

Tearing Down the Classroom Walls: Analyzing the Effects of Interdisciplinary Team Teaching

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Purpose/Rationale

While some school districts and enterprising principals have begun to blur the lines between grade levels, most students in the American educational system still compartmentalize their twelve compulsory years of schooling into three distinct units: namely, elementary school (kindergarten to fifth grade), intermediate or middle school (sixth to eighth grade), and high school (ninth to twelfth grade). Among the myriad institutional changes that students experience as they proceed through this system are a steady increase in the number of teachers that they see in a day, as well as the number of subjects that are taught. While elementary school teachers often take a generalist approach, creating units that incorporate multiple disciplines and teaching them to a small, stable community of students, high school teachers see themselves as specialists in narrowly-defined subject areas, which they teach in great detail to revolving groups of students during the school day.

Multiple reasons exist for the increasing diversification of the school day as students move through intermediate and high school – the sheer volume and depth of material that society has determined that high school graduates must possess, standardized testing, socialization, etc. – but as I moved through the hectic 45-minute, eight period days at the high school at which I teach and observed my frazzled students, I began to wonder if perhaps the elementary school model should not have been abandoned after all. I teach at ACORN Community High School, a 9-12 public high school in Crown Heights, Brooklyn that serves approximately 660 students. Approximately 80% of our students are African-American, 20% are Hispanic, and 82.5% are eligible for free lunch. We have struggled in recent years to work our way off of New York City’s Schools in Need of Improvement (SINI) Lists in Math and English Language Arts as our students’ standardized test scores have improved, but we are still striving for improvements in day-to-day student engagement and achievement. The great majority of our students who pass their classes and exams do so with mediocre grades that indicate a lack of motivation or deep understanding of the subject matter. I wanted to discover whether the nature of the high school day contributed to this malaise.

The high school students at ACORN Community High School, like millions of others throughout the country, spend their days bouncing from classroom to classroom and subject to subject, transitioning rapidly from one discipline to another with little time to breathe, let alone eat lunch. One of my students described this process as the constant switching on and off of different parts of his brain, which seems to be an accurate metaphor for the effect compartmentalization of education seems to have on learners and which I have depicted in Figure 1.

Figure 1: The High School Student's Brain

Chemistry	English	Math	Economics
Health	History	Biology	Government

I have come to believe that this disjointed schedule creates students whose grasp of subject material is limited to disconnected pieces of knowledge. They have little or no sense of a bigger picture, of the interplay between disciplines and the need to grapple with an interconnected society. Students in my senior Advanced English classes could not articulate how or why the historical moment in which a novel is written affects our interpretation of it. My juniors preparing for their state exams had a difficult time when trying to write formal essays about non-fiction science texts. In terms of Bloom's Taxonomy, my students were stuck at the levels of Knowledge and Understanding in specific subject areas, but unable to reach the highest levels of Synthesis and Evaluation across disciplines. Because of this troubling realization, I decided that I had to approach my teaching in a different way in order to assist my students in developing higher-order critical thinking skills that would serve them across all subject areas and in life outside of the classroom. In order to do so, I had to find a way to change the rhythm of the high school day and tear down the walls that had been erected between disciplines.

One of my colleagues from the History department, Benjamin Honoroff, shared my interest in interdisciplinary instruction and was willing to start an experiment with me in creating a new kind of class at ACORN. With the support of our principal, Ben and I decided to create a combined Advanced Placement English and United States History course for motivated seniors that would explore the deep thematic connections between these subjects – my choice of novels was based on the chronology of our country's history, and Ben's teaching of the names, dates, and facts of history was placed within the context of universal themes of American literature. Instead of creating two separate 45-minute classes, we scheduled our classes in back-to-back time slots to create continuous 90-minute blocks; we then alternated days so that our students saw each of us every other day in a simulation of the college experience. We made sure that each of us was free during the other's class for purposes of observation and collaborative teaching, and we met on a daily basis to plan, grade, and discuss the progress of our students and the course. Our hope was that our manipulation of the subject matter and the daily schedule would create conditions under which our students could begin to break down the barriers between subjects in their minds and think more critically about the world around them.

Research Question

To implement my research, I formulated the following question:

- Does interdisciplinary collaborative planning and teaching affect students' critical thinking skills and teacher creativity?

Review of Literature

Legters, Nettie E. "Teacher Collaboration in a Restructuring Urban High School" (1999)

- Interdisciplinary team teaching increases teacher collaboration and collegiality within the school environment, which in turn improves student engagement and achievement

Legters, McDill and McPartland, "Departmentalized Schools" (1993)

- Interdisciplinary teacher teams create a more intimate and positive student-teacher climate in which students feel personal attention and are motivated to succeed.

Tools

I faced a daunting task when determining how to measure the effects of an entire year-long course since I was not simply seeking quantitative data but also evidence about the way interdisciplinary instruction influenced the workings of my students' minds and the level of creativity and morale which both Ben and I brought to our teaching as a result of this unique arrangement. The tools that I found most useful were student surveys, classroom field notes, planning meeting minutes, and classroom assignments.

Student Surveys

I asked each of my students to complete a mid-year and end-of-year survey to elicit their reflections about the combined course. Both surveys were identical. This allowed me to determine if opinions had changed over the course of the school year. Students were asked to reflect upon their work ethic, enjoyment of the course, learning potential, the 90-minute blocks, the combined teacher planning, and the relationship of English to History.

Classroom Field Notes

I kept detailed field notes throughout the school year on the happenings in my classroom and Ben's classroom, focusing specifically on what students said during discussions and the questions they asked of each other and of us. I was most interested to discover whether students could articulate the connections that they were making between the disciplines of English and History. I was also looking for indications that students were thinking critically at the highest levels of Bloom's Taxonomy.

Planning Meeting Minutes

7. How do you feel about having 90-minute blocks on alternating days instead of 45-minute classes of English and History each day? Explain your response.
8. Do you think that the combined planning of Ms. Mirra and Mr. Honoroff has an effect on the courses? If so, what kind? If not, why not?
9. Do you think that the subjects of English and History share similarities? If so, what do they share? If not, what makes them separate?
10. Throughout your high school career, have you taken any courses that combined the study of more than one subject? If so, describe the course.
11. Have you found similarities in the ideas explored in AP English and AP History so far this year? If so, explain some of these ideas.
12. What activities in AP English or AP History have encouraged you to think critically about issues and themes in humanities?

These were the results:

The students clearly felt a difference between what was expected of them academically in this course compared to past courses, and were willing to put in the extra effort to reach the higher levels of Bloom's Taxonomy. Some data:

- 100% of students responded that they are working harder in both AP English and History than they did in past English and History courses
- 100% of students responded that they are learning more in both AP English and History than they did in past English and History courses
- 95% of students responded that they are enjoying AP English and History more than their past English and History courses.
- 100% of students responded that they had never before taken a course in high school that combined the study of more than one subject

The students were challenged by the 90-minute blocks, but appreciated being treated like college students and felt that they were able to accomplish more and with more depth than they would have been able to do otherwise. Some quotes from the students:

“I feel that this was a challenging experience; I had to manage my time more effectively and with more effort. I am glad that I did this, now I feel like a stronger student and person.”

“It's cool, I enjoy getting closer to the college experience.”

“I feel it's more fulfilling for the students because we have more time to finish our thoughts.”

“I feel having 90-minute blocks is better, because you focus more on the subject for less days of the week.”

The students were very aware of the amount of time that Ben and I spent planning together and were appreciative of our efforts; they felt a connection between the activities in each class and knew that there would always be a sense of continuity. Some quotes from the students:

“I think the planning has an effect because everything falls into place more. It all connects to everything we do in class.”

“It makes it more engaging because you can learn about the connections between History and English.”

“It does have an effect. By keeping both classes close to the same time period it’s easier for students to stay focused.”

The students found many similarities in the ideas explored in AP English and History. Some quotes from the students:

“The Salem Witch Trials in The Crucible with the Red Scare and McCarthyism.”

“Slavery in textbooks with slavery in Song of Solomon”

“American Dream through Andrew Carnegie and The Great Gatsby”

Classroom Field Notes

There were countless moments throughout the school year when one of my students would make a comment that showed a clear and explicit connection between the disciplines of English and History. These were small ‘Eureka!’ moments that made all of the hours of hard work and planning and grading worthwhile. These were the moments that let Ben and me know that we were slowly but surely making a difference in our students’ thinking processes and breaking down the barriers between subjects that keep students from fully utilizing their critical thinking capabilities. These were moments when a student would say, “You know, this reminds me of what we talked about in History yesterday...” They often came at unexpected times, which made them even more exciting because it showed that students were seeing similarities that Ben and I had perhaps not thought of or made explicit in our teaching.

The forum in which the most valuable and lasting connections were made was the interdisciplinary Socratic Seminars that Ben and I would convene at least once per marking period. Socratic Seminars are whole-class discussions that grapple with a complex, thematic essential question through the study of texts and the back-and-forth of questioning that builds toward a greater understanding. As teachers, Ben and I would spend hours developing seminars that would reach the thematic heart of the unit we were studying, but during the actual discussion we were only facilitators, allowing the students to wrestle with the ideas themselves. We would always choose two texts, one primary source from the realm of history, and one short piece of literature, with which to start the discussion and then watch in wonder as students ran with each other’s ideas and reached the highest levels of Bloom’s Taxonomy, truly evaluating positions and formulating positions on a myriad of issues. (see Figure x)

Following is an outline of one of the best of our 90-minute Socratic Seminars, which used Andrew Carnegie’s The Gospel of Wealth and F. Scott Fitzgerald’s The Great Gatsby to explore the notion of the American Dream in our society from the 1920s to today

Figure X: Socratic Seminar: Are we dreaming the right dream? Critiquing the Validity of the American Dream

Opening Quote: "In every well-governed state wealth is a sacred thing; in democracies it is the only sacred thing." Anatole France

Core Questions:

1. What did Carnegie think was the ideal distribution of wealth in society based on his Gospel of Wealth?
2. Do you agree with Carnegie's ideas on the distribution of wealth in society? Why/Why not?
3. If you disagree with Carnegie's vision of the ideal distribution of wealth, what would your ideal distribution of wealth look like?
4. How would you accomplish this vision? What policies would be needed to make it a reality?
5. Think about your feelings towards Gatsby and then think about your goals and dreams. Are you trying to do what he did, or do you reject his values?
6. If you do reject his values, what does this rejection look like for society?
7. With the way our society is set up in terms of distribution of wealth, will the quest for the American dream always leave us with winners and losers? Is that okay?
8. Are we dreaming the right dream? Is Gatsby the model for the future?

Concluding question: Are we dreaming the right dream? Is the American dream a desirable dream? Should we have another dream?

Planning Meeting Minutes

During the school day, Ben and I shared one 45-minute common-planning period, which was the only school-sanctioned time during which we could plan and grade together for our course. We obviously realized soon enough that this was simply not enough time to get anything substantial done, and so we started meeting before and after school as well. By the end of the year, we were virtually attached to each other; we spent countless hours thinking, talking, arguing, and laughing about this course and our students. Our students would jokingly call us "Mom" and "Dad" and were truly amazed at how quickly word spread from one of us to the other about what they had said or did in class on any given day. We found that the only way to truly make a class like ours work in an environment such as ours in which the 90-minute interdisciplinary block was not the norm was to work at it constantly. Since this was a new venture, we had the freedom to change aspects of the course along the way to meet our needs and the needs of our students. We would often tweak the assignments that we made and their due dates in order to accommodate a particular activity that the other teacher was doing, and we were always a team when speaking to students about their progress or when tutoring them in their areas of need.

From reviewing the notes of our meetings, both Ben and I can honestly say that the experience of creating and implementing this course was one of the most professionally and personally rewarding experiences of our tenure at ACORN Community High School. The level of sophistication that our students reached in their spoken and written discourse in our subjects motivated us to become better teachers and served as a healing balm when we were feeling beaten down by the maddening bureaucracy of the school system or the crushing inequalities in urban education. So much of a teacher's life is spent in isolation behind the closed classroom door, and we both felt that our creativity and productivity flourished because of the constant support and motivation that our teamwork provided. We cannot imagine teaching in a purely traditional way again – it could never produce the same feeling of joy in us that we have experienced as a result of this experience.

Classroom Assignments

The most concrete record of the hours of planning that we put in for this course can be found in the assignments that we created and the work that students turned in to us in response. Students that were interested in taking our course were required to complete a summer assignment before reporting to school in September. Ben and I worked hard to create an interdisciplinary reading and writing assignment that would prepare students for what they were about to experience. As part of our summer project, students had to read Arthur Miller's play The Crucible and a chapter from Howard Zinn's People's History of the United States, as well as additional primary sources, and write a 5-page research paper investigating the Salem Witch Trials of the 1690s and the Red Scare of the 1950s. We thought that students would experience difficulty with this assignment since they had not previously been asked to produce anything like it, but we were amazed when the first day of school arrived and they handed us papers of surprising depth and thoughtfulness. We wanted to reward their hard work with equally thoughtful grading, and so we spent a great deal of time producing individualized grading slips for their first marking period grades so that they would fully understand their strengths and weaknesses.

Following is the summer assignment and some examples of our grading slips. (see Figures 3 and 4)

Figure 3: AP English/History Summer Assignment

This summer you will be exploring the work of Arthur Miller, a man who has been described as perhaps the greatest American playwright of all time. He has been credited with expressing the hardships of the common man in our society and creating “the American tragedy.” One of Miller's most famous plays is The Crucible, a fictional retelling of the events of the Salem Witch Trials of 1692. While this play takes place in Puritan New England, it was written in America in 1953, in the midst of the Red Scare and McCarthyism. You will be interpreting how the Red Scare influenced Miller as he wrote The Crucible.

A crucible is a bowl-shaped container in which substances are heated and purified.

Miller uses this concept of purity in a very different way in his play to explore how corrupt people's souls can become under certain circumstances. As you read the play, think about hysteria and how people act differently than they normally would when in a mob situation. Consider the following quote:
"It is *imaginative* terror Mr. Miller is here invoking: not the solid gallows and the rope appall him, but the closed and suffocating world of the fanatic, against which the intellect and will are powerless."

-Richard Hayes, Hysteria and Ideology in The Crucible

In a 5-page double-spaced research paper, you will use The Crucible to explore the theme of hysteria and mob mentality – how far people are willing to go out of fear and lust for power. In your paper you must not only discuss how the book deals with these themes, but also compare and contrast the historical details of the Salem Witch Trials and McCarthyism. What do you think allowed these events to occur? How can The Crucible shed light on these issues?

You will be reading a chapter from Howard Zinn's People's History of the United States about McCarthyism that you must use as a source in your paper. You must also include at least 2 other sources (books, articles, etc.) that explore the actual Salem Witch Trials and Arthur Miller's personal connection to McCarthyism.

Be sure to balance your discussion of the play with discussion of history – don't ignore one or the other. This is a very political play, so that shouldn't be a problem. Your essay is due on the first day of school. If you do not complete the assignment on time you will be at risk for being dropped from the class. Remember the contract you signed – this is your first challenge.

In previous years when teaching The Crucible, I had asked students to examine the theme of mob mentality by doing a close reading of the text itself, but I had never explicitly included the parallels of 1950's McCarthyism in the discussion. I found that by combining the study of these two time periods, students were able to offer sophisticated analysis of themes that recur continuously throughout history and find connections between the life of Arthur Miller and the subject matter that he chose to write about. Students earned justifiably high grades for clearly exercising their brains as opposed to simply regurgitating information from the text.

Figure 4: Grading Slips

Henry – You are definitely one of the students that I was most looking forward to teaching in AP because I wanted to provide you with a new intellectual challenge. Throughout the first marking period I feel that you have diligently tackled every paper and assignment with remarkable thoughtfulness, care, and determination. Your foundational writing skills are strong, which allows me to really focus on your ideas and how we can move them forward. Your papers are consistently in the upper-B range, and I feel that with more guidance in writing AP-style essays and engaging with literature at a college level, your writing will gain the complexity that will make you successful on the

<p>AP test and in college courses. I'd like to hear your opinions more often in class – you have great ideas to share. 85</p>
<p>Jamaal – I have been impressed with your critical thinking skills throughout the first marking period – your ability to see different viewpoints on controversial issues and articulate your beliefs (could it be from debating? ☺). For example, the strongest parts of your summer paper were when your analysis on current issues took center stage. I can always count on you for class participation, though at times I am frustrated when you quickly complete a task and start to zone out. I feel that what you need to work on the most in your writing is adopting a more formal tone and using evidence in your papers as you would in a debate round. The best paper that you wrote all marking period was the timed essay, so I know that you can get good ideas out under pressure – I just want you to maintain an open mind about literature and keep your confidence up when faced with an assignment you can't immediately ace (like the sonnet essay). 80</p>
<p>Shannon – I am very happy to see your writing improving as the marking period progresses; I feel that you got off to a slow start with your first position paper on John Proctor, but that since then you have been thinking much more critically about what we are reading and making more of an effort to grasp very difficult ideas. I can see during class that you are fighting for deeper understanding and that it can sometimes be frustrating. I think that you should look at this process positively - as an expansion of your mind instead of a roadblock stopping you – and don't give up when you aren't sure of what to say. The ideas are there, and we are just working on ways to get them out in a formal, structured way. Since you are so consistent with doing your homework (except the sonnet essay), I can see only more improvement as long as keep working and thinking hard. 75</p>
<p>Anicka – I feel that I'm still trying to get to know you and your style of writing as the second marking period begins – you got off to a bit of a slow start with your summer essay and the first position paper on John Proctor that you didn't turn in. I see it as a very good sign, however, that you were able to improve an entire letter grade with your rewrite – it shows me that you grasp the deep ideas and are just working toward making your writing more sophisticated (and that's what I'm here to help with!). In the assignments that you have done since then I have noticed that you have the structure of essay writing down but are still developing in your ability to create a complex thesis and then back it up with evidence from texts – we are going to keep working on this. I would like to hear from you more often in class because I know you have good ideas, and be sure to keep up with the reading. 70</p>

By the end of the school year, our students accomplished more than many freshman-year college students, and Ben and I graded them just as we would have if we were college professors. We were very stingy in terms of giving out A's, and while the grades that are students earned were slightly lower than they would have been if they had taken less challenging senior-year classes, they appreciated them much more than the easy A's that they had earned previously. The final grades of our students are given in Figure 5.

Figure 5: Final Grades

Student	Grade
1	90
2	90
3	75
4	80
5	85
6	65
7	85
8	85
9	75
10	85
11	75
12	85
13	80
14	75
15	75
16	90
17	80
18	85
19	80
20	85

Analysis

My data suggests a strong correlation between interdisciplinary instruction and student engagement and achievement. Just as Legters, McDill and McPartland proposed, I found that working with Ben in a teacher team created a positive classroom culture in which rigor and challenge were the norm that students were excited to work toward and achieve; as soon as students entered our classroom, they knew that they would not be able to rely on their past compartmentalized framework of education, but would be encouraged to make thematic connections across time periods and modes of expression. The responses that we received from our cross-curricular assignments and projects showed us that with the appropriate support and instructional strategies, students were able to reach beyond the levels of Knowledge and Understanding in Bloom's Taxonomy toward the highest levels of Synthesis and Evaluation. I do not feel that students would have made the same progress in finding common threads across disparate academic disciplines without the institutionalized structure of the alternating 90-minute blocks; this structure, along with the united front that Ben and I presented, pushed students to re-evaluate how knowledge could be presented and analyzed and where similarities could be found. They were no longer content to be passive receptacles of information, floating by with mediocre grades and sitting in classes without understanding their relevance; they

strove to achieve college-level competence in reading, writing, and discussion, which is the dream of any high school teacher.

I also found that, as Legters discussed in her study of a restructuring urban high school, interdisciplinary team teaching leads to more collegiality within the school environment and professional satisfaction among the participating teachers. The pride that Ben and I felt for this course is written all over our data; this project truly became a source of personal happiness as well as the most rewarding professional venture that I ever could have imagined. I grew more as an educator by working with Ben than I ever could have if I had continued working in isolation, and I truly believe that this type of cooperative instructional model should be implemented by urban schools as a way to provide professional support to educators and reduce teacher burnout. Superior lesson plans are produced through interdisciplinary planning, but I believe that the most crucial benefit to this practice is the development of a forum for professional conversations about children. Our students were aware of how much time and effort Ben and I put into planning creative lessons for them and talking about their progress, which created the kind of bond between all of us that does not exist enough at the high school level of education in the country.

While the overwhelming professional and personal joys that I experienced from the creation and implementation of this course lead me to advocate its replication across departments and schools, I am well aware of the challenges that many educators may face in adapting this type of project to their particular institutional structure. Ben and I were fortunate to enjoy a productive working relationship with our principal, without whose support in terms of programming and resources this program could never have been successfully implemented. Within a traditional 8 period per day, 45 minutes per period bell schedule in a small school, it was quite difficult for us to schedule our classes back-to-back and ensure that we were both able to take our professional planning period at the same time. If our principal had not made it a priority to make the programming work and to provide us with financial support for books, field trips and professional development opportunities, it would have been difficult, if not impossible, for Ben and I to keep this project afloat.

Our project also could have been derailed if Ben and I had not had a naturally productive working relationship and mutual willingness to put in long hours after school and on weekends, often unpaid, to collaborate on everything from book selections to project creation to assignment scheduling. While I believe that effective professional development about team-teaching can assist teachers in creating this type of symbiotic relationship, I must admit there is a component to successful sharing of instructional responsibilities that must evolve organically between educators from a place of passion for students and the subject matter. If teachers are forced to work together without careful consideration of shared instructional methodologies and personality traits, this type of course could easily become a miserable failure.

In order for an interdisciplinary program to be effective, the school must make a commitment to drastically alter the traditional school day and to deal effectively with the natural resistance that many teachers may feel to opening their doors to the curious and sometimes critical gaze of other educators. Teachers must be willing to try new strategies and adapt their styles to those of others, which is understandably difficult for many in dysfunctional urban systems who cling to their way of doing things as a defense

mechanism against the dizzying revolving door of new policies passed down from policy-makers far from the classroom. While the challenges are many, a strong commitment to interdisciplinary education can be the perfect opportunity for teachers to feel true empowerment in the classroom and create the kind of learning community that today's students need to navigate the 21st century world.

Policy Recommendations

- High schools should implement grade level teams so that teachers from different disciplines are encouraged to share their best practices and find commonalities between subjects that can be implemented into units of study
- Teachers who are interested in creating collaborative courses should be given institutional support in terms of scheduling flexibility, professional development, and paid planning time
- High schools should implement authentic, portfolio-based assessment that requires interdisciplinary thought
- Formal state assessments (i.e. Regents Exams) should be interdisciplinary and conceptual in nature as opposed to subject-specific, and should focus not merely on knowledge and understanding, but on the highest levels of Bloom's Taxonomy

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