

## If You Require It, Will They Learn from It? Student Perceptions of an Independent Research Project

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ALTHOUGH MOST TEACHERS BELIEVE that “students should write at least one in-depth paper during high school,”<sup>1</sup> the independent research paper is disappearing from high school curricula in the face of two competing pressures: the need to prepare for high-stakes tests and student “senioritis.” In 2002, William Fitzhugh of the *Concord Review* found that 62% of high school history teachers no longer assign papers of more than 3,000 words. Results from the 2006 High School Survey of Student Engagement revealed that 78% of high school seniors wrote no more than three papers longer than five pages in length; furthermore, nearly a quarter wrote *no* papers of this length during their final year in high school.

The lack of rigorous academic experiences in high school contributes to what Martha McCarthy and George Kuh call “a substantial gap”<sup>2</sup> and what Michael Kirst calls “a disconnect”<sup>3</sup> between the senior year of high school and postsecondary education. Indeed, nationally, more than half of the students enrolling in college require remedial courses in many subjects, including English,<sup>4</sup> and a significant number of recent high school graduates report feeling under-prepared to meet the expectations of college or the workforce.<sup>5</sup> In many high schools, the senior year has become “a blow-off time,”<sup>6</sup> and too many students leave high school without knowledge of how to conduct research or write an in-depth analytical paper.

Although research has drawn attention to the skills and knowledge students lack when they enter college, we do not yet know how effective the independent research project is as a tool for redressing these deficiencies. Data on academic effects of research projects are limited. Indeed, few studies have addressed independent research projects or term papers specifically.

Reported here are the results of a study that investigated the benefits that students perceive in conducting an independent history research project in their senior year of high school. The study asked: What do students conducting historical research and analysis say they learn from working on these projects? One purpose of this research is to determine whether students recognize a unique benefit associated with the independent research above and beyond the benefits they perceive from an otherwise rigorous curriculum.

### **The Extended Essay**

The project that serves as the site of this inquiry is a required component of the International Baccalaureate (IB) Diploma Program, a curriculum designed for students aged sixteen through eighteen. In order to earn the prestigious IB diploma, students must complete an extended essay, which entails approximately forty hours of work and culminates in a 4,000-word research paper. Essays are assessed by trained outside examiners using established rubrics, and they are worth up to three points towards the twenty-four that students must amass to earn the IB diploma.

According to the IB Organization, “participation in [the extended essay] process develops the [student’s] capacity to analyze, synthesize, and evaluate knowledge” and helps students learn to “formulate an appropriate research question, communicate ideas, and develop an argument.”<sup>7</sup> The general guidelines further explain that one function of the project is to acquaint “students with the independent research and writing skills expected at university”<sup>8</sup> and that another is to help students learn to conduct research within the jurisdiction of a particular subject area by familiarizing them with different disciplinary conventions.

The project is designed to build on what students learn in the Theory of Knowledge class about different areas of knowledge and ways of knowing by encouraging them to use their essays to reflect on the creation of knowledge in a particular subject area. This expectation is manifest in the different assessment criteria each subject area publishes as an addendum to the general extended essay rubrics. While two-thirds of the points an extended essay can earn come from general assessment criteria, such as the approach to the research question and the formal presentation, one-third

of the points comes from subject assessment criteria. In history, these criteria include evaluation of historical sources, demonstration of historical knowledge and understanding, selection and application of historical information/evidence, and competence in critical analysis and historical judgment. This study investigates whether students identify similar learning outcomes to those intended as a result of their work on the extended essay assignment.

### **Research Methods**

One hundred thirty-eight students in the 2006 IB cohorts from eight American high schools participated in this study. The eight schools included one private school; two schools serving suburban, affluent communities; and three schools serving urban, low-income communities. Although the participants were a self-selected group of high-achieving and highly motivated students, they were diverse socioeconomically and culturally. Forty-seven percent of the participants were male; 40% were white; one-third reported that their mothers had not completed an education beyond high school and another third reported that English was not the primary language spoken in their homes.

The participants completed two surveys—one during the fall of their senior year and one in the spring, once their extended essays were completed. The surveys inquired into their goals for, perceptions of, and attitudes towards the extended essay project.

In addition, eight case study students from two different schools were selected for periodic in-depth interviews. The eight students all completed extended essays in history. In each of the five interviews I conducted with these students, I asked them to reflect on what (if anything) they were learning from doing their extended essays. Following qualitative data analysis conventions, I coded these responses, along with any other mention of knowledge or skills gained.<sup>9</sup> I then developed questions based on these codes for the final spring survey administration.

### **Findings: What Students Say They Learn**

When I asked Juan, a Mexican, first-generation college hopeful, what question he thought I should put to students if I wanted to understand their experiences with their extended essay, he responded, “You should ask: Has that person learned from what he’s worked on? I guess that should be the goal.” Though many of the IB coordinators and advisors I interviewed and the officials at the International Baccalaureate Organization would agree with Juan’s assessment of the purpose of the extended

essay assignment, only 57% of the students surveyed admitted that they initially approached the project with learning-oriented goals, and only 59% viewed the extended essay as an opportunity to learn about a topic of interest. In spite of their initial goals and views, did students actually learn something from having to do the assignment?

The eight case study students' responses to Juan's question tended to fall into seven different conceptual categories that included learning about the following items: their topic, writing, researching, taking initiative, time management, subject area, and themselves. I review each of these categories briefly below.

### *Learning About the Topic*

Students most frequently spoke about learning content related to their topics when asked to describe what, if anything, they were learning from working on their extended essays. For example, Lucinda commented, "I've definitely learned a lot more about women's suffrage. Like before this, I actually had no idea that they had had a minor split in the party, so I've definitely learned a lot also about the people that were involved." She went on to discuss the details she was learning about such historical figures as Elizabeth Cady Stanton, Susan B. Anthony, and Lucy Stone. Other students were similarly motivated to relate anecdotes and share details related to their topics when asked to reflect on what they were learning from this assignment.

### *Learning How to Write a Long Paper*

Students were also quick to point to the writing skills they felt they were honing as they worked on their extended essays. Michael mentioned that he learned about how to use headings and subheadings to organize the content of his paper. He explained:

It might have been the first time I wrote a paper in which the style was freer. It's not that it's free, but we're just so used to the essays with paragraphs, but I mean, you're not going to have a ten page essay [with] no headings, all paragraphs, 'cause no one would want to read it.

Similarly, Bill described learning during "the writing phase" about "organization and how to structure things better within your essay." In fact, he asserted that he "improved [his] writing skills" and "that was probably the most valuable thing I learned—how to better write an essay." Many students commented that they had never before written a paper of this length, so simply completing a 4,000-word paper boosted their confidence in their writing skills.

### *Learning How to Conduct Research*

Several of the respondents commented that they learned how to conduct research as they worked on their extended essays. Rachel felt that she was learning “wonderful research skills” as she worked on her extended essay. She described learning “new techniques or tricks” for “book-marking” and organizing information on her computer and using post-it notes to flag important passages in books. Like other students, she felt she had developed a “unique system” that worked for her. She also mentioned learning how to use the “snowball technique” to locate additional sources:

When I was looking through one of the books, they kept referring to this book that Rehnquist had wrote, and it seemed really relevant 'cause it talked about civil rights during wartime. I went and got the book, and sure enough it had a chapter that was really relevant to my topic.

Rachel went on to discuss how she has been able to apply the research skills she learned from the extended essay to other school projects. Because of the techniques she had learned for navigating the library system, she found it “really easy” to find sources for a history paper she had to write later in the term.

Michael identified the research skills as the most unique benefit of doing an extended essay:

The research was the hardest part for me because we don't usually do something like this ... It's really different to have to go to the library and use almost solely books as the source, and especially the in-depth analysis of the sources was really different. So I think the research is the biggest change in the usual routine of writing all these papers we do in school, and so I think that's the part that makes the extended essay stand out the most for people. And I think it's good that we do something like that, too, and I wish that we had done more things like that.

Although not every respondent expressed as much enthusiasm as Michael, most identified the research techniques they learned from working on their extended essays as valuable.

### *Learning How to Take Initiative and Manage One's Time*

Some students' responses covered such themes as learning time management and learning to take initiative. Phillipa, for example, indicated in our second interview that she had learned that doing the extended essays requires motivation and the “will to keep moving on.” She continued, “I mean it's okay to let it sit for a week, but if you let it sit for a month or two, you may be completely out of the loop, and you may feel totally disconnected with the project.” Phillipa learned the importance of momentum not only in sustaining interest, but also in building knowledge. In our final

interview, she returned again to this lesson. She reflected that if you take too long a break from your extended essay, “then you don’t know where to start again or you forgot what you were doing last time you worked on it. Or you’ve read something or you wrote something down two weeks ago, and then it doesn’t make sense anymore.” When asked what advice she would give to juniors just beginning their extended essays, she said, “to do time management.”

### *Learning About the Subject Area*

Another theme that emerged in the interviews concerned learning about the discipline of history. Rachel spoke about identifying and analyzing the biases of her sources when asked what she thought IB wanted to see in a history extended essay: “For a historian, at least what IB is trying to teach us, is that the most important thing is that you have to be, you have to try to be as unbiased as you can.” She described using the origin, purpose, value, limitation (OPVL) technique to show that “you’re aware that there are limits” and “you’re aware that there are so many perspectives.” For Rachel, a successful extended essay in history will not just “develop ideas through evidence [and] come up with some conclusions,” but also scrutinize the stance of each of its sources.

Where Rachel recalled the history extended essay rubric’s emphasis on the interrogation of historical sources,<sup>10</sup> Bill remembered its insistence on demonstrating critical analysis and historical judgment. He noted, “IB wants a lot of analysis in terms of any subject that they do.” For history, Bill believed this meant “deciding what causes what and what might happen in the future because of something in the past.” Bill observed that historians interpret and make connections between historical events. Accordingly, from his point of view, a successful extended essay in history would not just report facts, but also link them in an interpretive framework.

### *Learning about One’s Self*

Finally, students occasionally mentioned learning something about themselves as they worked on their extended essays. When asked what he had learned from the extended essay in our fourth interview, Robert described the exercise as good preparation for college. I asked what lessons in particular he would apply in college, and he responded:

Well—and it’s not just from this essay—it’s procrastination overall that’s something I’m going to have to work on in college. When I think to myself, “Hmmm, imagine if I didn’t procrastinate,” I think I could do an even better job. And that’s something I hope to do in college. I could definitely use this as an example to learn from.

**Table 1: Student Self-Reports of Amount Learned**

Scale from “Nothing at all” (1) to “A great deal” (5)  
 N=138

Item	Range	Mean (Standard Deviation)
Topic	1-5	4.08 (0.97)
Writing	1-5	3.69 (1.18)
Research	1-5	3.57 (1.13)
Subject Area	1-5	3.47 (1.02)
Initiative	1-5	3.12 (1.18)
Time Management	1-5	2.96 (1.17)
Yourself	1-5	2.92 (1.21)

Juan said one of the things he learned from doing the extended essay was “that I’m interested in studying people’s cultures.” He anticipated that he would pursue this interest in college through coursework in anthropology and history.

*From Coding to Counting: Quantifying the Self-Reported Learning Outcomes*

Based on the seven conceptual bins that emerged from my coding of the interview data, I added seven questions about learning to the final survey. Students used a five-point scale that ranged from “nothing at all” to “a great deal” to indicate how much they felt they had learned about time management, taking initiative, conducting research, writing a long paper, their topics, their subject areas, and themselves.

According to the survey results, students felt they learned the most about their topics and the least about themselves from the extended essay assignment. The mean scores for the seven learning outcomes are presented in Table 1.

Of the 138 students who participated in the final survey, 53 (38.4%) felt that they had learned “a great deal” about their topics and 57 (41.3%) felt they had learned a “good amount” about their topics, compared to only 4 students (2.9%) who indicated they had learned “nothing at all” about their topics. Sixty-two percent of the students surveyed felt they had learned either “a great deal” or “a good amount” about how to conduct research and about how to write a long paper from the assignment. Smaller percentages of students ranked their learning about themselves or about time management at the higher end of the Likert scale, with 34.8% using “a good amount” or “a great deal” to describe their learning on the former outcome, and 30.4% using these assessments for the latter.<sup>11</sup> Nonetheless,

even on these items, very few students marked that they had learned “nothing at all.” Only 17% of the respondents reported learning “nothing at all” about time management and 14% reported learning “nothing at all” about themselves from working on their extended essays. These percentages fall to the single digits for learning outcomes like research, writing, subject area, and topic. The distribution of students’ responses on all learning outcomes confirms that most students believed that their extended essays had helped them to learn skills and develop knowledge.

While only half of the respondents indicated that they had held learning goals as they worked on the project, that is, learning was something that was important to them, 91% of the respondents indicated they had learned a good amount or a great deal about at least one of the seven learning outcomes. In other words, many of them felt they had learned despite themselves.

Very few significant differences in student self-reported learning outcomes emerged among the schools’ programs. In fact, for the two most popular learning outcomes, topic and writing, no statistically significant differences distinguished the programs. These results suggest that, with regard to the extended essay, institutional differences, programmatic differences, and implementation differences did not have a powerful effect on student perceptions of the amount they learned from doing this assignment. Of course, *how* they articulated what they were learning and evidenced it in their work did vary according to their engagement in the project as well as the training and support they received; however, analysis of such variation is beyond the scope of the current article.

In the end, 80% of the students saw the process of doing an extended essay as useful. In fact, 40% indicated a willingness to undertake something equivalent to the extended essay in college because they felt independent research had some value.

### **Discussion and Implications**

The data from this study show that the vast majority of students did feel they learned something of use from having worked on the extended essay. Even in the face of initial resentment or skepticism, most of the students did come to see the independent research undertaking as a valuable exercise.

As the case study students revealed, some students even felt they developed skills and gained knowledge that they otherwise would not have because of the project’s unique features. Because they could choose their own topics, many of them chose to investigate subjects that truly interested them. Because they had not written papers of this length before, they

learned how to structure (and produce) a coherent 4,000-word paper. Some commented on the new research strategies they learned while working on their essays and others noted that, because they had to decide on their own “when to work on it,” they developed stronger time management skills.

These data offer a warrant for maintaining or reinstating the independent research paper in the high school curriculum, particularly within history. It is not just teachers and curriculum designers who recognize the value of requiring students to conduct research and write up the findings; it is also students. Heading into college, the students in this study felt confident and well-prepared by virtue of having completed an extended essay.

This study also draws attention to the usefulness of asking students to account for and articulate what they are learning. Students have unique and important insights to offer into their own experiences of learning. In some cases, their own accounts of what they know and understand can paint a more accurate picture of what they have actually learned than can seemingly objective measures of learning, like tests. Furthermore, what students say they know and understand, especially when consequences are not tied to their comments, is what they will draw from in their later educational experiences. Asking students to reflect on their learning, then, can be a helpful exercise for teachers because it allows them not only to monitor and evaluate student understanding, but also to tailor subsequent instruction and support.

Certainly, the students in this study were a self-selected group, who chose to challenge themselves with the rigorous IB curriculum. It would be worthwhile to replicate this study with seniors who have not elected to participate in the demanding IB or Advanced Placement programs; however, doing so would first require high school history or English teachers to include in their senior year curricula an independent research project or a research-based term paper.

As prevalent as senioritis might be, (indeed, even IB students became afflicted), it seems to be the case that most high school students want to leave high school well-prepared for college or the workplace. A study by Achieve, Inc.<sup>12</sup> found that only one in five high school graduates agreed that they were challenged by their high school’s academic expectations, but four out of five said that they would have worked harder in high school if they had been challenged with tougher standards and higher expectations. Requiring an independent research project might be one way to raise expectations, develop students’ writing and researching skills, build their knowledge about a topic and field of interest, and engage them in academic work that they will see as useful.

## Notes

I thank Milbrey McLaughlin, Sam Wineburg, Denise Pope, and Richard Osberg for their suggestions and feedback on earlier drafts of this essay.

1. Paysha Stockton, "The Paper Route," *Education*, *Boston Globe*, 31 October 2004.
2. Martha McCarthy and George Kuh, "Are Students Ready for College? What Student Engagement Data Say," *Phi Delta Kappan* 87, no. 9 (May 2006): 664-669.
3. Michael Kirst, *Overcoming the High School Senior Slump: New Educational Policies* (Washington, D.C.: Institute for Educational Leadership and the National Center for Public Policy and Higher Education, 2001).
4. Michael W. Kirst and Andrea Venezia, "Undermining Student Aspirations," *National CrossTalk* 11, no. 2 (Spring 2003).
5. Achieve, Inc., *Rising to the Challenge: Are High School Graduates Prepared for College and Work?* (Washington, D.C.: Achieve, Inc., 2005).
6. David Conley, "Rethinking the Senior Year," *The National Association of Secondary School Principals Bulletin* 85, no. 625 (May 2001): 26-41.
7. International Baccalaureate Organization, "Description of Diploma Programme," <<http://www.ibo.org>>.
8. International Baccalaureate Organization, *The Extended Essay for First Examinations in May 1999* (Geneva, Switzerland: International Baccalaureate Organization, 1998).
9. Barney G. Glaser, *Theoretical Sensitivity: Advances in the Methodology of Grounded Theory* (Mill Valley, CA: Sociology Press, 1978).
10. The first of the four history assessment criteria, historical sources, evaluates the candidate's awareness of "the value and limitations of the sources used, with detailed reference to particular sources, their usefulness and reliability;" International Baccalaureate Organization, *Extended Essay*, 83.
11. The differences between the highest three and the lowest three learning outcomes may be explained by the baseline knowledge of the IB students. IB students may choose extended essay topics about which they know only a little, but they may already feel that they know about themselves and about how to manage their time. After all, without such knowledge, succeeding in the IB program would pose quite a challenge.
12. Achieve, Inc., *Rising to the Challenge*.