

A Formative Evaluation of a High School Student Assessment Process

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Background

Senior Project emerged from a larger national movement to improve American high schools. Over the last few decades there has been growing concern that high schools have not kept pace with economic and social change and fail to adequately prepare all students for college or the workplace. In seeking solutions to this problem, a number of education authors promoted the idea of a performance assessment that integrates school work and “real world” work. Ernest Boyer, in his book *High School*, stated that strengthening traditional high school courses was not enough to connect students to the world of work or higher education. A new vision was needed to join the disciplines to the real world (1985). Ted Sizer (1992) also described the need to integrate the secondary curriculum and for students to participate in a Graduation by Exhibition that focused on a culminating set of skills (<http://www.essentialschools.org/>). His vision resulted in the Coalition of Essential Schools. Many of these schools have implemented the concept of a Graduation by Exhibition process. Jacqueline Ancess and Linda Darling-Hammond (1993) wrote about the need to associate the academic and the vocational at the secondary level and extend students’ knowledge and skills in both areas.

These concerns, and others, were highlighted in two reports published by the National Commission on the High School Senior Year (2001, 2001). The purpose of the commission was to closely examine students’ experiences in the last year of high school and recommend ways to improve them. The reports outlined the commission’s findings and recommended ways to make the senior year more rigorous and productive. Its recommendations included:

- Reshape the senior year to ease students' transition from high school to postsecondary education and the world of work
- Provide options for service- and work-based-learning for credit
- Require a senior project demonstrating a student's capabilities for research, creative thinking, rigorous analysis, and clear written and oral communication

Senior Project provides a means for implementing the recommendations. Senior Project is a culminating assessment for 12th graders. It consists of a research paper on an approved topic of student choice, a product and portfolio related to the research paper, and a presentation before a review panel of judges. Senior Project incorporates the skills of researching, writing, presenting, planning, decision-making and time management. It showcases student skills, introduces students to the community, and helps prepare students for college or the workplace.

Students select topics that are both a personal area of interest and a learning stretch; a school committee then approves the topic. Students complete an eight- to fifteen-page research paper that includes primary and secondary sources. They develop a related product or project that requires a minimum of least 15 hours of work. They create a portfolio that documents the Senior Project process and includes entries on their mentoring experiences and product development. Most Senior Project programs have a strong mentoring component, and teachers and community members serve in this capacity. Students' speeches are based on their papers and products, and are usually seven to 10 minutes in length. Speeches are graded by a group of judges drawn from the community and the school faculty. At every step of the way, students are provided with

program guidelines and support. Students are assessed on every component of Senior Project and also have numerous opportunities to critique their own work.

There are a variety of benefits associated with Senior Project. It often becomes a self-evaluation activity for schools. That is, by analyzing Senior Project student work, educators can upgrade their school programs so students will be more adequately prepared for their postsecondary experiences. Participating students have acquired new skills—especially planning, research, writing, speaking, time management, work-related, and interpersonal—and more self-confidence (Bond, S., Egelson, P., Harman, P., and Harman, S., 2002). Many have developed more focused career plans (*ibid*)—their Senior Projects having allowed them to confirm or reject tentative career paths—and some have been offered scholarships or jobs. Graduation from a Senior Project school may also positively impact a student’s chances of being accepted to the more selective institutions of higher education (Taafe, 2001).

Senior Project is an increasingly popular program. Five states—Hawaii, North Carolina, Pennsylvania, Rhode Island, and Washington—have approved new high school exit standards that include some type of Senior Project requirement. A recent Wall Street Journal article reported that nationally over 750 high schools have implemented Senior Project programs.

As Senior Project’s implementation has spread, though, its definition has become blurred. A 2002 study surveyed all high schools in North Carolina about their participation in Senior Project and found that, while nearly one-third of the schools reported implementing the program, 27% of those self-reported Senior Project schools required less than the four components. Some required only a research paper, or a

portfolio and presentation, but still called it “Senior Project” (Egelson, Robertson, & Smith, 2002). This finding illustrates concerns voiced by college admissions officers in a 2001 survey, who liked the idea of Senior Project but worried about a lack of program consistency across schools (Taafe, 2001). They wondered how they could use Senior Project participation as part of a student’s college admissions process when there wasn’t a consistent definition of the program.

In response to these findings, the researchers developed a certification process to verify that schools’ Senior Project programs meet certain minimum standards for comprehensiveness and rigor. The process employed a 24-item “Yes Test” intended to ensure that schools are faithfully implementing Senior Project (see Appendix A). As part of the certification process development, the researchers pilot tested the process between the 2003-2003 and the 2004-2005 school years at six high schools with established Senior Project programs.

Methodology

The pilot schools were spread throughout the eastern United States, one each in the states of Massachusetts, Mississippi, North Carolina, and Rhode Island, and two in Florida. The pilot test was conducted at 4 schools in 2002-2003 and at 2 schools in 2003-2004. The researchers were familiar with five of the schools from their previous work with Senior Project, and invited them to participate. The sixth school heard about the pilot and contacted the researchers to volunteer. The schools wanted to be part of the study, viewing it as an honor to participate and beneficial to the schools in that they

received data about their Senior Project programs at no charge. The schools were fairly diverse in their grade span, student size and demographics, and locale:

2002-2003 Pilot Schools

School	School type	Grade span	# of students	Student demographics	Title I school	Locale
A	Regular	9-12	1,859	69% White, 29% Black, .8% Hispanic, .8% Asian, .4% American Indian	No	Rural
B	Vocational	9-12	635	87% White, 7% Black, 4% Hispanic, 1.5% American Indian, .5% Asian	Yes	Urban fringe of mid-sized city
C	Regular	K-12	1,093	81% White, 10% Hispanic, 5% Asian, 3% Black, .4% American Indian	No	Rural
D	Regular	9-12	1,051	86% White, 8% Hispanic, 3% Black, 2% Asian, .1% American Indian	No	Urban fringe of mid-sized city

2003-2004 Pilot Schools

School	School type	Grade span	# of students	Student demographics	Title I school	Locale
E	Regular	9-12	1,786	78% White, 15% Black, 7% Hispanic, .9% Asian, .1% American Indian	No	Urban fringe of mid-size city
F	Regular	9-12	718	77% White, 22% Black,	No	Urban fringe of

				.5%Hispanic		mid-size city
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Prior to the pilot test, the Yes Test underwent extensive review from experienced Senior Project coordinators and subsequent revision. The researchers then developed interview and data-gathering protocols based on the Yes Test. The researchers wanted to interview only those educators who were actively involved in Senior Project, so they excluded those who were not. Also, prior to the visit, they asked each school for a list of all seniors and randomly selected 15 to participate in the student focus groups and to provide research paper and portfolio samples. In May 2003, two staff members made site visits to the 4 initial pilot schools and conducted trial runs of the certification process. Each site visit took a full day. Following the site visits, each school was assigned to a staff member who had made the site visit and they assumed responsibility for writing the final report.

Data sources

Data for employing the “Yes Test” rubric came from the following sources:

- Interview with the Senior Project coordinator(s)
- Interview with the principal
- Focus group interview with 6 to 8 faculty members who are actively involved in Senior Project
- Focus group interviews with 15 randomly selected 12th grade students
- The selected students’ Senior Project portfolios and papers

- Copies of the Senior Project student handbook, selected students’ research papers, faculty Senior Project handbook, memos, and newspaper clippings, and
- The National Center for Education Statistics website and the respective state departments of education websites (for general school background information)

Results

The pilot test produced two kinds of results: school results, in terms of certified or not certified and why, and process results, in terms of how well the certification process worked and what changes needed to be made.

School results:

- Two schools (A & B) met all but three requirements
- School C failed to meet four requirements, and School D failed to meet seven

The requirements most commonly not met (2 or more schools failed to meet them) were:

- #7—There is an approval process in place to ensure a “rigorous learning stretch” for all students
- #13—A minimum of 3 standardized verification documents are applied to a student’s product. Examples include student logs, photos of product development, student self evaluations, and mentor sign-off of hours
- #22—A parent permission form and a liability waiver are on file for each participating student
- #24—Students participate in self-evaluation of their Senior Projects. See Appendix A for complete school results

Process results:

The lessons learned from the pilot test include:

- The researchers should provide interested schools with a detailed pre-certification self-evaluation form to use to determine their readiness for certification
- A school's Senior Project program must be established for at least two years prior to requesting certification
- The researchers should establish minimum requirements for the research paper and portfolio (see Appendix B)
- A school's Senior Project program must receive a "Yes" on all 24 criteria to be certified
- The researchers should create a certification report template
- The certification report should provide specific details about how the school can improve in the areas that failed to meet the requirement
- A school may "bank" its Yeses for up to one year following the certification report while it corrects its Nos, and then receive certification. Evidence of correction should be mailed or emailed and follow-up conference calls between the school and researchers are usually required
- Senior Project certification is good for four years
- A site visit is required. The process should not be done via phone, email, or mail
- While a two-member site visit team is ideal, the process may satisfactorily be done by one person

- The certification process requires three staff days per school. This helps establish pricing

The researchers made the changes suggested by the process results and then conducted the pilot test at 2 additional schools in May 2004. Originally, the researchers had planned to develop a Level II Certification process, and these 2 schools were to be part of the Level II pilot, achieving the initial certification first and then piloting the Level II process. The researchers subsequently decided not to go ahead with the development of Level II, and used the results from these two schools to further refine the certification process. Additional results from these schools:

School Results:

- School E failed to meet four criteria
- School F met all of the certification requirements

Process Results:

- Two additional criteria were needed: 1) “There is a Senior Project Community Coordinator” and 2) “Policy related to cheating and plagiarism is in writing and distributed to seniors and their parents.” (See Appendix C for the final version of the Yes Test)

Conclusions

The pilot test results confirmed that the Senior Project certification process was fundamentally sound, but needed several changes. These changes were implemented and

the process has since been conducted at four additional schools. Application of the Senior Project certification process on a large scale could have a number of implications.

Certification can establish a minimum standard for Senior Project programs that can raise the level of the program nationally and enrich the experience of the students involved.

Certification can make a student's Senior Project participation an important consideration in the college admissions process. This consideration would represent a greater recognition of Senior Project's value and, in turn, could lead to further expansion of the program. Finally, by ensuring that schools claiming to "do" Senior Project actually have a solid Senior Project program, certification can help direct state rewards, such as North Carolina's incentives for best Senior Project programs, to deserving schools.

References

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Taafe, W.R. (2001). *Senior Project college admissions survey*. Greensboro, NC: SERVE.

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Appendix A

Original Senior Project Certification Yes Test

Criteria	Yes (schools)	No (schools)
1. There are four Senior Project components – the research paper, product, portfolio, and presentation.	ABCDEF	
2. Senior Project participation includes 90% or more of seniors who will be receiving a diploma.	ACDEF	B
3. A Senior Project information meeting is provided to seniors and their parents each year.	ABCDEF	
4. A Senior Project orientation is provided to new faculty and staff each year. (This may be a part of the overall school orientation.)	BCDEF	A
5. A Senior Project handbook is given (or is available online) to each participating student each year.	ABCDEF	
6. There is a Senior Project coordinator.	ABCDEF	
7. There is an approval process in place to ensure a “rigorous learning stretch” for all students.	ABEF	CD
8. 80% faculty and school administrators are involved in at least one component of the Senior Project program. (Examples of participation include scoring the research paper, serving as an advisor, judging products or presentations and/or coordinating and/or participating in an activity associated with Senior Project.)	ACDEF	B
9. Training or adequate directions are provided to individuals scoring any component of Senior Project. (This includes background information about the Senior Project program, general instruction on how to score the specific component, and information about the rubric.)	ABCEF	D
10. Representative work samples for each component of Senior Project are available to students, parents, faculty, and the community.	ABCDEF	
11. Benchmarks are being established for grades 9-11.	ABCDEF	
12. These Senior Project components - paper, product, and presentation are scored using a school/district-based standardized rubric.	ABCF	DE
13. A minimum of 3 standardized verification documents are applied to a student’s product. Examples include student logs, photos of product development, student self evaluations, and mentor sign-off of hours.	ABEF	CD
14. Boards for judging presentations include at least 3 individuals. These individuals represent both the community and the faculty.	ABCEF	D
15. The school evaluates the Senior Project program each year, and the results are used to improve the	BCDEF	A

program.		
16. If the Senior Project coordinator is a teacher, he or she receives a regular planning period. In addition, he or she also receives designated release time or adjusted responsibilities and/or a stipend/supplement for serving as the Senior Project coordinator.	ABCDF	E
17. There are safety nets available to students who are unsuccessful with various components of Senior Project. (An example of a safety net is the opportunity to redo a Senior Project component before the close of the school year.)	ABCDEF	
18. Continuous professional development that complements the Senior Project process is offered to educators in the school. Professional development activities include scoring the various components of Senior Project, collegial reading on related Senior Project topics, benchmarking, creating exemplary research papers, products, portfolios and presentations.	ABCDEF	
19. Participating students have equal access to the school's resources. Examples include faculty expertise, technology, and the media center.	BCDEF	A
20. The use of computer technology is integrated into two or more components of a student's Senior Project.	ABCDEF	
21. For districts that have more than one high school participating in Senior Project, there is a school level or district-level contact person.	ABCDEF	
22. A parent permission form and a liability waiver are on file for each participating student.	ABF	CDE
23. Senior Project students select mentors who have specific knowledge and are non-relatives.	ABDF	CE
24. Students participate in self-evaluation of their Senior Projects.	ABEF	CD

Research Paper Guidelines For Assessors

Holistically categorize the papers' focus/ content being reviewed.

- Research paper categories Career exploration
 Biographical
 Historical
 How-to
 Informative
 Position paper drawing a logical conclusion based upon information (includes a thesis statement)
 Other:

To assess the complexity and depth of the research papers, the categories below are holistically assessed: Yes=consistent evidence of attributes; No= lack of consistent evidence of attributes. The key is to recognize but ignore isolated examples and look for a consistent, overall pattern of evidence addressing each broad category. (Note: attributes to be considered holistically within the broad categories are listed under each category.) You may circle attributes that appear to be generally weak overall. However, in keeping with holistic scoring practices each paper is not specifically assessed in each area.

School name: _____ **Student number:** _____

Assessment Guidelines			
			<p>RESEARCH FORMAT: (use the school's style sheet as a guide)</p> <ol style="list-style-type: none"> 1. Title page is correctly formatted 2. Works Cited/ bibliography correctly formatted 3. Works Consulted correctly formatted 4. Citations within text consistently correctly formatted 5. Pagination correctly formatted 6. Other:
Yes	No	NA	<p>Notes:</p>
Information Literacy Attributes			

			<ol style="list-style-type: none"> 1. Demonstrates the use of a variety of types/ kinds of resources. 2. Demonstrates use of some current information, published within last 5 years 3. Demonstrates the ability to determine source credibility, reliability 4. Demonstrates the ability to sort and select appropriate information via comparison of Works Cited and Works Consulted 5. Demonstrates a conscientious integrity and ethics in regard to consistent citing practices 6. Other:
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Yes	No	NA	Notes:
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Guidelines: Writing Skills

			<ol style="list-style-type: none"> 1. Thesis/ controlling idea clearly present in introduction and summary 2. Writing demonstrates acceptable use of conventions: punctuation, spelling, capitalization, grammar, usage, paragraph breaks, organization 3. Writing represents acceptable word choice 4. Writing represents acceptable fluency/ idea flow / use of transitions 5. Writing indicates use of voice, personalization 6. Writing quality indicates attention to careful, detailed editing 7. Other:
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Yes	No	NA	Notes:
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Research Content Attributes

			<ol style="list-style-type: none"> 1. Introduction provides audience ‘hook’ 2. Thesis/ controlling idea contained in the introduction and wrapped in conclusion 3. Body of information ties to thesis 4. Supporting information clearly relevant, not extra padding of material 5. Transitions clearly link/ connect supporting information 6. Identifies/ uses basic and unique resource(s) 7. Information clearly supports the thesis/ controlling idea with clarity 8. Information presented represents ability to balance effectiveness with efficiency (Adequate depth vs. breadth) 9. Information presented goes beyond common, routine topic knowledge. 10. Differentiates among fact, opinion, propaganda or bias 11. Demonstrates ability to manipulate/ organize information logically 12. Demonstrates awareness of accuracy of information 13. Other:
Yes	No	NA	Notes:
Evidence of Research Complexity: <i>knowledge, understanding, critical thinking, application and synthesis</i>			

		<ul style="list-style-type: none"> (Note: this area <i>does not</i> impact certification but indicates increased level of overall student skills on a complex and sophisticated level.) <ol style="list-style-type: none"> 1. Draws clear connections between thesis/ controlling idea and significant, interrelated ideas 2. Relates the information to prior knowledge 3. Identifies points of conflicting or disagreeing information 4. Paraphrases cited information largely using student language rather than text or source language. 5. Includes use of the following: student generated metaphors, diagrams, statistics, analogies, charts, pictures, graphic organizer to explain, enhance, support content 6. Includes student generated inferences, insights drawn from information provided 7. Uses key concepts, facts, principles, vocabulary in non-stilted context 8. Information represents a broader perspective rather than an isolated focus 9. Provides an analysis/ defense of the value or worth of the thesis 10. Addresses actively the relevance of the thesis/ controlling idea Differentiates between cause and effect. 11. Demonstrates a conclusion involving reflective, thoughtful rethinking. 12. Indicates a personalization to the research process via voice, choice, style 	
Clearly Evident	Emerging Evidence	Not Yet	Notes:

The overall assessment of the examined research papers is _____
 _____ for this high school. (Proficient, Not Yet)

Proficient: Most of the papers examined demonstrated a competent student skill level. *Though some of the skills lacked consistent application, the work overall met the required standards.* Contents revealed an awareness of the importance of detail, the requirement of solid research writing, and demonstrated a concern about thoroughness and completion. Though few papers examined contained elements that exceeded expectations, work was consistently acceptable and competently represented a proficient student skill application.

Not Yet: Most of the papers examined represented an inconsistent skill level. Some of the work demonstrated focus and skill application while much of the application was uneven or incomplete. Consistent evidence of attention to detail, completeness or thoroughness was missing. Discrepancies found within the content were common. *Though work examined exhibited a basic understanding of the process and the purpose, the total effect was one of skill awareness rather than focused, proficient application.*

Portfolio Guidelines For Assessors

School name: _____ Student number: _____

1. Major Portfolio Areas	Proficient	Not Yet
Research Paper	_____	_____
Project Description	_____	_____
Board Preparation or Planning	_____	_____
Student Logs	_____	_____
Verifications	_____	_____
Self-Evaluation(s)	_____	_____
Self-Reflections	_____	_____
Letter of Intent	_____	_____
2. Presentation Focus	Proficient	Not Yet
Table of Contents	_____	_____
Organization	_____	_____
Thorough/ Complete	_____	_____
Neat	_____	_____
3. Pride of Ownership Focus	Proficient	Not Yet
Student Voice/ Student Choice	_____	_____
Attention to Detail	_____	_____
Use of Graphics/ Layout	_____	_____
Enhancements	_____	_____
Careful Editing	_____	_____

Proficient: Most of the portfolios examined demonstrated a competent student skill level. Though some of the skills and content lacked consistent depth and/ or skill application, the work overall met the required standards. Contents revealed an awareness of the importance of detail, addressed the major components in a proficient manner, demonstrated attention to presentation skills and represented pride of ownership. Thoroughness and completion of content was evident.

Not Yet: Most of the portfolios examined represented inconsistent content and inconsistent student skill level. Some of the work demonstrated a clear focus and skill application while the majority of the portfolios examined represented work that was uneven or incomplete. Consistent evidence of attention to detail, completeness or thoroughness, pride of ownership and major content was missing. Discrepancies found

within the content were common. Though the work examined exhibited a basic understanding of the process and the purpose, the total effect was one of skill awareness rather than focused, proficient application.

Appendix C

Final Senior Project Certification Yes Test

Criteria	Yes	No
1. There are four Senior Project components – the research paper, product, portfolio, and presentation.		
2. Senior Project participation includes 90% or more of seniors who will be receiving a diploma.		
3. A Senior Project information meeting is provided to seniors and their parents each year.		
4. A Senior Project orientation is provided to new faculty and staff each year. (This may be a part of the overall school orientation.)		
5. A Senior Project handbook is given (or is available online) to each participating student each year.		
6. There is a Senior Project Coordinator.		
7. There is a Senior Project Community Coordinator.		
8. There is an approval process in place to ensure a “rigorous learning stretch” for all students.		
9. 80% faculty and school administrators are involved in at least one component of the Senior Project program. (Examples of participation include scoring the research paper, serving as an advisor, judging products or presentations and/or coordinating and/or participating in an activity associated with Senior Project.)		
10. Training or adequate directions are provided to individuals scoring any component of Senior Project. (This includes background information about the Senior Project program, general instruction on how to score the specific component, and information about the rubric.)		
11. Representative work samples for each component of Senior Project are available to students, parents, faculty, and the community.		
12. Benchmarks are being established for grades 9-11.		
13. These Senior Project components - paper, product, and presentation are scored using a school/district-based standardized rubric.		
14. A minimum of 3 standardized verification documents are applied to a student’s product. Examples include student logs, photos of product development, student self-evaluations, and mentor sign-off of hours.		
15. Boards for judging presentations include at least 3 individuals. These individuals represent both the community and the faculty.		
16. The school evaluates the Senior Project program each year, and the results are used to improve the program.		
17. If the Senior Project coordinator is a teacher, he or she receives a regular planning period. In addition, he or she also receives designated release time or adjusted responsibilities and/or a stipend/supplement for serving as the Senior Project coordinator.		
18. There are safety nets available to students who are unsuccessful with various components of Senior Project. (An example of a safety net is the opportunity to redo a Senior Project component before the close of the school year.)		
19. Continuous professional development that complements the Senior Project process is offered to educators in the school. Professional development activities include scoring the various components of Senior Project, collegial reading on related Senior Project topics, benchmarking, creating exemplary research papers, products, portfolios and presentations.		
20. Participating students have equal access to the school’s resources. Examples include faculty expertise, technology, and the media center.		
21. The use of computer technology is integrated into two or more components of a student’s Senior Project.		
22. For districts that mandate Senior Project and have more than one high school participating, there is a district-level contact person.		
23. A parent permission form and a liability waiver are on file for each participating student.		

24. Senior Project students select mentors who have specific knowledge and are non-relatives.		
25. Students participate in self-evaluation of their Senior Projects.		
26. Policy related to cheating and plagiarism is in writing and distributed to seniors and their parents.		