used to design the flipped unit, and perhaps the teachers' full integration of technological, pedagogical, and content knowledge was so seamless that the students were unaware of the addition of technology as a means for instruction.

Finally, Fredericks, Blumenfeld, and Paris's (2004) theories on engagement formed the basis of much of the data analysis and understanding of the results. Dividing the students' reactions into cognitive, behavioral, and emotional subsets allowed for a close and systematic understanding of the most "engaging" aspects of the flipped classroom unit. Field observations revealed that students' emotional engagement was high in the flipped classroom, followed by behavioral engagement, and then cognitive engagement. This corroborates the work of Jamaludin and Osman (2014) -- who also drew on the Fredericks, Blumenfeld, and Paris (2004) framework -- and found that 24 undergraduate students were most engaged emotionally by the flipped classroom, followed by behavioral engagement, cognitive engagement, and then "agentic engagement," which the authors defined as student self-learning. Emotional engagement, as defined by Fredericks, Blumenfeld, and Paris (2004) connects to a students' positive and negative emotions, and these were high in this study as students smiled, laughed, and exhibited positive connections to their peers. Behavioral engagement, which reflects a student's classroom actions, was the next-highest observed construct, as students demonstrated little yawning but some staring into space and reluctance

to move on to the next activity. Cognitive engagement was the lowest observed construct, as students had difficulties staying on task and did not indicate willingness to stretch themselves beyond the required activities. This study did not measure Jamaludin and Osman's (2014) agentic engagement, but this could be an area for future research.

Limitations

The findings of this study are difficult to generalize due to the limitations. Primarily, the method in which the teacher participants chose to flip their classes could be perceived as problematic for some proponents of the flipped method of instruction. Using the flip through stations was, in effect, using two methods at once. Students were expected to complete eight different activities at their own pace, and the primary means of instruction was through the videos. They could complete the activities in any order they chose, as long as they had finished all of them by the end of the three-week unit. This was a mixture of two strategies, and it may have contributed to students' feelings of being rushed and having too much to do. Perhaps providing a video for the students to watch and then completing an activity afterwards would be a simpler procedure.

However, the very real constraints of large class sizes could make even a one-day flip difficult. In the state where the study was conducted, class sizes have no cap, so the teacher participants faced more than 30 students in every class. In addition, the students demonstrated a wide variety of instructional needs, which made conferencing one-on-one with each student very difficult. Class sizes were a significant limitation for this study.

Other limitations included the relative inexperience of the teacher participants. One teacher participant had taught for one year, and the other had taught for two years.

Implementing a new method of instruction that is not traditionally taught in university methods classes may have been difficult for these beginning teachers. Perhaps a teacher with more years would have found ways to navigate the heavy classroom management demands of conferring with individual students while maintaining overall order.

Limitations on the MSLQ have been addressed by Pintrich and DeGroot (1990) in previous literature, but this study was limited by the language used to delineate ethnoracial status. Students were asked to circle whether they were “Caucasian, African American, Hispanic, Native American, or Other.” This ethnoracial choice may have been problematic for some students who did not understand the meaning of “Caucasian” (one student wrote on the survey next to the word Caucasian: “I have no idea what this is”), as well as for students who did not fall neatly into one of the ethnic groups identified by the survey. Students who considered themselves to be from two different backgrounds, for example both African American and Caucasian, had no choice but to mark “Other” – a delineation fraught with negativity and outsider status. It is entirely possible that some of our “others” were students who did not know what the word “Caucasian” meant.

In addition, we did not ask the 7th graders to self-report family income or whether they were eligible for free or reduced lunch, as we felt that they might not know this information or be too embarrassed to report it accurately. In addition, obtaining this information was not part of the IRB permissions. This study’s findings are limited by this lack of information, as understanding access to technology and economic status may help cast a light on which students benefit most from a technologically reliant strategy like the flipped method.

In addition, the study was affected by the students' growing boredom with the method. Although they were excited initially to try something new, they began to audibly groan when they came into the classroom and realized they would spend another day working on their own on their poetry activities. As is sometimes the case with new tools or strategies in the classroom, once the newness factor wears off, students' reactions change.

Other limitations included my own participant-observer status. Although I did not set out to participate in any way, I found myself acting as a guide and mentor for the teacher participants as they implemented the strategy. They often sought my advice on issues they were having, and they used my suggestions to plan the instructional unit. In addition, the students grew used to seeing me in the classroom over the month-long study, and they also began to ask me questions and seek help. I resisted helping them, but I did speak to them and suggested they ask their teacher for further help. A few enjoyed talking to me regularly before or after class began, and I did not discourage this. This changed my status from outsider to more of an insider and may have skewed the students' survey responses, interviews, and my interpretation of their behavior.

Suggestions for Practice

I recommend that middle-school ELA teachers who wish to use the flipped method in their classrooms use the results of this study to tailor their instruction. Based on these results I make the following recommendations for practice:

- Flipping an entire unit probably will yield better results than flipping one lesson.

Learning what this new class dynamic looks like and feels like takes some practice.

For this reason, flipping one lesson could be frustrating. However, the results of this study indicate that students may grow bored with the flipped paradigm over time and come to resist it since it isn't "school" as they know it. Students need scaffolding with the method and an opportunity to try it in small doses.

- Students need to be taught *how* to flip. Students in this study were confused at first and slow to follow the rules. A few stubborn resisters continued to raise their hands for the teachers' attention nearly two weeks into the unit – even though they had been instructed explicitly to write their names on the board for an "appointment" with the teacher. Teachers need to get used to the shift in classroom dynamic, as well. Not delivering whole-class lessons requires a shift in self-perception and identity. The teacher participants in this study confessed to missing their "stage" and the opportunity to address the class as a whole.
- Some accountability for watching the videos is necessary. The teachers in this study asked students to turn in guided notes as evidence that they had watched the video. However, one case study participant (Arthur) revealed that he had simply copied the notes from someone else and that other students did this, as well. The digital tool Educanon (<http://www.educanon.com>) offers teachers the ability to track which students view their videos. We have not tested this tool, but it could offer some measure of better accountability.
- Transitioning to the next activity is tough for students in asynchronous learning. Field observations for this study showed that students were reluctant to move on since there was no teacher standing over them telling them to start the next activity. In addition,

the students' peers often were working on something else entirely, which some found confusing and distracting. Middle school students need a sanctioned break between activities and the opportunity to connect with and talk to a teacher before moving on to the next activity.

- Teachers should consider whether they want to allow students to take home the work that is not finished in class. In this study, the teachers debated the merits of allowing students to take home their work. Field observations revealed that many students did not use their class time wisely and spent much time socializing. However, other students were simply slow workers and had difficulties concentrating in the noisier class environment. Teachers should consider whether students who are unable to finish their work in the class time allotted would be penalized. Differentiated instruction could allow slow workers to tackle activities that are less time-consuming but cognitively challenging. All students should be monitored regularly to see if they are completing work at an acceptable pace. If not, the teacher may want to instruct students to come to class during a free period or lunch.
- Students need to be taught how to collaborate and what it looks like. Students working in project-based environments may be unsure about what collaboration means. Students in this study ranged in ability to collaborate. Some preferred simply working side-by-side, while others understood the value of co-construction and brainstorming. Middle-school students likely will need frequent reminders that they should be discussing the work and not something else.

- Class size is a factor. Students in large classes, such as those in this study, may not benefit fully from the one-on-one instruction inherent in the method. In a class with more than 30 students and only 50 minutes of instructional time, it is virtually impossible to connect fully with each student every day. School systems and administrators who wish for their teachers to use the flipped method of instruction may want to consider class size when advocating for the strategy. Teachers in this study found themselves exhausted and discouraged by their inability to talk to every student who wanted to conference with them. The most successful ELA flips in the literature are in states that mandate smaller class sizes (Gudenrath, 2013), or in private schools (Cockrum, 2012). Legislators or stakeholders who advocate for the flipped method of instruction must first reduce class sizes to more manageable levels.

Areas for Further Study

One of the most surprising and interesting results of this study was the finding that African-American and Hispanic students may be the ethnoracial groups most engaged by the flipped classroom. This is an area for further investigation and could yield information about an important strategy to engage these students. In addition, more research should focus on the engagement and efficacy of the flip between the genders. Even though past research indicates that boys are more comfortable in a technological environment, girls in this study were more engaged by the flipped classroom. Future research that focuses on the specific aspects of the flipped classroom that are engaging to girls, as well as more study to corroborate these results, is needed.

Research that focuses on the age appropriateness of the flipped classroom also is important. In this study, the teacher participants wondered about the ability of their young adolescents to pace themselves. This was not a concern of the teacher participant in the pilot study, which focused on 11th graders. Future research that focuses on the age limits of self-pacing, as well as the developmental appropriateness of the flipped classroom paradigm is needed.

Lastly, more research on the teacher perceptions of flipped instruction is important. The teachers in this study had been teaching for less than five years. Perhaps another study of the flipped classroom with more seasoned teachers would reveal different results. Teacher perceptions, as well as the workload required in designing flipped instruction, is of utmost importance as our educators continue to battle perceptions of ineffectiveness and a culture of distrust. In addition, the current climate of standardized testing may push teachers to adopt the flipped method if it seems to yield higher test results. While we did not test students or measure academic gains in the flipped unit, the teacher participants reported that their students' end-of-unit test scores were about the same as in previous years. More research is needed on whether the flip increases students' content knowledge.

In conclusion, this study barely scratched the surface of the debate over the flipped method of instruction. The results were mixed: Students were polarized in their opinions; the teachers said they fell "in the middle" in their opinions. In addition, quantitative analysis revealed that engagement decreased. Rather than solving any riddles, this study seems to have generated more questions. Yet, as with any new instructional idea or curriculum reform, debate is the name of the game. The teaching of ELA historically has been a holistic

endeavor, subject to teacher nuances and societal influences. It is doubtful that any new method would take the place of the excellent ELA teacher who tailors her instruction to her students, seeks new ways to engage them, and works hard to demonstrate that ELA continues to be relevant in this century. It is important to proceed with caution into this new educational paradigm and act strategically by taking the aspects of the flipped paradigm that work for ELA while leaving the rest. As Hamlet says to Rosencrantz in Shakespeare's *Hamlet*: "...there is nothing either good or bad but thinking makes it so."

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APPENDIX

Appendix A

North Carolina State University INFORMED CONSENT FORM for RESEARCH

Title of Study:

Engaging Digital Natives: A Mixed Methods Study of Flipping the English Language Arts Classroom

Principal Investigator: Clarice M. Moran

Faculty Sponsor: Dr. Carl A. Young

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

What is the purpose of this study?

The purpose of this study is to investigate how interested – or “engaged” – students are in an English language arts lesson when the teacher uses the new flipped classroom method. This method is called “flipped” because the teacher provides a short video for students to watch as homework and then oversees their application of the ideas from the lesson during class. In other words, the homework part that is normally done outside of class is done, instead, inside the classroom. While the lecture or direct instruction that is normally done inside the class is done, instead, at home. The typical classroom structure is inverted or “flipped.” This study will investigate if students in an English language arts class enjoy this method and are able to understand new material without direct instruction. It also will investigate the teacher’s thoughts and feelings related to the method.

What will happen if you take part in the study?

If you agree to take part in this study, you will be asked to administer the flipped classroom method in your English class. The method will be employed for one unit of instruction. A unit is defined as a series of lesson plans related to one topic that takes between two and three weeks. The entire study will take approximately two months. Your participation will take up

to 10 days of instructional time, as well as approximately 10 hours outside of class. You will:

- 1) Explain to your class about the study and distribute informed consent forms.

- 2) Collect the informed consent forms in a folder to give to the researcher.
- 3) Design a unit of instruction that using the flipped method. This will mean that you create videos on instructional topics you want to teach. The unit is your choice. The researcher will help you create the videos in your classroom. The creation of each video will take approximately 30 minutes. The videos will be approximately 5-7 minutes long and be uploaded onto a Private Channel on YouTube, or your classroom website.
- 4) Instruct your class briefly about the flipped method and how to take notes on videos. This will take approximately 10 minutes.
- 5) Assign the videos you created for homework. You will provide the URL link for the video for the students.
- 6) Oversee the students' work as they complete activities connected to the video the next day. This will involve walking around to each student and checking on him/her, as well as answering any questions about the lesson's content. The researcher also will be present while the students are working – both as an observer and as an additional resource.
- 7) Be interviewed by the researcher before, during, and after the implementation of the flipped method.

Risks

There are no direct risks involved in taking part in this research. However, you may perceive that participation will affect your instructional delivery or students' understanding of content. This perceived risk will be minimized by offering students an alternative to watching a video. There is a slight risk that your anonymous opinions on the flipped classroom method will be connected to you. We will take steps to minimize this by keeping all information confidential, removing all names from any data transcription, and keeping all data in a password-protected computer accessible only by the researcher.

Benefits

Your participation will benefit other English language arts teachers and learners who want to understand if the flipped classroom method is effective and engaging. You may benefit directly by gaining a new instructional method that you can use in future classes. You also may benefit directly by acquiring several videos on a unit you want to teach that you can use in future classes.

Confidentiality

The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely in a password-protected computer accessible only by the researcher. No reference will be made in oral or written reports which could link you to the study. You will NOT be asked to write your name on any study materials so that no one can match your identity to the answers that you provide.

Compensation

For participating in this study you will receive a \$100 gift card to a merchant of your choice. If you choose to withdraw from the study before it is completed, you will receive a \$50 gift card.

What if you have questions about this study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Clarice Moran, at (919) 539-7526 or cmmoran@ncsu.edu. Or you may contact the researcher's advisor, Dr. Carl A. Young, at cayoung2@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

Consent To Participate

"I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled."

Subject's signature _____ **Date** _____

Investigator's signature _____ **Date** _____

Appendix B

North Carolina State University INFORMED CONSENT FORM for RESEARCH

Title of Study:

Engaging Digital Natives: A Mixed Methods Study on Flipping the English Language Arts Classroom

Principal Investigator: Clarice M. Moran

Faculty Sponsor: Dr. Carl A. Young

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

What is the purpose of this study?

The purpose of this study is to investigate how interested – or “engaged” – students are in an English language arts lesson when the teacher uses the new flipped classroom method. This method is called “flipped” because the teacher provides a short video for students to watch as homework and then oversees their application of the ideas from the lesson during class. In other words, the homework part that is normally done outside of class is done, instead, inside the classroom. While the lecture or direct instruction that is normally done inside the class is done, instead, at home. The typical classroom structure is inverted or “flipped.” This study will investigate if students in an English language arts class enjoy this method and are able to understand new material without direct instruction. It also will investigate the teacher’s thoughts and feelings related to the method.

What will happen if you take part in the study?

If you agree to take part in this study, you will be asked to participate in the flipped classroom method in your English class. The method will be employed for approximately two weeks. Your participation will take ten class days of instructional time, as well as approximately 20 minutes outside of class. If you are asked to participate in an interview, you will spend an additional 60 minutes talking with the researcher. You will:

- 1) Complete a survey on your motivational strategies and engagement in your teacher’s class called the Motivated Strategies for Learning Questionnaire (MSLQ). This

survey will have 16 questions on it and will take approximately 15 minutes to complete.

- 2) Listen to your teacher's instructions about how to take notes and watch a video. She will give these instructions in the classroom at the normal class time.
- 3) Learn that your homework involves watching a video created by your teacher that is uploaded on the classroom website.
- 4) Watch the video that your teacher assigns. This video will be uploaded to Youtube and the classroom website. You will be instructed to watch this video at home, on your cell phone, or in another location where you have access to the Internet. You will watch this video on your own time outside of class. The video will be created using Jing software, which is a free program downloaded from the Internet. The video will feature your teacher's direct instructions and voice. The video will last approximately 5 minutes.
- 5) Participate in the class activities that your teacher presents the next day. These activities will take place in the classroom during the normal class time. The activities will be directly related to the video. If you have not watched the video, you will have a hard time completing the activities.
- 6) Complete another MSLQ survey about your motivational strategies and engagement with the flipped method.
- 7) If you are selected to participate in an interview, you will meet with the researcher to discuss your feelings about the flipped classroom method. You will meet with the researcher either before or after school in the school's media center. Your teacher will not be present during the interview. The interview will take approximately one hour.

Risks

There are no direct risks involved in taking part in this research. However, you may perceive that participation affects your grade or reputation in your English class. We will take steps to minimize this fear, including reassurance from your teacher that your grade will not be affected. There is a slight risk that you may not understand the concepts or information presented through the flipped classroom model. We will minimize this risk by working with you directly and helping you with any questions on the material. There is a slight risk that your anonymous opinions and survey answers on the flipped classroom method will be connected to you. We will take steps to minimize this by keeping all information confidential, removing all names from any data transcription, and keeping all data in a password-protected computer accessible only by the researcher. We will use pseudonyms and codes on all data.

Benefits

Your participation will benefit other English language arts teachers and learners who want to understand if the flipped classroom method is effective and engaging. You may benefit directly by gaining a deeper understanding of concepts presented during the flipped classroom model that you would not acquire in a traditional model.

Confidentiality

The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely in a password-protected computer accessible only by the researcher. No reference will be made in oral or written reports which could link you to the study.

Compensation

For participating in this study you will not receive any direct compensation.

What if you have questions about this study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Clarice Moran, at (919) 539-7526 or cmmoran@ncsu.edu. Or you may contact the researcher’s advisor, Dr. Carl A. Young, at cayoung2@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

Consent To Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject’s signature _____ **Date** _____

Parent or Guardian signature _____ **Date** _____

Investigator’s signature _____ **Date** _____

Appendix C

Interview Questions and Protocol

Interview Protocol for Students

Thank you for participating in this interview! The purpose of the interview is to hear your thoughts and opinions about the flipped classroom method of instruction. I am going to use a tape recorder to tape the conversation, but I will not reveal your identity in any way. When I write up a report on my results, I may use some of the things you say. However, I will change your name and identifying characteristics (like race/gender), and no one will be able to trace your identity. You should feel free to say whatever is on your mind. After I have finished writing my report, I will destroy the tape. No one will have access to the tape except me – not your teacher.

If you are uncomfortable with the conversation at any time, you may leave. Your participation is voluntary.

Interview Questions for Students:

1. You have just finished the flipped unit of instruction in your language arts class. What did you think about it?
2. Can you think of a time during the flipped unit that you really enjoyed learning? Tell me about it.
3. Can you think of a time during the flipped unit that you really felt unhappy or did not enjoy learning? Tell me about it.
4. Did you tell your parents about the flipped method? What did they think?
5. Have you ever been in a class that used the flipped method? What do you think are the advantages of using the flipped method in a language arts class?
6. What do you think are the disadvantages of the method in a language arts class?
7. Do you think you are more or less likely to be interested in a language arts class that uses the flipped method frequently? Why or why not?
8. Do you think you are more or less likely to participate in a language arts class that uses the flipped method frequently? Why or why not?
9. Do you think the flipped method would keep you from being bored in a language arts class? Why or why not?
10. What do you think your friends would think about the flipped method?
11. Tell me about watching the videos. Was it hard for you to get access to an Internet-enabled device to watch videos?
12. Tell me about the activities in class. Did you watch the videos so that you could do the activities?
13. How would you feel if this entire language arts class was taught only through the flipped method?

14. How would you feel if this language arts class used the flipped method once in a while? For example, on a specific unit.
15. Is there anything else about the flipped method that you would like to share, but I did not ask about?

Appendix D

North Carolina State University
 Institutional Review Board for the Use of Human Subjects in Research
 SUBMISSION FOR NEW STUDIES

GENERAL INFORMATION

1. Date Submitted: <i>April 19, 2013</i>
1a. Revised Date: <i>Nov. 25, 2013</i>
2. Title of Project: <i>Engaging Digital Natives: A Mixed Methods Study of Flipping the English Language Arts Classroom</i>
3. Principal Investigator: <i>Clarice Moran</i>
4. Department: <i>Curriculum & Instruction: Literacy</i>
5. Campus Box Number:
6. Email: <i>cmmoran@ncsu.edu</i>
7. Phone Number: <i>919-539-7526</i>
8. Fax Number:
9. Faculty Sponsor Name and Email Address if Student Submission: <i>Dr. Carl A. Young, cayoung2@ncsu.edu</i>
10. Source of Funding? (required information): <i>self</i>
11. Is this research receiving federal funding? No
12. If Externally funded, include sponsor name and university account number: <i>N/A</i>
13. RANK: <input type="checkbox"/> Faculty <input type="checkbox"/> Student: <input type="checkbox"/> Undergraduate; <input type="checkbox"/> Masters; or xxx PhD

As the principal investigator, my signature testifies that I have read and understood the University Policy and Procedures for the Use of Human Subjects in Research. I assure the Committee that all procedures performed under this project will be conducted exactly as outlined in the Proposal Narrative and that any modification to this protocol will be submitted to the Committee in the form of an amendment for its approval prior to implementation.

Principal Investigator:

Clarice M Moran
 (typed/printed name)

Clarice M Moran
 (signature)

*As the faculty sponsor, my signature testifies that I have reviewed this application thoroughly and will oversee the research in its entirety. I hereby acknowledge my role as the **principal investigator of record.***

Faculty Sponsor:

Carl A. Young
(typed/printed name)

Carl A. Young
(signature)

***Electronic submissions to the IRB are considered signed via an electronic signature. For student submissions this means that the faculty sponsor has reviewed the proposal prior to it being submitted and is copied on the submission.**

Please complete this application and email as an attachment to: debra_paxton@ncsu.edu or send by mail to: Institutional Review Board, Box 7514, NCSU Campus (Administrative Services III). **Please include consent forms and other study documents with your application and submit as one document.**

For SPARCS office use only

Reviewer Decision (Expedited or Exempt Review)

Exempt Approved Approved pending modifications
 Table

Expedited Review Category: 1 2 3 4 5 6 7
8a 8b 8c 9

Reviewer Name
Date

Signature

**North Carolina State University
Institutional Review Board for the Use of Human Subjects in Research
GUIDELINES FOR A PROPOSAL NARRATIVE**

In your narrative, address each of the topics outlined below. Every application for IRB review must contain a proposal narrative, and failure to follow these directions will result in delays in reviewing/processing the protocol.

A. INTRODUCTION

1. Briefly describe in lay language the purpose of the proposed research and why it is important.

During the past decade, there has been a push to measure student engagement (Fredricks & McColskey, et al, 2011) and determine a student’s level of boredom or interest in a particular subject (Fredricks, Blumenfeld, and Paris, 2004). During this same time period, there has been an explosion of digital and online tools available to help increase student engagement and provide a more interesting and dynamic academic environment. Although many English teachers have attempted to incorporate these new technologies into their classroom using an integrated framework, such as TPACK (Koehler & Mishra, 2009), others have simply introduced Web 2.0 tools and Internet use as a type of add-on feature in their curriculum. One of the newest educational trends to enter the digital revolution is the “flipped classroom” (Bergmann & Sams, 2007), so named, because the instructor “flips” the order of instruction by offering a lecture (via video) for students to view at home and then follows up by providing activities in the classroom. Teachers who use this instructional method do so because they believe they are using technology, as well as providing a type of differentiated instruction that allows students to work at their own pace (Fulton, 2012). Popular with science and math teachers, there is virtually no evidence that flipped instruction is effective in an English language arts (ELA) classroom. In addition, current research shows that the method has had mixed success in higher education science and math classes (Johnson & Renner, 2012; Marcey & Brint, 2012; Demetry, 2010; Strayer, 2007; Lage, Platt & Treglia, 2000). There are no published studies on the efficacy of the flipped model in middle- or high-school classrooms or in ELA classrooms.

To address this lack of research, I am conducting a mixed methods research study to determine whether flipped classrooms activate cognitive processes and intrinsically motivate students to learn – in other words, “engage” them (Fredericks, Blumenfeld & Paris, 2004). The study uses the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and DeGroot (1990) to measure engagement. The study will be conducted in a middle school English classroom in order to gauge the effectiveness of the flipped classroom in an ELA environment.

2.

B.

This is a research study to determine student engagement with the flipped classroom method. The study is for my dissertation.

SUBJECT POPULATION

1. How many subjects will be involved in the research?

Estimates or ranges are acceptable. Please be aware that if you recruit over 10% more participants than originally requested, you will need to submit a request to modify your recruitment numbers.

Approximately 200 subjects are involved. They are all 7th grade students.

2. Describe how subjects will be recruited. Provide recruitment materials.

Subjects are members of four 7th grade language arts class in a Wake County middle school, as well as a teacher. The teacher was found through snowball sampling, meaning she was recommended to me by another teacher friend. The teacher will tell her students about the study and will give them the choice to opt out of answering the MSLQ survey questions. She will distribute informed consent forms for the students to take home. However, all students in her language arts classes will receive the flipped instructional method because the teacher is interested in implementing this pedagogical strategy. Subjects will be reminded again via a statement that is read to them that they are allowed to opt out of answering questions on the MSLQ survey and will not be penalized if they do not participate.

3. List specific eligibility requirements for subjects (or describe screening procedures), including those criteria that would exclude otherwise acceptable subjects.

The only eligibility requirement for the study is that the students be members of the teacher participant's language arts classes.

4. Explain any sampling procedure that might exclude specific populations.

Since the students are members of one teacher's classes, other students at the same school interested in learning through the flipped method will be excluded. However, the teacher participant will be trained in using the flipped method and says she will provide support and guidance to her fellow teachers who also want to implement the flip in their classrooms.

5. Disclose any relationship between researcher and subjects - such as, teacher/student; employer/employee.

I do not know any of the student participants and have not met the teacher participant. I do know her assistant principal.

6. Check any vulnerable populations included in study:

x minors (under age 18) - if so, have you included a line on the consent form for the parent/guardian signature

- fetuses
- pregnant women
- persons with mental, psychiatric or emotional disabilities
- persons with physical disabilities
- economically or educationally disadvantaged
- prisoners
- elderly
- students from a class taught by principal investigator
- other vulnerable population.

7. If any of the above are used, state the necessity for doing so. Please indicate the approximate age range of the minors to be involved.

The minors involved are 7th graders and approximately 12-13 years old. It is necessary to use this population, because middle school students are the ones most likely to experience and potentially benefit from the flipped classroom instructional method.

C. PROCEDURES TO BE FOLLOWED

Students will be asked to participate in the flipped classroom method in their language arts class. The method will be employed for one unit of instruction, which will last about two weeks. The entire study will take approximately two months. The students will:

- 1) Complete and turn in consent forms.
- 2) Be observed by the researcher during their traditional classroom instruction for one week. The researcher will sit in the back of the room and observe students as they participate in the traditional instruction.
- 3) Take the MSLQ survey to assess their engagement and motivational strategies during traditional instruction. The survey consists of 16 Likert-type questions and will take approximately 15 minutes to complete.
- 4) Listen to their teacher's directions about how to take notes and watch a video. She will give these directions in the classroom at the normal class time.
- 5) Receive homework instructions that involve watching videos created by their teacher that are uploaded to YouTube and on the classroom website. The homework is a class activity.
- 6) Watch the videos that their teacher assigns. These videos will be uploaded to Youtube and the classroom website. They will be instructed to watch the videos at home, on their cell phones, or in another location where they have access to the Internet. They will watch the videos on their own time outside of class. The videos will be created using Jing software, which is a free program downloaded from the Internet. The videos will feature their teacher's direct instructions and voice. The videos will last approximately 5 minutes. They are part of the class activities.
- 7) Participate in the activities that their teacher presents the next day. These activities will take place in the classroom during regular class time and are the required classroom activities for the day. The activities will be directly related to the videos. If students have not watched the videos, they will be given the opportunity to do so during class time.
- 8) Complete the MSLQ survey again on their engagement and motivational strategies during the flipped method as part of the research study. The survey is not required, and students may opt out of completing it.

9) If they are selected to participate in an interview, they will meet with the researcher to discuss their feelings about the flipped classroom method. Students may decline participation in the interviews and will not be penalized in any way if they choose not to participate. They will meet with the researcher in the media center either before or after school. The interviews will take approximately one hour. The interviews will be audio-recorded by the researcher.

D. POTENTIAL RISKS

1. State the potential risks (psychological, social, physical, financial, legal or other) connected with the proposed procedures and explain the steps taken to minimize these risks.

The risks are minimal. A potential psychological risk is that the students may feel that they must participate in the study in order to please their teacher. This will be minimized by telling students and their parents that their grade is in no way connected to the study. The high school teacher will assure her students that their participation in no way will affect their relationship and that there will be no rewards – intrinsic or extrinsic – for those who participate. Another potential psychological risk is that students may worry about confidentiality of their survey answers or interview comments. Students will be assured through a written statement that their answers are confidential and that all data will be anonymized. Their teacher will not sit in on the interviews, and pseudonyms will be used for all participants. All identifiers will be removed. Students who are worried about the confidentiality may withdraw at any time without any penalties. Another potential psychological risk is that the students may not have access to technology that allows them to view the videos their teacher has posted. Students may be embarrassed by this and fear that other students will learn they have no access. This will be minimized by telling students they may watch the video in class the next day if they are “unable” to watch it for homework

2. Will there be a request for information that subjects might consider to be personal or sensitive (e.g. private behavior, economic status, sexual issues, religious beliefs, or other matters that if made public might impair their self-esteem or reputation or could reasonably place the subjects at risk of criminal or civil liability)?

Students' self-esteem may be damaged if they reveal they do not have access to technology. Students will be asked specifically about their access to technology on the survey and in the focus group. This may be perceived as a personal issue that would reveal their economic status. Students will be assured through a written statement, as well as comments from the researcher, that their answers and reflections are confidential.

- a. If yes, please describe and explain the steps taken to minimize these risks.

This will be minimized by keeping all answers confidential and allowing students to opt out of the study or focus group at any time.

3. Could any of the study procedures produce stress or anxiety, or be considered offensive, threatening, or degrading? If yes, please describe why they are important and what arrangements have been made for handling an emotional reaction from the subject.

Students may feel stress or anxiety related to trying a new instructional method. The unconventional approach may cause some students to worry or fear repercussions if they do not (or are unable) to watch the video. This will be minimized by providing paper copies of the instructional materials, as well as computers in the classroom.

4. How will data be recorded and stored?

- a. How will identifiers be used in study notes and other materials?

Data will be recorded and stored on a password protected computer, which will be kept in a locked room only accessible to myself. I will not share the password with anyone else. Identifiers will be destroyed. All data will be anonymized. Pseudonyms will be used, as well as codes on surveys.

5. If audio or video recordings are collected, will you retain or destroy the recordings? How will recordings be stored during the project and after, as per your destruction/retention plans?

Audio recordings will be used to record the words of the interview participants. They will be downloaded and then transcribed onto a password-protected computer and stored there.

6. Is there any deception of the human subjects involved in this study? If yes, please describe why it is necessary and describe the debriefing procedures that have been arranged.

N/A

E. POTENTIAL BENEFITS

This does not include any form of compensation for participation.

1. What, if any, direct benefit is to be gained by the subject? If no direct benefit is expected, but indirect benefit may be expected (knowledge may be gained that could help others), please explain.

The participants may benefit directly by gaining a deeper understanding of concepts presented during the flipped classroom model that they would acquire in a traditional model. In addition, an indirect benefit to the participants is that they will help other English language arts teachers and learners who want to understand if the flipped classroom method is effective and engaging.

F. COMPENSATION

Please keep in mind that the logistics of providing compensation to your subjects (e.g., if your business office requires names of subjects who received compensation) may compromise anonymity or complicate confidentiality protections. If, while arranging for subject compensation, you must make changes to the anonymity or confidentiality provisions for your research, you must contact the IRB office prior to implementing those changes.

1. Describe compensation

N/A

2. Explain compensation provisions if the subject withdraws prior to completion of the study.

N/A

3. If class credit will be given, list the amount and alternative ways to earn the same amount of credit.

N/A

G COLLABORATORS

1. If you anticipate that additional investigators (other than those named on **Cover Page**) may be involved in this research, list them here indicating their institution, department and phone number.

N/A

2. Will anyone besides the PI or the research team have access to the data (including completed surveys) from the moment they are collected until they are destroyed.

No one else will have access to the data.

H. CONFLICT OF INTEREST

1. Do you have a significant financial interest or other conflict of interest in the sponsor of this project? NO

2. Does your current conflicts of interest management plan include this relationship and is it being properly followed? N/A

I. ADDITIONAL INFORMATION

1. If a questionnaire, survey or interview instrument is to be used, attach a copy to this proposal.
2. Attach a copy of the informed consent form to this proposal.
3. Please provide any additional materials that may aid the IRB in making its decision.

Appendix E

Motivated Strategies for Learning Questionnaire

Your teacher is participating in a study on teaching methods. We would like to ask for your participation in the study. As part of the study, you will be asked to fill out a questionnaire related to your motivation and learning in this class. **YOUR PARTICIPATION IS VOLUNTARY AND NOT RELATED IN ANY WAY TO YOUR GRADE IN THIS CLASS.**

You may decide to participate now but you can withdraw from the study at any time with no penalty. All your responses are strictly confidential and only members of the research team will see your individual responses.

The attached questionnaire asks you about your study habits, your learning skills, and your motivation for work in this class. **THERE ARE NO RIGHT OR WRONG ANSWERS TO THIS QUESTIONNAIRE. THIS IS NOT A TEST.** We want you to respond to the questionnaire as accurately as possible, reflecting your own attitudes and behaviors.

Your name:

Your gender: (circle one). Male Female Prefer not to say

Ethnic background (circle one).

African-American Asian Caucasian Hispanic Native American Other

The following questions ask about your motivation for and attitudes about this class. Remember, there are no right or wrong answers, just answer as accurately as possible. Use the scale below to answer the questions. If you think the statement is very true of you, circle 7. If a statement is not at all true of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

1	2	3	4	5	6	7
not at all						very true
true of me						of me

1. In this class, I prefer course material that really challenges me so I can learn new things. 1 2 3 4 5 6 7

2. Getting a good grade in this class is the most satisfying thing for me right now. 1 2 3 4 5 6 7

11. When I study for this class, I go through the readings and my class notes and try to find the most important ideas. 1 2 3 4 5 6 7

12. I work hard to do well in this class even if I don't like what we are doing. 1 2 3 4 5 6 7

13. I make simple charts, diagrams, or tables to help me organize material. 1 2 3 4 5 6 7

14. When the work for this class is difficult, I give up or only study the easy parts. 1 2 3 4 5 6 7

15. When I do the work for this class, I go over my notes and jot down ideas and important concepts. 1 2 3 4 5 6 7

16. Even when course materials are dull and uninteresting, I manage to keep working until I finish. 1 2 3 4 5 6 7

Please write down anything you would like to tell us about this class.

Appendix F

Survey on Flipped Class Instruction (USED IN PILOT STUDY)

Please answer the following questions first:

1. Did you watch the videos your teacher assigned for homework?
 Yes No
2. On a scale of 1 to 10 – with 1 being the lowest and 10 being the highest – how effective do you think watching a video is as a form of instruction? Write your number:

Instructions: Please check one level of agreement for each statement to indicate how you feel.

1. I enjoy learning with the flipped method of instruction.
 Strongly Disagree
 Disagree
 Undecided
 Agree
 Strongly Agree
2. I do not like receiving instruction through the flipped method.
 Strongly Disagree
 Disagree
 Undecided
 Agree
 Strongly Agree
3. I will be able to learn more material if my teacher uses the flipped method.
 Strongly Disagree
 Disagree
 Undecided
 Agree
 Strongly Agree

4. I concentrate better on the lesson when I watch an instructional video for homework.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

5. I enjoy watching videos very much.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

6. I would work harder if I could learn through the flipped method more often.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

7. I know I can learn many new things when my teacher uses the flipped method.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

8. I enjoy watching an instructional video for homework.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

9. I enjoy the chance to work on my own in class.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

10. I believe that the more often teachers use the flipped method, the more I will enjoy school.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

11. I believe that it is very important for me to be able to learn through video lectures.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

12. I feel comfortable with learning through the flipped method.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

13. I get a sinking feeling when I think of learning through the flipped method.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

14. I think that it takes a longer amount of time to learn when my teacher uses the flipped method.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

15. Learning through the flipped method makes me nervous.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

16. Using the flipped method is very frustrating.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

17. I will do as little work as possible when my teacher uses the flipped method.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

18. Learning through the flipped method is difficult.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

19. Independent learning does not scare me at all.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

20. I can learn more from a live lecture in class than from a video at home.

- Strongly Disagree
- Disagree
- Undecided
- Agree
- Strongly Agree