



**Evaluation of Implementation of
Middle School Advanced Courses**

Office of Shared Accountability

December 2010

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Table of Contents

Executive Summary	v
Methodology	v
Summary of Findings.....	v
Question One	v
Question Two.....	vi
Question Three.....	vi
Question Four.....	vii
Summary of Recommendations	viii
Background	1
Description of Advanced Courses	1
Rigorous Instruction.....	2
Content-specific Instructional Practices	3
Advanced English 7	3
Investigations in Science 6.....	3
Advanced World Studies 7	3
Evaluation Goal and Questions.....	4
Evaluation Goal	4
Evaluation Questions	4
Methodology.....	5
Design and Sample	5
Data Collection Activities.....	5
Class Observations.....	5
Student Survey	6
Teacher Survey	8
Strengths and Limitations	9
Findings for Question One.....	10
Focus on Big Ideas.....	10
Critical Thinking.....	11
Focus on Big Ideas and Critical Thinking	12
Student-centered Instruction	13
Findings for Question Two	15
Advanced English 7	15

Investigations in Science 6.....	15
Advanced World Studies 7	17
Findings for Question Three	19
Teacher Background	19
Student Selection and Grouping	19
Common Resources that Support Implementation of the Advanced Courses	24
Content-specific Materials that Support Implementation	26
General Comments on the Advanced Courses.....	27
Findings for Question Four.....	29
Student Experiences with Focus on Big Ideas	29
Student Experiences with Critical Thinking	31
Student Experiences with Student-centered Instruction	34
Content-specific Indicators	36
Conclusions.....	39
Recommendations.....	42
References.....	44
Appendix B: Observations of Advanced English 7	48
Appendix C: Details on Teacher Experiences with the Advanced Courses	51

List of Tables

Table 1	Evidence for Indicators of Focus on Big Ideas in Observed Classes ($N = 51$).....	10
Table 2	Evidence for Indicators of Critical Thinking in Observed Classes ($N = 51$).....	12
Table 3	Teachers' Reports on Critical Thinking.....	12
Table 4	Class Time on Critical Thinking and on Focus on Big Ideas by Content Area.....	13
Table 5	Evidence of Student-centered Instruction by Content Area	13
Table 6	Teachers' Reports on Student-centered Instruction.....	14
Table 7	Teachers' Combined Reports on Student-centered Instruction	14
Table 8	Evidence for the Engineering Design Process in Observed Investigations in Science 6 Classes	16
Table 9	Evidence of Links to Real-world Issues in Observed Investigations in Science 6 Classes	16
Table 10	Evidence for Historical Thinking Skills by Observed World Studies Class	18
Table 11	Teachers' Reports on Selection Process by Content Area.....	19
Table 12	Teachers' Responses on Appropriateness of Selecting All Students, by Content Area.....	20
Table 13	Teachers' Responses on Appropriateness of Processes to Select Some Students by Type of Process.....	21
Table 14	Teachers' Experiences With the Curriculum.....	22
Table 15	Teachers' Experiences With the Curriculum by Content Area	23
Table 16	Teachers' Responses on Helpfulness of Curriculum Guide Components for Advanced English 7	23
Table 17	Teachers' Responses on Helpfulness of Curriculum Guide Components for Advanced World Studies 7	24
Table 18	Users' Experiences With Resources ($N = 70$)	24
Table 19	Users' Experiences With Resources by Content Area.....	25
Table 20	Users' Experiences With Instructional Materials for Advanced English 7 ($N = 25$).....	26
Table 21	Users' Experiences With Instructional Materials for Investigations in Science 6 ($N = 22$)	26
Table 22	Users' Experiences With Instructional Materials for Advanced World Studies 7 ($N = 23$).....	27
Table 23	Teachers' Common Positive Aspects by Content Area.....	28
Table 24	Teachers' Common Improvements by Content Area	28
Table 25	Students' Experiences With Focus on Big Ideas During Class Time or With Homework Assignments.....	30
Table 26	Students' Experiences With Focus on Big Ideas During Class Time.....	30
Table 27	Students' Experiences With Focus on Big Ideas During Class Time or With Homework Assignments by Content Area	31
Table 28	Students' Experiences With Focus on Big Ideas During Class Time.....	31
Table 29	Students' Experiences With Critical Thinking During Class Time or With Homework Assignments.....	32
Table 30	Students' Experiences With Critical Thinking During Class Time or With Homework Assignments by Content Area	33

Table 31	Students' Experiences With Student-centered Instruction During Class Time or With Homework Assignments.....	34
Table 32	Students' Experiences With Student-centered Instruction During Class Time.....	34
Table 33	Students' Experiences With Student-centered Instruction During Class Time.....	35
Table 34	Students' Experiences With Student-centered Instruction During Class Time or With Homework Assignments by Content Area	35
Table 35	Students' Experiences With Student-centered Instruction During Class Time by Content Area	36
Table 36	Students' Experiences With Student-centered Instruction During Class Time by Content Area	36
Table 37	Students' Experiences With Advanced English 7 During Class Time or With Homework Assignments.....	37
Table 38	Students' Experiences With Advanced English 7 During Class Time.....	37
Table 39	Students' Experiences With Investigations in Science 6 During Class Time	37
Table 40	Students' Experiences With Advanced World Studies 7 During Class Time or With Homework Assignments.....	38
Table 41	Number of Observed Classes That Met Expectations for Key Instructional Practices by Content Area.....	39
Table C1	Teacher Responses on Appropriateness of Process for Selecting Students by Type of Process.....	51

List of Figures

Figure B1	List of Approved Texts for Advanced English 7	48
Figure B2	Details on Writing Assignments in Observed Advanced English 7 Classes	49
Figure C1	Teachers' Reports of Other Supports That Help Implementation of Advanced Middle School Courses.....	53
Figure C2	Common Categories of Teachers' Positive Comments on Implementation of Advanced Courses by Content Area.....	54
Figure C3	Content-specific Categories of Teachers' Positive Comments on Implementation of Advanced Courses by Content Area	58
Figure C4	Common Categories of Teachers' Recommendations for Improvement of Advanced Courses by Content Area.....	59
Figure C5	Content-specific Categories of Teachers' Recommendations for Improvement of Advanced Courses by Content Area	61

Executive Summary

The Office of Shared Accountability (OSA) conducted an implementation evaluation of three advanced courses in Montgomery County Public Schools (MCPS): Advanced English 7, Investigations in Science 6, and Advanced World Studies 7. The evaluation was requested by the Office of Curriculum and Instructional Programs. The evaluation focuses on the extent and quality of implementation of these courses so as to provide formative input and improve implementation.

This evaluation investigated the following questions:

1. To what extent are the following key, rigorous instructional practices being implemented as intended across content areas: focus on big ideas, critical thinking skills, and student-centered instruction?
2. To what extent are the following key content-specific instructional practices being implemented as intended: writing instruction and practices for English, the engineering design process for science, and historical thinking skills for world studies?
3. What are teachers' experiences with the implementation of the advanced courses?
4. How do students experience the advanced courses?

Methodology

The sample was composed of 11 middle schools in the second year of advanced courses implementation. This evaluation utilized multiple data collection methods to triangulate information gathered from classroom observations, student surveys, and teacher surveys. OSA staff completed 51 classroom observations of the three advanced courses during December 2009. All students in the observed classes were asked to complete online surveys in April 2010 about their experiences in the advanced courses; 1,325 students completed surveys. All teachers of the three advanced courses in the sample schools were asked to complete a content-specific online survey about the advanced courses in May 2010. Seventy teachers completed the survey. Response rates for both student and teacher surveys were 81%.

Summary of Findings

Question One

Across all classes, the observed level of implementation was moderate for focus on big ideas and critical thinking and low for student-centered instruction, with respect to expectations as communicated by program staff for the three practices. Specifically, program staff expected that at least one half of class time would focus on big ideas; this level was observed in 30 of the 51 classes (59%). Further, program staff expected that teachers would encourage critical thinking for at least one half of class time; this level was observed in 26 of the 51 classes (51%). For both of these instructional practices, somewhat more world studies classes and somewhat fewer science classes achieved the expected level of implementation. Finally, program staff expected that each class would show sustained evidence of student-centered instruction, which was defined as one or more student-centered activities that had instructional impact and occurred for

at least 15 minutes. This level of student-centered instruction was observed in 15 of the 51 classes (29%), including somewhat more English and science than world studies classes.

Teachers responded to survey items about their frequency of using key instructional strategies. Their reports on strategies for focus on big ideas and critical thinking supported the findings from the observations. However, teacher reports about frequency of use for strategies related to student-centered instruction indicated a higher level of implementation than found in the observations.

Question Two

Implementation of key, content-specific instructional practices was low for Advanced English 7 and Investigations in Science 6 and moderate for Advanced World Studies 7. Detailed findings are as follows.

For Advanced English 7 classes, there were four indicators. In the 17 observed classes, the level of implementation met expectations for one of the indicators. Teachers were expected to select a text from the approved list for this course; as expected, this practice was observed in 9 of 10 (90%) classes that used a text. It was expected that two indicators—student writing and close attention to the use of precise language—would occur in almost all English classes. These indicators were observed less frequently than expected; the former in 12 of 17 (71%) classes and the latter in 8 of 17 (47%) classes. Lastly, it was expected that writing instruction would occur in more than one half of the classes; it was observed in only 4 of 17 (24%) classes.

For Investigations in Science 6 classes, there were three indicators. In the 18 observed classes, the level of implementation met expectations for one of the indicators. Two indicators reflected steps in the engineering design process; each of these indicators was expected to occur in at least one half of the observed classes. This expectation was met for one of the two indicators. The third indicator was a link between a component of the class and a real-world issue; such a link was expected for every observed component in each class. This level was observed in only 9 of the 18 (50%) classes.

For Advanced World Studies 7 classes, there were three indicators. In the 16 observed classes, the level of implementation met expectations for two of the indicators. It was expected that students in each class would have an opportunity to work on at least one historical thinking skill; as expected, in 14 of 16 (88%) classes, students had such an opportunity. Further, it was expected that students in each class would have an opportunity to work on one of the three skills that were considered the most important; as expected, in 14 of 16 (88%) classes, students had such an opportunity. Finally, although it was expected that students would write in most of the world studies classes, student writing was observed in only one class.

Question Three

The majority of teachers agreed that the advanced course curriculum/curriculum guide was helpful for planning rigorous instruction, critical thinking, and writing instruction and was appropriate to challenge and prepare highly able students. However, the majority of teachers

disagreed that the advanced curriculum/curriculum guide was appropriate for all middle school students. Further, most teachers did not believe that every student should enroll in these courses, although almost all science and world studies teachers, plus 4 out of 10 English teachers, reported that all students in the related grade level were enrolled in the advanced courses. With respect to content-specific components of the curriculum, a majority of English and world studies teachers agreed that they were helpful for implementing the advanced courses, while only one third of the science teachers agreed.

The majority of teachers who used the following resources agreed that they were helpful for implementing the advanced courses: sharing materials or planning with other teachers, content specialist, professional development from the central office, school administrative team, sufficient individual planning time, and central office instructional specialists. All or almost all users in English and the majority of users in science and world studies agreed that most of these resources were helpful. Although the majority of English and world studies teachers found sufficient planning time helpful, less than one half of the science teachers agreed. Regarding content-specific materials, the majority of users indicated that they were helpful for implementation; however, some content-specific materials in English and world studies had low usage rates.

Question Four

More than one half of the student respondents reported a moderate to high frequency (i.e., most of the time or more often, in most of the lessons or more often) for 20 experiences with the advanced courses, including six experiences with focus on big ideas, eight with critical thinking, and six with student-centered instruction. Further, more than three quarters of students responded positively about two additional experiences with student-centered instruction.

Among these 22 experiences, 17 of them showed statistically significant differences between student reports across content areas. Almost all these differences (15 of 17) were because a higher proportion of students in Advanced English 7 or a lower proportion of students in Investigations in Science 6 reported a moderate to high frequency for an experience, compared to one or more other content areas.

Finally, at least one half of the students reported a moderate to high frequency (i.e., most of the time or more often, in most of the lessons or more often) for all content-specific experiences, including five concerning writing instruction and practices in Advanced English 7, three concerning connections of class content to an authentic problem or a real-life issue in Investigations in Science 6, and five concerning historical thinking skills in Advanced World Studies. A lower proportion of students in science reported this frequency than students in English and world studies did. The student survey results reinforced observation findings that students in the science classes did not experience the intended level of making connections to an authentic problem or a real-world issue.

Summary of Recommendations

- **Increase implementation of key, rigorous instructional practices for all courses through professional development and other supports (e.g., instructional monitoring).**
 - Support teachers to infuse more critical thinking and focus on big ideas in their classes, especially for teachers of Investigations in Science 6.
 - Support teachers to increase the focus on student-centered instruction, especially for teachers of Advanced World Studies 7.
- **Increase implementation of key, content-specific instructional practices.**
 - Encourage teachers of Advanced English 7 to emphasize close attention to the use of precise language and to incorporate writing instruction more frequently.
 - Encourage teachers of Investigations in Science 6 to put more emphasis on encouraging students to evaluate or refine solutions to problems and on linking all class components to real-world problems. Explore how to make the Design-folio in the curriculum more helpful to these teachers.
 - Encourage teachers of Advanced World Studies 7 to continue their focus on historical thinking skills and to incorporate student writing more frequently.
- **Provide guidance on student grouping and enrollment in the advanced courses.**
 - Encourage schools to utilize a variety of data points to identify students to participate in the advanced courses.
 - Continue to provide professional development on differentiation and include additional suggestions in the curriculum on how to scaffold instruction, to allow students to be successful with the advanced curriculum.
- **Continue to provide resources and materials for teachers and encourage more users.**
 - Encourage teachers in all content areas to share materials and plan with other teachers and to utilize the following resources: content specialists, central office trainings, school administrative team, central office instructional specialists, and sufficient planning time.
 - Encourage more users for those materials in Advanced English 7 and Advanced World Studies 7 with low usage rates.
 - Explore how to improve the formative assessments for Advanced English 7.
- **Focus attention on Investigations in Science 6 (IS6).**
 - Work with school-based staff to provide professional development and other supports (e.g., instructional monitoring) for IS6. Among the three courses, IS6 appeared to have the most opportunities for improvement. Note that IS6 is based on a new Grade 6 science course that was first implemented in 2008–2009, rather than on an existing course. Further, the IS6 curriculum was disseminated in a new Web-based format.

Evaluation of Implementation of Middle School Advanced Courses

Helen Wang, Ph.D. and Elizabeth Cooper-Martin, Ph.D.

The Office of Shared Accountability (OSA) conducted an implementation evaluation of three advanced courses in Montgomery County Public Schools (MCPS): Advanced English 7, Investigations in Science 6, and Advanced World Studies 7. The evaluation was requested by the Office of Curriculum and Instructional Programs. The evaluation focuses on the extent and quality of implementation of these courses, so as to provide formative input and improve implementation.

Background

Description of Advanced Courses

The middle school advanced courses support Goal 1 (Ensure success for every student) and Goal 2 (Provide an effective instructional program) in the MCPS 2008–2013 strategic plan, *Our Call to Action: Pursuit of Excellence* (MCPS, 2008). The courses also are linked to the *Seven Keys to College Readiness*. The courses are backmapped from Key 6, related to achievement on Advanced Placement and International Baccalaureate exams, and from Key 2, related to achieving the advanced level on the reading Maryland State Assessment in middle school.

The middle school advanced courses in English, science, and social studies have a similar vision and rationale (MCPS, 2009a and 2009b). These courses are designed to provide explicit direction to teachers related to the selection of content, differentiation of instructional processes, and development of student products. Depending on the content area and unit, one or more of these areas will be substantively more challenging than on-level instruction. Frequently the content and topics of the advanced courses are the same as on-level classes, but the depth of study, the expression of understanding, or the product from learning is more challenging.

In the 2009–2010 school year, advanced courses in English, science and social studies were available in 36 of the 38 MCPS middle schools. These courses were Advanced English 7, Investigations in Science 6, and Advanced World Studies 7. These courses were in the second year of implementation at 17 MCPS middle schools.

In collaboration with the Division of Accelerated and Enriched Instruction, each content area has created materials that define the instructional approach and curriculum of advanced courses. These resources establish the expectation for differentiation in content, process, and product for each course. In English and social studies, supplements or amendments accompany each instructional guide. In science, a new course was developed and disseminated in a Web-based format.

Schools were encouraged to design schedules that met the unique needs of their highly able students (i.e., those who perform at advanced levels or who have the potential to perform at advanced levels). Schools could form homogeneous sections of an advanced course in English, science, or social studies. These homogeneous sections would include only highly able students. Alternatively, schools could offer heterogeneous sections in English, science, or social studies (i.e., with both highly able students and students who perform on grade level) and provide advanced instruction to all students in the section, with scaffolding for those who require support. A third alternative for English or social studies would be cluster grouping for advanced instruction; only the highly able students in the section would receive the advanced curriculum; the remaining students would receive the on-grade-level curriculum.

Rigorous Instruction

In all MCPS courses, teachers should deliver rigorous instruction (MCPS, 2009a and 2009b). However, in advanced courses, the teacher is expected to challenge students at an additional level. In advanced courses, the teacher—

- helps students develop the skills needed to manage rigorous content;
- facilitates student discussions about important ideas and concepts;
- models thinking, reading, writing, and problem-solving strategies;
- plans instruction that requires students to interact with content that is provocative, ambiguous, complex, or emotionally challenging (i.e., follows the PACE model¹);
- incorporates meaningful tasks for students to apply and transfer learning;
- connects reading materials by genre, subject, or theme;
- encourages students to judge or evaluate situations, problems, or issues;
- requires thinking at analytic, interpretive, and evaluative levels;
- emphasizes student synthesis of information within or across disciplines;
- engages students in the exploration of diverse points of view;
- encourages students to determine implications and consequences of findings;
- uses appropriate extension and scaffolding to challenge and support all learners;
- provides opportunities for independent and group learning to promote depth in content understanding;
- uses multiple differentiation models for acceleration and enrichment;
- engages students in planning, monitoring, and assessing their learning; and
- uses portfolios to build students' awareness of their own progress and goals (MCPS, 2009a and 2009b).

In advanced courses, students will—

- interact with content that is complex, provocative, ambiguous, or emotionally challenging;
- engage in inquiry, discussions, and tasks that focus on understanding and applying important concepts;
- write daily for a variety of purposes and audiences;

¹ For information on the PACE model, see Strong, Silver, and Perini, 2001.

- make meaningful connections within and across disciplines;
- use a variety of strategies and tools to solve problems;
- apply knowledge and skills to authentic situations;
- design and conduct experimental research investigations;
- design and conduct observational explorations;
- use a variety of strategies to solve problems and apply skills to authentic situations;
- effectively use rubrics and scoring tools to assess and improve writing; and
- monitor their own learning through journals, logs, reflection, self-assessment, and portfolios (MCPS, 2009a and 2009b).

Content-specific Instructional Practices

In addition to practices that are common to all three advanced courses, some instructional practices unique to each of the content areas also are aimed at facilitating critical thinking in students. Descriptions of the unique practices, by content area, follow.

Advanced English 7

In Advanced English 7, students explore answers to the essential questions required in a particular unit through the completion of common tasks. Teachers select texts from a recommended list for this advanced course. Students are encouraged to utilize extra resources, participate in structured discussions, and learn how to write various types of essays. The process of completing the common task is guided by challenging questions and requirements, and the product should be a demonstration of critical thinking.

Investigations in Science 6

In Investigations in Science 6, students complete unit projects, each of which concerns an authentic situation (could happen to the student) or a real-world issue (current event). All instruction is structured around the project. The key for teaching this course is the engineering design process, which has the following four steps:

1. Identify the problem.
2. Generate ideas to solve the problem.
3. Develop solutions.
4. Communicate results.

Advanced World Studies 7

In Advanced World Studies 7, students cultivate historical thinking skills. Students learn about high-level concepts such as cultural diffusion, cultural change, and cultural conflict, as well as multiple perspectives and factors that may affect a person's perspective. After drafting a thesis statement (or generalization), students have opportunities to cite evidence from primary and secondary historical sources and beyond through a document-based inquiry process. They are expected to write a coherent response to their thesis statement by organizing and analyzing their evidence.

Evaluation Goal and Questions

Evaluation Goal

This evaluation of the three advanced courses coincided with the second year of implementation of these courses. Prior to evaluating the expected impact of the advanced courses, it is critical to study whether the curriculum for each course is being implemented as expected.

The purpose of this formative evaluation was to examine implementation and to provide feedback to the program staff for the purpose of improving the advanced courses and their implementation. The focus was on the extent to which these advanced courses were implemented and with what quality.

Evaluation Questions

This evaluation investigated whether the essential components of the advanced courses were implemented with fidelity, by addressing the following questions:

1. To what extent are key, rigorous instructional practices (content, process, and product) being implemented as intended, across content areas? Areas to investigate include the following:
 - a. Instructional focus on big ideas and depth of concepts, rather than coverage of content, including materials reflecting the PACE model (provocative, ambiguous, complex, or emotionally challenging) of rigor
 - b. Critical thinking skills embedded in the content, process, and products of the course
 - c. Student-centered teaching
2. To what extent are the key, content-specific instructional practices being implemented as intended? Practices specific to each content area are listed below.
 - a. Common tasks for Advanced English 7:
 - i) Students analyzing and evaluating challenging texts from the recommended list for this course
 - ii) Students writing about complex ideas using precise language and sophisticated sentences
 - iii) Teachers using challenging questions to promote critical thinking about complex ideas
 - b. Engineering design process for Investigations in Science 6:
 - i) Opportunities for students to identify, investigate, and evaluate an authentic problem or a real-world issue
 - ii) Opportunities for students to implement, evaluate, and refine their solutions

- c. Historical thinking skills for Advanced World Studies 7:
 - i) Students showing evidence of historical thinking skills (i.e., analyzing for content, recognizing multiple perspectives, identifying point of view, and/or categorizing evidence) in their thinking, discussions, source analysis, or writing focus.
3. What are teachers' experiences with the implementation of the advanced courses?
4. How do students experience the advanced courses?

Methodology

Design and Sample

To answer the evaluation questions, this study triangulates information gathered from multiple data collection methods: classroom observations, student surveys, and teacher surveys.

Among the 17 middle schools in the second year of implementation of advanced courses, 11 were chosen for this study, in consultation with program staff. These 11 schools were Benjamin Banneker, Earle B. Wood, Montgomery Village, Roberto Clemente, Sligo, Eastern, Newport Mill, Shady Grove, Silver Spring International, Tilden, and White Oak middle schools. Subsequent to data collection, program staff provided information which indicated that it was the first year of implementation for Advanced English 7 in one school and for Advanced World Studies 7 in two schools.

Data Collection Activities

OSA evaluation specialists developed all data collection instruments based on the curricula, program materials, and professional development materials, in consultation with staff from the Department of Enriched and Innovative Programs and from Middle School Instruction and Achievement. All instruments contained items common across content areas as well as items specific to each content area. The common items concerned three key, rigorous instructional practices: focus on big ideas, critical thinking skills, and student-centered class. The content-specific items addressed writing instruction and practices for English, the engineering design process for science, and historical thinking skills for world studies.

Class Observations

Sample. The observation sample included all teachers of two or more sections of each advanced course in the 11 middle schools. In a school where every teacher taught only one section of an advanced course, all the teachers were included. The final sample was composed of 62 teachers. In order to refine the observation protocol, pilot observations were conducted in classes of six teachers, which included two for each content area. Thus, 56 teachers were available for final observations, including 18 of Advanced English 7, 20 of Investigations in Science 6, and 18 of Advanced World Studies 7.

Instrument. The protocol for each content area contained multiple indicators for instructional focus on big ideas, critical thinking skills, and a student-centered class (See Appendix A). Each of these indicators had four categories of options for observers to document the extent of evidence:

- None
- Once or twice (for less than one half the class)
- Multiple times (for less than one half the class)
- More than one half of the class

Another two questions in the protocol were used to summarize how much class time was spent on instructional focus on big ideas and critical thinking skills, respectively. The protocol also contained indicators that were unique to each of the content areas, with respect to the content, process, and product of the course. Two OSA evaluation specialists piloted the classroom observation protocol in two classes of each content area. The protocol was refined to improve its validity and reliability based on the pilot observations.

Data collection. Six observers from OSA were trained in using the protocol, with support from the instructional specialist for each content area. A total of 51 of 56 available teachers were observed, including 17 teachers for English, 18 teachers for science, and 16 teachers for world studies. One class was observed for each teacher between December 1 and 18, 2009. The remaining five teachers could not be observed, either because of a long-term substitute teacher or scheduling difficulties during the observation window.

Observed teachers received a short, post-observation survey by e-mail to verify their instructional activities in the observed class. Among the 51 teachers observed, 45 completed the post-observation survey, including 17 for English, 15 for science, and 13 for world studies.

Student Survey

Sample. To minimize the burden to schools, the student survey sample was limited to the 57 class sections taught by teachers who were observed for pilot or final observations. Each teacher was asked to have one class section, preferably the observed section, complete the student survey. Student enrollments in the 57 sampled classes, by subject, were as follows:

- Advanced English 7: 469
- Investigations in Science 6: 539
- Advanced World Studies 7: 503

Instrument. Using student-friendly sentences, the questions addressed students' experiences in the advanced courses. Three students, along with the program staff, reviewed draft versions of the student surveys for clarity. The surveys were modified based on their feedback.

The survey contained two sections. Items in the first section concerned students' experiences during class time throughout the school year. Almost all items had the following response scale:

- In almost all or all of the lessons
- In most of the lessons
- In some of the lessons
- In very few or none of the lessons

Two items in the first section concerned student experiences with student-centered instruction and had the following scale:

- Strongly agree
- Agree
- Disagree
- Strongly disagree

Items in the second section of the survey concerned students' experiences with homework assignments or during class time throughout the year. All the items had the following response scale:

- Almost always or always
- Most of the time
- Some of the time
- Almost never or never

Administration. The student survey was administered in a Web-based format during April 2010. Teachers and principals received a series of e-mail messages prior to administering the student survey. On the day before the first day of the survey window, each teacher received the link to the survey and a password for his/her class. All teachers received two reminder e-mails during the survey window. In an effort to increase the response rate, the final message to teachers of Investigations in Science 6 and of Advanced World Studies 7 announced an extension of one week for completing the surveys.

The response rate was 81% overall. By subject, the number of responses and response rates were as follows:

- Advanced English 7: 435, 93%
- Investigations in Science 6: 410, 76%
- Advanced World Studies 7: 379, 75%

In addition, although each teacher was instructed to have one class section take the survey, it appeared that an extra 101 students in four sections of Advanced English 7 at one school completed the survey. These responses were included in the analysis, making the total number of respondents for English equal to 536, for a total of 1,325 surveys in all the content areas.

Teacher Survey

Sample. All teachers of the three advanced courses at the 11 schools were invited to complete the teacher survey. The total of 86 teachers included 28 for Advanced English 7, 28 for Investigations in Science 6, and 30 for Advanced World Studies 7.

Instrument. The teacher survey started with questions about each teacher's background with respect to teaching the course and how students were selected and grouped for their course. Next, teachers indicated the extent of their agreement with statements about implementing the advanced course curriculum and with statements about supports they received to implement the curriculum, using the following response scale:

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Did not use (for some questions)

In the next part of the survey, teachers indicated the frequency of using instructional strategies to ensure student learning over the last two weeks; the strategies reflected focus on big ideas, critical thinking, and a student-centered class. For these items, teachers used the following scale:

- None
- Less than one third of the lessons
- One third to one half of the lessons
- More than one half of the lessons
- All or almost all of the lessons

Finally, teachers provided feedback on the implementation of the advanced course in two open-ended questions, one about positive aspects and one about suggestions for improvement.

Administration. The teacher survey was administered in a Web-based format during May 2010. Teachers received a series of e-mails about the survey including an invitation to participate, two reminders with the original ending date, an announcement of an extension of time to complete the survey, and a reminder during the extension.

A total of 70 teachers completed the survey, for an overall response rate of 81%. By subject, the number of responses and response rates were as follows:

- Advanced English 7: 25, 89%
- Investigations in Science 6: 22, 79%
- Advanced World Studies 7: 23, 77%

Analysis Procedures

Information gathered from the classroom observations, student surveys, and teacher surveys was processed through descriptive statistics and coding of qualitative data. Tests of proportions were used to test for significant differences in student responses between content areas. Observed or reported levels of implementation were compared to the expected levels of implementation as communicated by program staff.

Strengths and Limitations

To produce reliable and valid results, this study used information gathered from multiple sources (classrooms, students, and teachers) and from multiple methods (observations and surveys). All instruments were developed in consultation with program staff, which improved the validity of the evaluation measures. Most of the teachers of the advanced courses in the sample schools (51 of 86, 59%) were observed and all teachers were invited to complete the teacher survey. The response rate of 81% for both the teacher and student surveys indicates that the survey results reflect most teachers' experiences with advanced courses in the sample schools and most students' experiences in observed classes. The observation protocol and student survey were each piloted and revised to improve construct validity and reliability of the evaluation findings. One limitation associated with this study is that the teacher survey was not piloted. Another limitation to both the teacher and student surveys is the tendency of survey respondents to give desirable answers; this is a common limitation associated with survey research.

Findings

Findings for Question One

Detailed findings about the implementation of key, rigorous instructional practices from classroom observations and teacher surveys are presented below. Observed or reported levels of implementation are compared to expectations set by program staff.

On the survey, teachers reported how frequently they used various instructional strategies over a specified time period. Their responses were collapsed into three categories: high frequency for responses of “more than half of the lessons” or “all or almost all of the lessons,” medium frequency for responses of “one third to one half of the lessons,” and low frequency for responses of “less than one third of the lessons” or “none.”

Focus on Big Ideas

Observation findings. Program staff expected that at least one half of class time would focus on big ideas in each class; this level was observed in 30 of the 51 classes (59%). In 7 classes, there was evidence that less than one half of class time was focused on big ideas; in the remaining 14 classes, there was little or no evidence of a focus on big ideas. Across content areas, focus on big ideas for one half or more of class time was observed in 10 of 17 (59%) English classes, 8 of 18 (44%) science classes, and 12 of 16 (75%) world studies classes.

The extent of evidence for each indicator of focus on big ideas is in Table 1; indicators 1 and 2 were used for the summary of focus on big ideas. Content with one or more PACE (i.e., provocative, ambiguous complex, emotionally challenging) traits (indicator 1) was evident for one half or more of class time in 22 classes; it also occurred multiple times in 8 classes and one or two times in 11 classes. Thus, PACE content was evident in a total of 41 (80%) classes. Indicator 2, on content that reflected conceptual understanding, was evident at least one time in somewhat fewer classes (38, 75%).

Table 1
Evidence for Indicators of Focus on Big Ideas in Observed Classes ($N = 51$)

Indicator	One half or more of class time	Multiple times and less than one half of class time	One or two times and less than one half of class time	None
	n (%)	n (%)	n (%)	n (%)
1. Content has one or more of the PACE ^a traits.	22 (43)	8 (16)	11 (21)	10 (20)
2. Content goes beyond or behind the obvious, the concrete, or the superficial to conceptual understanding.	20 (39)	8 (16)	10 (20)	13 (25)
3. Content connects to enduring understandings for that unit or previous unit.	13 (25)	7 (14)	14 (28)	17 (33)

^aPACE = provocative, ambiguous, complex, emotionally challenging.

Indicator 3, content connects to enduring understandings for that unit or the previous unit, was expected to occur one time or more frequently in each class. Two thirds of observed classes

(34, 67%) had the expected level of implementation (Table 1). Observers did not find evidence of connections to enduring understandings in one third of the classes (17, 33%).

When considering only the 30 classes that spent one half or more of class time on focus on big ideas, there was evidence at least one time of content with PACE traits and of content that reflected conceptual understanding in each class. Further, both these indicators were observed for one half or more of class time in 20 or more (two thirds) of these 30 classes.

Teacher survey findings. The teacher survey included one indicator of focus on big ideas: facilitate student discussions about big ideas. The reported frequency of use over the last two weeks for this strategy was as follows:

- More than one half of the lessons: 25, 36%
- One third to one half of the lessons: 26, 37%
- Less than one third of lessons: 18, 26%

The percentage of teachers who reported using this strategy in more than one half of their lessons over the last two weeks was similar across content areas:

- Advanced English 7: 10, 40%
- Investigations in Science 6: 7, 30%
- Advanced World Studies 7: 8, 35%

Note that the teacher survey had only one indicator of focus on big ideas, while the observations utilized multiple indicators. Therefore, the observations captured a higher incidence of focus on big ideas. The finding from the teacher survey that nearly three quarters (73%) of teachers reported using this one strategy for one third or more of their lessons appears consistent with the finding that 73% (37 of 51) of observed classes spent time on big ideas.

Critical Thinking

Observation findings. Program staff expected that teachers would encourage critical thinking for one half or more of class time. This level of implementation was observed in 26 of the 51 classes (51%). For the remaining 25 classes, 10 of them spent less than one half of class time on critical thinking and 15 of them had no or little evidence. Critical thinking for one half or more of the class time was observed in 9 of 17 (53%) English classes, 7 of 18 (39%) science classes, and 10 of 16 (63%) world studies classes.

Table 2 shows the extent of evidence for each of the five indicators of opportunities for critical thinking; all indicators were used for the summary of time spent on critical thinking. Teacher encouragement for students to think at analytic, interpretive, or abstract levels (indicator 1) was observed at least once in about three fourths of the classes (39, 76%) and for one half or more of class time in one third of the classes (17, 33%). Teachers were observed soliciting diverse thoughts, opinions, or points of view (indicator 2) at least once in about one half of the classes (25, 49%) and for one half or more of class time in six classes (12%). The remaining indicators

(3–5) regarding judgment making, information synthesis, and explanation of thinking were observed once or more in only 30% or fewer of the classes.

Table 2
Evidence for Indicators of Critical Thinking in Observed Classes ($N = 51$)

Indicator	One half or more of class time	Multiple times and less than one half of class time	One or two times and less than one half of class time	None
	n (%)	n (%)	n (%)	n (%)
1. Teacher encourages students to think at analytic, interpretive, or abstract levels.	17 (33)	16 (31)	6 (12)	12 (24)
2. Teacher solicits diverse thoughts, opinions, or points of view about issues or ideas.	6 (12)	10 (20)	9 (18)	26 (51)
3. Teacher encourages students to make judgments or evaluate situations, problems, or issues.	1 (2)	7 (14)	7 (14)	36 (70)
4. Teacher encourages students to synthesize or summarize information within or across disciplines.	1 (2)	5 (10)	8 (16)	37 (72)
5. Teacher invites students to explain, elaborate on, or justify their thinking to peers and/or teacher, in writing or orally; not included above.	0 (0)	5 (10)	5 (10)	41 (80)

Note. Percentages may not total 100% due to rounding.

Teacher survey findings. The teacher survey included two items on critical thinking about encouraging students to form, share, and defend their opinions (item 1) and enabling students to reflect critically about what they learned (item 2) (Table 3). About one half of the 70 teachers reported a high frequency of use (i.e., more than one half of the lessons) for each item. Additional analysis of the survey responses showed that nearly two thirds of teachers (44, 63%) reported using one or both of these indicators of critical thinking in more than one half of their lessons. This moderate level of implementation is consistent with the findings from the observations.

Table 3
Teachers' Reports on Critical Thinking

Item	Frequency of use over the last two weeks ($N = 70$)			
	More than one half of the lessons	One third to one half of the lessons	Less than one third of lessons	No response
	n (%)	n (%)	n (%)	n (%)
1. Encourage students to form, share, and defend their opinions.	38 (54)	23 (33)	8 (11)	1 (1)
2. Enable students to reflect critically about what they learned.	32 (46)	28 (40)	10 (14)	0 (0)

Note. Percentages may not total 100% due to rounding.

Focus on Big Ideas and Critical Thinking

Although focus on big ideas and critical thinking are two different rigorous instructional practices, they are expected to reinforce each other. About one half of all observed classes (25 of 51, 49%) met program staff's expectations by spending about one half or more of class time on

both critical thinking and big ideas (Table 4). Across content areas, 9 English classes (53%), 6 science classes (33%), and 10 world studies classes (62%) achieved this level.

Table 4
Class Time on Critical Thinking and on Focus on Big Ideas by Content Area

Content area (# of classes)	Amount of class time spent on critical thinking and on focus on big ideas		
	About one half or more of class time on both practices	About one half or more of class time on only one practice	About one half or more of class time on neither practice
All classes ($N = 51$)	n (%)	n (%)	n (%)
All classes ($N = 51$)	25 (49)	6 (12)	20 (39)
Advanced English 7 ($n = 17$)	9 (53)	1 (6)	7 (41)
Investigations in Science 6 ($n = 18$)	6 (33)	3 (17)	9 (50)
Advanced World Studies 7 ($n = 16$)	10 (62)	2 (13)	4 (25)

Student-centered Instruction

Observation findings. Observers collected evidence of four indicators of student-centered instruction. Two levels of implementation of student-centered instruction—sustained and minimal—were suggested by the program staff. The sustained level was defined as one or more student-centered activities that had instructional impact and occurred for at least 15 minutes; the minimal level of student-centered instruction was defined as one or more student-centered activities that occurred for less than 15 minutes. There was sustained evidence in 15 of the 51 observed classes (29%) and minimal evidence in 11 classes (22%) (Table 5). No evidence of student-centered instruction was observed in about one half of the classes (49%). More English (7 of 17, 41%) and science (7 of 18, 39%) than world studies (1 of 16, 6%) classes had a sustained level of student-centered instruction.

Table 5
Evidence of Student-centered Instruction by Content Area

Content area (# of classes)	Extent of evidence		
	Sustained	Minimal	None
All content areas ($N = 51$)	n (%)	n (%)	n (%)
All content areas ($N = 51$)	15 (29)	11 (22)	25 (49)
Advanced English 7 ($n = 17$)	7 (41)	4 (24)	6 (35)
Investigations in Science 6 ($n = 18$)	7 (39)	3 (17)	8 (44)
Advanced World Studies 7 ($n = 16$)	1 (6)	4 (25)	11 (69)

In the 15 classes with sustained evidence of student-centered instruction (i.e., at least 15 minutes of activities with instructional impact), students were encouraged to do one or more of the following:

- Use strategies or seek resources other than getting information from the teacher to solve problems or generate responses: 8, 53%
- Make choices on tasks, products, processes, and content: 5, 33%
- Build on or challenge each other's ideas: 3, 20%
- Participate in other activities (e.g., work in small groups with teacher as facilitator) that reflected a student-centered instruction: 4, 27%

Teacher survey findings. Teachers reported their frequency of use for six student-centered instructional strategies; results for five strategies are in Table 6. For two strategies about facilitating student collaboration to solve problems and allowing students to pose questions to stimulate discussions (items 1 and 2), about one half of teachers reported a high frequency of use (i.e., more than one half of lessons) and about one third reported a medium frequency of use (i.e., one third to half of the lessons). More than 40% of teachers reported a high frequency of allowing students to explore a variety of resources to learn new information (item 3) and about one quarter reported a medium frequency for this strategy. The fewest teachers (less than 30%) reported a high frequency of giving students opportunities to make choices, either about tasks or products (item 4) or in how or what they learn (item 5).

Table 6
Teachers' Reports on Student-centered Instruction

Item	Frequency of use over the last two weeks ($N = 70$)			
	More than one half of the lessons	One third to one half of the lessons	Less than one third of lessons	No response
	n (%)	n (%)	n (%)	n (%)
1. Facilitate student collaboration to solve problems.	38 (54)	21 (30)	10 (14)	1 (1)
2. Allow students to pose questions to stimulate discussions.	34 (49)	23 (33)	12 (17)	1 (1)
3. Allow students to explore a variety of resources to learn new information.	30 (43)	20 (28)	18 (26)	2 (3)
4. Give students opportunities to make choices about tasks or products.	19 (27)	27 (39)	23 (33)	1 (1)
5. Give students opportunities to make choices in how or what they learn.	14 (20)	30 (43)	24 (34)	2 (3)

Note. Percentages may not total 100% due to rounding.

To facilitate comparison with observation findings, teachers' responses on these five indicators of student-centered instruction were combined (Table 7). Across all five indicators, 49 teachers (70%) reported a high frequency of use for at least one indicator. More English teachers (22, 88%) than science (12, 55%) or world studies (15, 65%) teachers reported this level. A total of 13 teachers (19%) reported a medium frequency of lessons on three or more indicators.

Table 7
Teachers' Combined Reports on Student-centered Instruction

Content area	A high frequency of lessons on one or more indicators	A medium frequency of lessons on three or more indicators
	n (%)	n (%)
All content areas ($N = 70$)	49 (70)	13 (19)
Advanced English 7 ($n = 25$)	22 (88)	3 (12)
Investigation in Science 6 ($n = 22$)	12 (55)	6 (27)
Advanced World studies 7 ($n = 23$)	15 (65)	4 (17)

The last instructional strategy related to student-centered instruction was providing direct instruction; it was expected that teachers would use this strategy infrequently in order to promote a more student-centered class environment. The majority of teachers (70%) reported a medium (22, 47%) or low frequency (16, 23%), suggesting that most teachers were promoting a student-centered class environment.

These self reports from teachers on all indicators related to student-centered instruction suggest higher levels of implementation than those in the observed classes. This difference may reflect the tendency of respondents to give desirable answers. It also may reflect differing views between observers and teachers on certain items such as student choice about tasks, products, processes, or content during the observed lesson. Teacher responses to the short post-observation survey indicated that they had a much broader interpretation of student choices than that used by observers.

Findings for Question Two

Findings on the implementation of content-specific practices are presented by content area. Observed levels of implementation were compared to expectations set by program staff for each content-specific practice.

Advanced English 7

For Advanced English 7 classes, there were four indicators. Implementation of key, content-specific instructional practices was low for this course because the observed level of implementation met expectations for only one of the four indicators. The first indicator concerned the use of written texts; teachers were expected to use only texts from the approved list for this course (Figure B1 in Appendix B). As expected, among the 10 observed classes that involved a text, the text in almost all of them (9, 90%) was from the approved list. In the remaining class, students spent 30 minutes on a poem that was not on the list; the students identified figurative language in the poem and completed a quiz about it. Results from the teacher survey confirmed this finding that almost all the teachers (22 of 25, 88%) used the advanced level texts.

The second indicator, student writing, was expected to occur in almost all the English classes. This indicator was observed less frequently than expected; students completed writing in 12 of the 17 (71%) observed classes. More details on the writing assignments are presented in Figure B2 in Appendix B.

The third indicator focused on close attention to the use of precise language or to which words are important through reading, writing, or discussion. It was expected to occur in almost all classes, but was observed in only eight classes, about one half (47%) of the observed classes.

Finally, writing instruction was expected in more than one half of the English classes. However, teachers provided instruction on writing in only 4 of the 17 (24%) observed classes.

Investigations in Science 6

For Investigations in Science 6, observers collected evidence on three content-specific indicators. Implementation of key, content-specific instructional practices was low for this course because the observed level of implementation met expectations for only one of the three indicators. Two indicators reflected steps in the engineering design process (Table 8). Program staff expected that more than one half of science classes would include evidence of each of these two

indicators. Teachers invited students to apply knowledge and skills to an authentic problem (indicator 1) for one half or more of class time in three classes, multiple times in one class, and one or two times in seven classes. In total, more than one half of classes (11 of 18) showed evidence of this indicator; thus, observed implementation was at the expected level. Teachers encouraged students to evaluate or refine their solutions to an authentic problem (indicator 2) in less than one half of the classes (7 of 18); thus, observed implementation was not at the expected level.

Table 8
Evidence for the Engineering Design Process in Observed Investigations in Science 6 Classes

Indicator	Extent of evidence (<i>N</i> = 18 classes)			
	One half or more of class time <i>n</i> (%)	Multiple times and less than one half of class time <i>n</i> (%)	One or two times and less than one half of class time <i>n</i> (%)	None <i>n</i> (%)
1. Teacher invites students to apply knowledge and skills to an authentic problem.	3 (17)	1 (6)	7 (39)	7 (39)
2. Teacher encourages students to evaluate or refine their solutions to an authentic problem.	1 (6)	0 (0)	6 (33)	11 (61)

Note. Percentages may not total 100% due to rounding.

The third indicator was a link between each component of the class and the unit project or another real-world issue. Teachers were expected to make this link for every class component observed. This expectation was met in only 9 of the 18 (50%) observed classes. Among the remaining nine classes, observers saw evidence of a link for at least one class component in four classes and saw no evidence of links in three classes.

Table 9 presents evidence of a link to a real-world issue by the type of class component. (Note that there were no expectations about which components each class would include.) About two thirds of teachers were observed making linkages to real-world issues for the most commonly observed class components: warm up (69%), whole group instruction (67%), and small group instruction (71%). For the less commonly observed components, independent work and closure, almost all of the teachers (5 of 6) were observed linking the component to a real-world issue.

Table 9
Evidence of Links to Real-world Issues in Observed Investigations in Science 6 Classes

Class component (# of classes with the component)	Linked to real-world issue	
	Yes <i>n</i> (%)	No <i>n</i> (%)
Warm up (<i>n</i> = 13)	9 (69)	4 (31)
Whole group instruction (<i>n</i> = 15)	10 (67)	5 (33)
Small group instruction (<i>n</i> = 14)	10 (71)	4 (29)
Independent work (<i>n</i> = 6)	5 (83)	1 (17)
Closure (<i>n</i> = 6)	5 (83)	1 (17)
Other (<i>n</i> = 4)	3 (75)	1 (25)

Advanced World Studies 7

For Advanced World Studies 7 classes, observers collected evidence on three content-specific indicators related to the historical thinking skills required in Units 1 and 2. The evidence for each class is in Table 10. Implementation of key, content-specific instructional practices was moderate for this course because observed implementation met two of three expectations set by program staff. It was expected that students in each class would have the opportunity to work on at least one historical thinking skill. Based on the data for classes 1 through 14 in Table 10, students in almost all of the classes (14 of 16, 88%) had such an opportunity, with various levels of evidence.

The second expectation was that students in each class would have an opportunity to work on one of the three skills considered most important: analyzing a document for topic, main idea, inferences, or limitations; learning that people view events and issues differently based on their experiences and culture; and learning that investigating multiple perspectives deepens a person's understanding of events and issues. Based on the data for classes 1 through 14 in Table 10, students in almost all of the classes (14 of 16, 88%) had such an opportunity, as follows:

- Analyze a document for topic, main idea, inference, or limitation in classes 1 through 7: 7, 44%
- Learn that people view events and issues differently based on their experiences and culture in classes 4 and 7 through 12: 7, 44%
- Learn that investigating multiple perspectives deepens a person's understanding of events and issues in classes 4, 8, 9, 13, and 14: 5, 31%

Program staff expected some student writing to occur in more than one half of the observed classes. However, this expectation was not met; students were observed using appropriate evidence to support a generalization in their writing in only one class (see data for class 14 in Table 10).

Note that observers did not see evidence of four skills in any class: analyze a document for the purpose, opinions, beliefs, or values of the author; support an opinion that acknowledges multiple perspectives, in their writing; support an opinion that acknowledges multiple perspectives orally; and learn that evidence can be sorted in multiple ways.

Table 10
Evidence for Historical Thinking Skills by Observed World Studies Class

Class	Students had opportunities to ...					
	Analyze a document for topic, main idea, inferences, or limitations	learn that people view events and issues differently based on their experiences and culture	learn that investigating multiple perspectives deepens a person’s understanding of events and issues	use appropriate evidence to support a generalization orally	learn that sorting evidence helps make sense of data	use appropriate evidence to support a generalization, in their writing
1	half+	none	none	none	once/twice	none
2	half+	none	none	none	none	none
3	half+	none	none	none	none	none
4	multiple	half+	multiple	none	half+	none
5	multiple	none	none	multiple	none	none
6	multiple	none	none	none	none	none
7	once/twice	once/twice	none	none	none	none
8	none	multiple	half+	half+	none	none
9	none	multiple	half+	half+	none	none
10	none	multiple	none	none	multiple	none
11	none	multiple	none	none	none	none
12	none	once/twice	none	once/twice	none	none
13	none	none	multiple	none	half+	none
14	none	none	once/twice	multiple	none	multiple
15	none	none	none	none	none	none
16	none	none	none	none	none	none

Note. None = no evidence; once/twice = one or two times and less than one half of class time; multiple = multiple times and less than one half of class time; half+ = one half or more of class time. Excludes four indicators that had no evidence in any observed class.

Lastly, teachers were expected to spend time practicing a historical thinking skill until students were comfortable and proficient, meaning an expectation of more time for a new skill and less time if the skill was repeated from past lessons. Observers could not distinguish between new and repeated skills and so, could not evaluate whether teachers spent enough time on the skills.

Findings for Question Three

Teachers reported their experiences through a survey. For many of the survey items, respondents indicated their level of agreement. The responses were collapsed into two categories for each item: 1) strongly agree or agree and 2) disagree or strongly disagree.

Teacher Background

All teachers who responded to the teacher survey had at least one colleague at the school who also was teaching the advanced course. Although it was the second year of implementation for the courses, one third (23 of 70) of the teachers were teaching the advanced course for the first time, including seven in English, seven in science, and nine in world studies. About one half of these new teachers (12 of 23) did not work at their current school during the previous school year (2008–2009).

Student Selection and Grouping

Selection process. Although the courses were designed for highly able students, almost all teachers in science (21 of 22) and world studies (19 of 23), as well as 40% of the English teachers (10 of 25) indicated that all students in the related grade level were enrolled in the advanced course (Table 11). (Two teachers noted exceptions to enrolling all students: students in a magnet program and students in the Learning for Independence program.)

Table 11
Teachers' Reports on Selection Process by Content Area

	All content areas (<i>N</i> = 70) <i>n</i> (%)	Advanced English 7 (<i>n</i> = 25) <i>n</i> (%)	Investigations in Science 6 (<i>n</i> = 22) <i>n</i> (%)	Advanced World Studies 7 (<i>n</i> = 23) <i>n</i> (%)
Selection process				
All students selected	50 (71)	10 (40)	21 (95)	19 (83)
Only some students selected	18 (26)	14 (56)	0 (0)	4 (17)
Unknown, unclear	2 (3)	1 (4)	1 (5)	0 (0)

About one half of Advanced English 7 teachers indicated that only some Grade 7 students were selected for this course (Table 11). These 14 teachers reported using a variety of selection processes, as follows:

- Recommendations, including teacher recommendations, parent requests, student requests, last year's placement, or a combination: 5, 36%
- Recommendations plus tests: Teacher recommendations, parent requests, student requests, or a combination; plus test scores or grades: 3, 21%
- Test scores only: 3, 21%
- No description of selection process: 3, 21%

Four teachers of Advanced World Studies 7 indicated that only some Grade 7 students were selected to take the advanced course (Table 11), using a variety of processes shown in Table C1 in Appendix C.

Student groupings. Regardless of the selection process used, almost all teachers reported that their sections included some on-grade-level students, as follows:

- Advanced English 7: 23, 92%
- Investigations in Science 6: 21, 95%
- Advanced World Studies 7: 21, 91%

Teachers also responded to the following question: “Only students who perform at advanced levels or have the potential to do so are in my sections.” (Response options were yes, no, I don’t know.) While this statement was intended to mean that only highly able students are in a section, some teachers said yes to this question and also yes, that some on-grade-level students are in their sections. Because teachers did not appear to interpret this question as intended, the responses were not used.

Appropriateness of selecting all students. Among the 50 respondents who reported that all students were selected for the advanced courses, less than one half (22, 44%) strongly agreed or agreed that the way students were selected was appropriate for implementing the course (Table 12). Across content areas, a lower proportion of teachers of English (3, 30%) than of science (10, 48%) or world studies (9, 47%) strongly agreed or agreed that the way students were selected (i.e., selecting all students) was appropriate.

Table 12
Teachers’ Responses on Appropriateness of Selecting All Students, by Content Area

The way students were selected for my sections is appropriate for implementing [course name]	All content areas (N = 50) n (%)	Advanced English 7 (n = 10) n (%)	Investigations in Science 6 (n = 21) n (%)	Advanced World Studies 7 (n = 19) n (%)
Strongly agree or Agree	22 (44)	3 (30)	10 (48)	9 (47)
Disagree or Strongly disagree	27 (54)	7 (70)	10 (48)	10 (53)
No response	1 (2)	0 (0)	1 (4)	0 (0)

Teachers also explained their answer about the appropriateness of the way students were selected for their sections. Among teachers who strongly agreed or agreed that selecting all students was appropriate, the two most frequent explanations were student success and opportunities for all students to access material or critical thinking skills. Each of these 22 teachers provided one of the following explanations:

- Students were successful/were able to access the majority of the curriculum: 7, 32%
- All students have access to the curriculum or have opportunities for critical thinking or challenge: 5, 23%
- Other reason: 2, 9%
- No reason given: 8, 36%

The most frequent explanations from teachers who disagreed or strongly disagreed that selecting all students was appropriate were inclusion of certain groups of students and problems related to student reading skills. Each of these 27 teachers provided one or more of the following explanations:

- Too difficult for some students, such as lower level and those receiving special education or English for Speakers of Other Languages services/Too many on-level students: 8, 30%
- Students’ reading level/comprehension is too low for the curriculum: 5, 19%
- Range of reading levels/other skills in class is too wide: 4, 15%
- Students lack background knowledge, work ethic, or skills to learn material: 4, 15%
- Curriculum pace is too fast for some students: 4, 15%
- Curriculum is not modified for special education students: 2, 7%
- Curriculum—other problems: 3, 11%
- Other reasons: 2, 7%
- No reason given: 4, 15%

Eight of the teachers who disagreed or strongly disagreed about the appropriateness of selecting all students included a recommendation later in the survey to not put all students into the advanced course or to group them by ability level.

Appropriateness of selecting some students. For the 18 teachers who indicated that only some students were selected for the advanced course, responses about the appropriateness of the way students were selected are in Table 13. Most of the 14 teachers who described a process strongly agreed or agreed that their process was appropriate. Among the eight teachers who disagreed or strongly disagreed that the process was appropriate, six gave explanations involving students who were unsuccessful with the advanced curriculum (Table C1 in Appendix C).

Table 13
Teachers’ Responses on Appropriateness of Processes to Select Some Students by Type of Process

The way students were selected for my sections is appropriate for implementing [course name]	Any process to select some students (N = 18)	Recommend ^a			Test	No
		Recommend ^a (n = 5)	+ test scores (n = 4)	Test scores (n = 3)	Other (n = 2)	description (n = 4)
Strongly agree or Agree	10	3	4	2	1	0
Disagree or Strongly disagree	8	2	0	1	1	4

^a Recommend = recommendations.

Advanced Course Curriculum

Common components. Teachers in all content areas reported their experiences with the advanced course curriculum on eight items (Table 14). For six items, at least one half of all teacher respondents gave a positive response. With respect to highly able middle school students, about 80% or more of teachers strongly agreed or agreed that the curriculum challenged students at an appropriate level and prepared students for rigorous courses in high school (items 1 and 2). Two thirds to almost four fifths of the respondents believed that the advanced course curriculum guide was helpful in planning rigorous instruction, critical thinking, and writing instruction (items 3, 4, and 5). When asked whether the advanced course curriculum “prepares all students” for rigorous courses in high school, slightly more than one half of the teachers agreed (item 6). A lower proportion of teachers agreed that the advanced course curriculum had sufficient materials to meet their students’ learning needs (item 7, 41%) or was appropriate for all students (item 8, 33%).

Table 14
Teachers' Experiences With the Curriculum

Item	All Teachers (<i>N</i> = 70)		
	Strongly agree or Agree	Disagree or Strongly disagree	Didn't use the curriculum guide for this purpose or No response
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
1. The curriculum challenges highly able (i.e., those who perform at advanced levels or who have the potential to do so) middle school students at an appropriate level.	61 (87)	9 (13)	0 (0)
2. The curriculum prepares highly able (i.e., those who perform at advanced levels or who have the potential to do so) middle school students for rigorous courses in high school.	55 (79)	14 (20)	1 (1)
3. The curriculum guide is helpful in planning rigorous instruction.	55 (79)	15 (21)	0 (0)
4. The curriculum guide is helpful in planning for critical thinking.	54 (77)	15 (21)	1 (1)
5. The curriculum guide is helpful in planning writing instruction.	46 (66)	21 (30)	3 (4)
6. The curriculum is appropriate to prepare <u>all</u> middle school students for rigorous courses in high school.	40 (57)	29 (41)	1 (1)
7. The curriculum has sufficient materials to meet my students' learning needs.	29 (41)	41 (59)	0 (0)
8. The curriculum is appropriate for <u>all</u> middle school students.	23 (33)	47 (67)	0 (0)

Note. Percentages may not total 100% due to rounding.

Teachers' reports on their experiences with the advanced course curriculum differed among content areas for three items (2, 4, and 6), including two about preparing students for high school courses (Table 15). A lower proportion of science (64%) than English (88%) or world studies (83%) teachers strongly agreed or agreed that the curriculum prepared highly able middle school students for rigorous courses in high school (item 2). Likewise, a lower proportion of science (45%) than English (64%) or world studies (61%) teachers agreed that the curriculum prepared all middle school students for rigorous courses in high school (item 6). Lastly, a lower proportion of English teachers (64%) than science (82%) or world studies (87%) teachers agreed that the curriculum was helpful in planning for critical thinking (item 4). The differences among content areas for the remaining items were negligible, given the small sample sizes.

Table 15
Teachers' Experiences With the Curriculum by Content Area

Item	Strongly agree or Agree		
	Advanced English 7 (N = 25)	Investigations in Science 6 (N = 22)	Advanced World Studies 7 (N = 23)
	n (%)	n (%)	n (%)
1. The curriculum challenges highly able (i.e., those who perform at advanced levels or who have the potential to do so) middle school students at an appropriate level.	23 (92)	18 (82)	20 (87)
2. The curriculum prepares highly able (i.e., those who perform at advanced levels or who have the potential to do so) middle school students for rigorous courses in high school.	22 (88)	14 (64)	19 (83)
3. The curriculum guide is helpful in planning rigorous instruction. ^a	19 (76)	16 (73)	20 (87)
4. The curriculum guide is helpful in planning for critical thinking. ^a	16 (64)	18 (82)	20 (87)
5. The curriculum guide is helpful in planning writing instruction. ^a	15 (60)	15 (68)	16 (70)
6. The curriculum is appropriate to prepare <u>all</u> middle school students for rigorous courses in high school.	16 (64)	10 (45)	14 (61)
7. The curriculum has sufficient materials to meet my students' learning needs.	12 (48)	9 (41)	8 (35)
8. The curriculum is appropriate for <u>all</u> middle school students.	8 (32)	8 (36)	7 (30)

Note. The percentage calculation is based on the total number of respondents including those who did not use the curriculum guide for that purpose or did not respond.

^aFor science teachers these items excluded the word "guide."

Content-specific components. Teachers also reported on the helpfulness of content-specific components of the curriculum for implementing each advanced course.

Among the 25 English teachers, a majority strongly agreed or agreed that all six components of their guide were helpful for implementation (Table 16). Specifically, at least three quarters of these teachers strongly agreed or agreed that the following components were helpful: common tasks, course terms, advanced level texts, recommended tasks, and advanced level texts (items 1 to 4). At least 6 out of 10 English teachers strongly agreed or agreed that model planning documents (item 5) and grammar and vocabulary expectations (item 6) were helpful for implementation.

Table 16
Teachers' Responses on Helpfulness of Curriculum Guide Components for Advanced English 7

I found the following components of the curriculum guide helpful for implementing Advanced English 7:	Teacher responses (N = 25)			
	Strongly agree or Agree	Disagree or Strongly disagree	Didn't use this resource	No answer
	n (%)	n (%)	n (%)	n (%)
1. Common Tasks are helpful.	21 (84)	4 (16)	0 (0)	0 (0)
2. Course terms are helpful.	20 (80)	4 (16)	1 (4)	0 (0)
3. Recommended Tasks are helpful.	19 (76)	5 (20)	1 (4)	0 (0)
4. Advanced level texts are helpful.	19 (76)	3 (12)	3 (12)	0 (0)
5. Model planning documents are helpful.	17 (68)	7 (28)	1 (4)	0 (0)
6. Grammar and vocabulary expectations are helpful.	15 (60)	8 (32)	1 (4)	1 (4)

The science teachers responded to one component: the Design-folio in the curriculum. Out of the 22 science teachers, about one third (7), strongly agreed or agreed that the Design-folio was

helpful for implementing the course. About two thirds of the teachers (14) disagreed or strongly disagreed that this component was helpful. One teacher indicated non-use of this resource.

Among the 23 world studies teachers, at least 60% strongly agreed or agreed that five of six curriculum components were helpful for implementing the course (Table 17). These components included graphic organizers (item 1), a variety of lessons (items 2, 4, and 5), and end-of-unit assessment addendums (item 3). However, less than one half of the teachers agreed that research projects were helpful (item 6).

Table 17

Teachers' Responses on Helpfulness of Curriculum Guide Components for Advanced World Studies 7

I found the following components of the curriculum guide helpful for implementing Advanced World Studies 7:	Teacher responses (N = 23)			
	Strongly agree or Agree	Disagree or Strongly disagree	Didn't use this resource	No answer
	n (%)	n (%)	n (%)	n (%)
1. Historical thinking graphic organizers are helpful.	20 (87)	3 (13)	0 (0)	0 (0)
2. Document based inquiry lessons (incorporation of multiple historical thinking skills) are helpful.	17 (74)	5 (22)	1 (4)	0 (0)
3. End-of-unit assessment addendums are helpful.	17 (74)	6 (26)	0 (0)	0 (0)
4. Extension lessons are helpful.	14 (61)	8 (35)	1 (4)	2 (9)
5. Historical thinking lessons (specific focus on teaching a historical thinking skill) are helpful.	14 (61)	7 (30)	2 (9)	0 (0)
6. Research projects are helpful.	10 (43)	11 (48)	2 (9)	0 (0)

Note. Percentages may not total 100% due to rounding.

Common Resources that Support Implementation of the Advanced Courses

Teachers in all content areas reported their experiences with seven resources that support implementation of the advanced courses. When considering only those teachers who used each resource, at least 7 out of 10 users responded positively for each resource (Table 18). All or almost all users strongly agreed or agreed that sharing materials (item 1) and planning with other teachers (item 2) was supportive for implementation. About three quarters or more of users strongly agreed or agreed that professional development, content specialist, administrative team, planning time, and instructional specialists or supervisors were supportive (items 3 through 7).

Table 18

Users' Experiences With Resources (N = 70)

Item	Number of users	Strongly agree or Agree	Disagree or Strongly disagree
	n	n (%)	n (%)
1. Sharing instructional materials with other teachers is supportive.	70	70 (100)	0 (0)
2. Planning with other teachers is supportive.	70	68 (97)	2 (3)
3. Professional development from central office on the curriculum guide is supportive.	62	52 (84)	10 (16)
4. The content specialist at my school is supportive. ^a	61	53 (87)	8 (13)
5. My school administrative team is supportive.	60	44 (73)	16 (27)
6. Sufficient individual planning time is supportive. ^b	58	43 (74)	15 (26)
7. Central office instructional specialists or supervisors are supportive.	50	37 (74)	13 (26)

^aExcludes eight teachers who were content specialists.

^bIncludes only teachers who indicated that they had sufficient planning time.

Users' experiences differed among content areas for four resources (Table 19). Among users, a lower proportion of teachers in science and world studies than in English strongly agreed or agreed that the following resources were supportive: professional development (item 3; 70% and 79% vs. 96%), administrative team (item 5; 58% and 58% vs. 100%), sufficient individual planning time (item 6; 42% and 78% vs. 100%), and instructional specialists or supervisors (item 7; 63% and 57% vs. 100%).

Table 19
Users' Experiences With Resources by Content Area

Item	Advanced English 7 (<i>N</i> = 25)		Investigations in Science 6 (<i>N</i> = 22)		Advanced World Studies 7 (<i>N</i> = 23)	
	Number of users <i>n</i>	Strongly agree or Agree	Number of users <i>n</i>	Strongly agree or Agree	Number of users <i>n</i>	Strongly agree or Agree
		<i>n</i> (%)		<i>n</i> (%)		<i>n</i> (%)
1. Sharing instructional materials with other teachers is supportive.	25	25 (100)	22	22 (100)	23	23 (100)
2. Planning with other teachers is supportive.	25	25 (100)	22	21 (95)	23	22 (96)
3. Professional development from central office on the curriculum guide is supportive.	24	23 (96)	20	14 (70)	19	15 (79)
4. The content specialist at my school is supportive ^a	23	19 (83)	21	18 (86)	17	16 (94)
5. My school administrative team is supportive.	22	22 (100)	19	11 (58)	19	11 (58)
6. Sufficient individual planning time is supportive ^b	21	21 (100)	19	8 (42)	18	14 (78)
7. Central office instructional specialists or supervisors are supportive.	17	17 (100)	19	12 (63)	14	8 (57)

^aExcludes eight teachers who were content specialists.

^bIncludes only teachers who indicated that they had sufficient planning time.

Further, among users, fewer science (42%) than world studies (78%) teachers agreed that sufficient individual planning time (item 6) was supportive (Table 19).

Content-specific Materials that Support Implementation

Teachers also reported on their experiences with content-specific instructional materials that supported implementation of the advanced course. For each material, teachers could check “did not use.” Responses are reported only for users.

Advanced English 7. The 25 English teachers reported on their experiences with six materials (Table 20). Across materials, the number of users varied from all teachers to less than 10. About 8 out of 10 users strongly agreed or agreed that each material in the curriculum archive supported implementation of the course, including the guide (item 1) as well as model lessons, flip charts, links, and resources for students (items 3 to 5). A similar proportion of users (83%) agreed that *Citizens of the World* text (item 6) was supportive. But a lower proportion of users, about 6 out of 10, agreed that formative assessments (item 2) were supportive.

Table 20
Users’ Experiences With Instructional Materials for Advanced English 7 ($N = 25$)

The following instructional materials support my implementation of Advanced English 7:	Number of users <i>n</i>	Strongly agree or Agree <i>n</i> (%)	Disagree or Strongly disagree <i>n</i> (%)
1. Advanced English 7 Guide in the curriculum archive is supportive.	25	22 (88)	3 (12)
2. Formative assessments are supportive.	23	14 (61)	9 (39)
3. Model lessons in the curriculum archive are supportive.	20	16 (80)	4 (20)
4. Flip charts and links in the curriculum archive are supportive.	18	15 (83)	3 (17)
5. Resources for students in the curriculum archive are supportive.	17	14 (82)	3 (18)
6. Citizens of the World text is supportive.	9	7 (83)	2 (17)

Investigations in Science 6. The 22 science teachers reported on their experiences with four online materials: websites (item 1), videos (item 2), flip charts (item 3) and links to the elementary curriculum (item 4) (Table 21). All or nearly all the science teachers used each material. At least 8 out of 10 users strongly agreed or agreed that each material supported implementation of the course.

Table 21
Users’ Experiences With Instructional Materials for Investigations in Science 6 ($N = 22$)

The following instructional materials support my implementation of Investigations in Science 6:	Number of users <i>n</i>	Strongly agree or Agree <i>n</i> (%)	Disagree or Strongly disagree <i>n</i> (%)
1. Online curriculum websites are helpful.	22	22 (100)	0 (0)
2. Online curriculum videos are helpful.	22	21 (96)	1 (5)
3. Online curriculum flip charts are helpful.	22	18 (82)	4 (18)
4. Links to elementary curriculum to support scaffolding are helpful.	20	18 (90)	2 (10)

Note. Percentages may not total 100% due to rounding.

Advanced World Studies 7. The 23 world studies teachers reported on their experiences with seven materials (Table 22). Although most of the world studies teachers used items 1 through 3, less than one half of them used items 4 through 7. For each material, the majority of users strongly agreed or agreed that it was supportive for implementation. Specifically, among users of Document Based Questions in World History (item 1), 85% indicated that they were supportive. For both Stories in History (items 2 and 3), all users agreed that they were

supportive. Nearly three quarters of users indicated that item 4 about World Source Readings was supportive. Additionally, nearly all the users agreed that the remaining materials (items 5 to 7) were supportive.

Table 22
Users' Experiences With Instructional Materials for Advanced World Studies 7 ($N = 23$)

The following instructional materials support my implementation of Advanced World Studies 7:	Number of users <i>n</i>	Strongly agree or Agree <i>n</i> (%)	Disagree or Strongly disagree <i>n</i> (%)
1. Document Based Questions in World History (The DBQ Project) are supportive.	20	17 (85)	3 (15)
2. Stories in History: The Middle Ages (Nexttext) are supportive.	17	17 (100)	0 (0)
3. Stories in History: The Renaissance (Nexttext) are supportive.	16	16 (100)	0 (0)
4. Treasures of the World Source Readings (Pearson) are supportive.	11	8 (73)	3 (27)
5. Historian's Apprentice Activity Packs (Pearson) are supportive.	7	6 (86)	1 (14)
6. Civilizations Interacting (MindSparks) is supportive.	6	5 (83)	1 (17)
7. The Beginning of the Global Age (MindSparks) is supportive.	5	4 (80)	1 (20)

Other content-specific supports. Fifteen teachers described a variety of other content-specific supports that helped implement the middle school advanced courses (Figure C1 in Appendix C).

General Comments on the Advanced Courses

Positive aspects of implementation. Teachers were asked to write their answers to the following question: What are three POSITIVE aspects of this advanced course as implemented in your school? Out of the 70 respondents, 48 (69%) teachers, including 16 of 25 (64%) in English, 18 of 22 (81%) in science, and 14 of 23 (61%) in world studies, identified at least one positive aspect.

Categories of positive aspects that were common across content areas are in Table 23. (Teachers' comments are in Figure C2 in Appendix C.) The most common positive category mentioned by 30 teachers, concerned rigor, challenge, and critical thinking. The second most common positive category, noted by 18 teachers, was resources and materials. In this category, two of three English teachers mentioned the choice of texts, all five science teachers referred to online resources, and 8 of 10 world studies teachers noted the primary source documents. The remaining positive aspects were specific to each content area and are shown in Figure C3 in Appendix C.

Table 23
Teachers' Common Positive Aspects by Content Area

Positive aspect	All teachers (<i>N</i> = 48) <i>n</i> (%)	Advanced English 7 (<i>n</i> = 16) <i>n</i> (%)	Investigations in Science 6 (<i>n</i> = 18) <i>n</i> (%)	Advanced World Studies 7 (<i>n</i> = 14) <i>n</i> (%)
1. Curriculum was rigorous, there were challenges for students, or there were opportunities for critical thinking.	30 (63)	11 (69)	8 (44)	11 (79)
2. Resources and materials were available or helpful.	18 (38)	3 (19)	5 (28)	10 (71)
3. Instructional strategies were positive.	12 (25)	4 (25)	5 (28)	3 (21)
4. Assignments (e.g., common tasks, unit projects) were related or appropriate.	7 (15)	4 (25)	3 (17)	0 (0)
5. Advanced curriculum or instruction was available to all students.	6 (13)	2 (13)	2 (11)	2 (14)
6. There was collaboration or team planning.	5 (10)	2 (13)	2 (11)	1 (7)

Note. Excludes 22 teachers who did not make any positive comments.

Areas of improvement. Teachers were asked to write their answers to the following question: What three improvements would you make to support your teaching of this advanced course? A total of 53 of the 70 (76%) respondents, including 17 of 25 (68%) English, 20 of 22 (91%) science, and 16 of 23 (70%) world studies teachers, listed at least one improvement.

Three improvements that were common to all content areas are in Table 24. (Teachers' comments for improvements are in Figure C4 in Appendix C). The most common request, from 19 teachers, was to add resources for making the course accessible to more students or to all students. (Improvements related to selecting students for the courses are included in the earlier section on student grouping.)

Table 24
Teachers' Common Improvements by Content Area

Improvement	All teachers (<i>N</i> = 53) <i>n</i> (%)	Advanced English 7 (<i>n</i> = 17) <i>n</i> (%)	Investigations in Science 6 (<i>n</i> = 20) <i>n</i> (%)	Advanced World Studies 7 (<i>n</i> = 16) <i>n</i> (%)
1. Add resources to make the course accessible to more or to all students.	19 (36)	5 (29)	10 (50)	4 (25)
2. Add more lessons, more flipcharts.	8 (15)	4 (24)	4 (20)	2 (13)
3. Revise assessments.	5 (9)	2 (12)	2 (10)	1 (6)

Note. Excludes 17 teachers who did not mention any improvements.

Most improvements were specific to a content area, as follows. (More details are in Figure C5 in Appendix C.)

Among the 17 English teachers who gave an improvement, the most common content-specific ones were add more resources related to grammar and increase the choices of texts. The suggested improvements were as follows:

- Add more grammar lessons/activities/instruction: 5, 29%
- Increase the choices of texts: 5, 29%
- Revise tasks: 3, 18%

- Need more time: 3, 18%
- Other improvements: 6, 35%

Among the 20 science teachers who listed an improvement, the most common content-specific ones were revise the unit projects and change the length, content, and order of units. The suggested improvements were as follows:

- Revise unit projects and Request for Proposals (RFPs): 8, 40%
- Change length, content, and order of units: 7, 35%
- Add or rework labs: 3, 15%
- Supply more course-related materials: 3, 15%
- Provide answer keys: 2, 10%
- Improve unit tests: 2, 10%
- Other improvements: 6, 30%

Among the 16 world studies teachers who described an improvement, the most common content-specific ones were change the curriculum or curriculum guide and add more materials or resources. The suggested improvements were as follows:

- Change the curriculum or curriculum guide: 5, 31%
- Add more materials or resources: 5, 31%
- Revise content: 2, 13%
- Change graphic organizers: 2, 13%
- Other improvements: 3, 19%

Findings for Question Four

Students reported on the frequency of their experiences with focus on big ideas, critical thinking, and student-centered instruction in the advanced courses. The survey items had two different types of response scales; therefore, some items on the same topic are included in separate tables due to the different response scales. To determine whether student responses differed between content areas, a significance test for differences in percentages of students who reported a moderate to high frequency of experiences was conducted between every pair of content areas.

Student Experiences with Focus on Big Ideas

Six items on the student survey concerned experiences with focus on big ideas, including two on conceptual understanding. The remaining four items concerned dimensions of the PACE (i.e., provocative, ambiguous, complex, emotionally challenging) model of rigor as follows:

- Provocative: This [subject] class makes me think deeply about what I'm learning.
- Ambiguous: What I'm studying in this class has different meanings or interpretations.
- Complex: This class has something complex to figure out.
- Emotionally challenging: I have chances to connect what I am learning in this class to my own life or ideas.

All content areas. For the six items that related to a focus on big ideas, the majority of all students reported a moderate to high frequency of experience (Tables 25 and 26). More than three quarters of students reported that they got to learn about topics or ideas in detail (item 1) most of the time or more frequently (Table 25). A smaller proportion of students (68%) reported this frequency of experience for item 2 on opportunities to think about why the things they were learning were important.

Table 25
Students' Experiences With Focus on Big Ideas During Class Time or With Homework Assignments

Items about conceptual understanding	% of student responses ($N = 1,325$)		
	Almost always or always or Most of the time	Some of the time or Almost never or never	No response
1. I get to learn about topics or ideas in detail.	81	18	1
2. I get to think about why the things I'm learning in this class are important.	68	31	1
Items about PACE model of rigor			
3. What I'm studying in this class has different meanings or interpretations.	70	28	2
4. I have chances to connect what I am learning in this class to my own life or ideas.	60	39	1

Students also reported on experiences with the PACE model (Table 25). Seven out of 10 students reported a moderate to high frequency for studying ambiguous content (item 3). Somewhat fewer students, about 6 out of 10, reported the same frequency of experience for emotionally challenging content (item 4). A similar proportion of students, about 60%, reported that the two other PACE items, thinking deeply (item 5) and something complex to figure out (item 6), occurred in most of the lessons or more often (Table 26).

Table 26
Students' Experiences With Focus on Big Ideas During Class Time

Items about PACE model of rigor	% of student responses ($N = 1,325$)		
	In almost all or all of the lessons or In most of the lessons	In some of the lessons or In very few or none of the lessons	No response
5. This class makes me think deeply about what I'm learning.	61	38	1
6. This class has something complex to figure out.	58	41	0

Note. Percentages may not total 100% due to rounding.

Differences across content areas in student experiences with focus on big ideas. There were statistically significant differences between content areas for four of six student experiences with focus on big ideas (Tables 27 and 28). For item 1, a significantly higher percentage of students in English (85%) reported that they got to learn about topics or ideas in detail most of the time or more often, than students in science (79%, $p < .05$) or world studies (78%, $p < .05$) (Table 27). For item 4, a significantly lower proportion of students in science (53%) than in the other courses (about 63%, $p < .01$) responded that chances to connect learning to their own lives or ideas occurred most of the time or more often.

Table 27
Students' Experiences With Focus on Big Ideas During Class Time or With Homework Assignments
by Content Area

	% of student responses for Almost always or always or Most of the time			Difference in percentage points between content areas		
	AE7 (N = 536)	IS6 (N = 410)	AWS7 (N = 379)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
Items about conceptual understanding						
1. I get to learn about topics or ideas in detail.	85	79	78	6*	7*	1
2. I get to think about why the things I'm learning in this class are important.	68	67	68	1	0	-1
Items about PACE model of rigor						
3. What I'm studying in this class has different meanings or interpretations.	72	68	70	4	2	-2
4. I have chances to connect what I am learning in this class to my own life or ideas.	62	53	64	9**	-2	-11**

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

* $p < .05$, ** $p < .01$, *** $p < .001$

Further, for item 5 on thinking “deeply about what I’m learning,” a significantly lower proportion of students in world studies (54%) reported this experience in most lessons or more often, compared to students in English (67%, $p < .001$) or science (61%, $p < .05$). Likewise, for item 6 regarding something complex to figure out, a significantly lower proportion of students in world studies (52%) reported this frequency of experience than students in the other courses (about 60%, $p < .05$) (Table 28).

Table 28
Students' Experiences With Focus on Big Ideas During Class Time

	% of student responses for In almost all or all of the lessons or In most lessons			Difference in percentage points between content areas		
	AE7 (N = 536)	IS6 (N = 410)	AWS7 (N = 379)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
Items about PACE model of rigor						
5. This [subject] class makes me think deeply about what I'm learning.	67	61	54	6	13***	7*
6. This class has something complex to figure out.	60	61	52	-1	8*	9*

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

* $p < .05$, ** $p < .01$, *** $p < .001$

Student Experiences with Critical Thinking

Students responded to eight items related to experiences with critical thinking.

All content areas. For all eight items that reflect critical thinking, nearly two thirds or more of students reported a moderate to high frequency of experience (Table 29). Three quarters or more of students reported that they had chances to give examples or reasons for answers (item 1) and to explain their thinking orally or in writing (item 2) and were encouraged to make conclusions or judgments based on information (item 3) most of the time or more frequently. Slightly fewer students, about 7 of 10, reported this frequency of experience for item 4 on opportunities to interpret the meaning of texts and item 5 on encouragement to form their own conclusions or opinions about what they were learning. About two thirds of respondents reported the same moderate to high frequency of experience with item 6 on connections to earlier learning and item

7 on evaluating issues or problems. Lastly, more than three quarters of students reported that item 8, teacher encouragement for different opinions, occurred in most of the lessons or more often.

Table 29
Students' Experiences With Critical Thinking During Class Time or With Homework Assignments

Item	% of student responses ($N = 1,325$)		
	Almost always or always or Most of the time	Some of the time or Almost never or never	No response
1. I have chances to give examples or reasons for my answers.	81	17	1
2. I have chances to explain my thinking orally or in writing.	76	23	1
3. I am encouraged to make conclusions or judgments based on information that I read, research, or discover.	75	24	1
4. I have opportunities to interpret the meaning of [texts used in the course].	72	27	1
5. I am encouraged to form my own conclusions or opinions about what I am learning in this class.	71	38	1
6. I am asked to connect what I'm learning to what I learned earlier in this [subject] class.	66	33	1
7. I have chances to evaluate issues or problems related to what I am learning in this class.	65	34	1
8. In this [subject] class, the teacher asks for different opinions or points of view about issues or topics ^a .	78	22	1

^a For this item, response categories were "In almost all or all of the lessons or In most of the lessons" and "In some of the lessons or In very few or none of the lessons."

Differences across content areas in student experiences with critical thinking. Analysis of student reports about experiences with critical thinking revealed statistically significant differences between courses for seven items (Table 30). For four items (1, 2, 6, and 8), a significantly higher proportion of students in English than in the other courses gave responses of moderate to high frequency. For item 1 regarding chances to give examples or reasons for my answers, more students in English (85%) responded that it occurred most of the time or more often than students in science (77%, $p < .01$) or world studies (80%, $p < .05$). Likewise, for item 2 on chances to explain my thinking, more students in English (82%) than in science (70%, $p < .001$) or world studies (73%, $p < .05$) reported a moderate to high frequency. For item 6 about connecting what I'm learning to what I learned earlier, more students in English (70%) reported that it occurred most of the time or more often than students in world studies (61%, $p < .01$). Lastly, for item 8 on the teacher asks for different opinions, more students in English (84%) than in science (73%, $p < .001$) or world studies (74%, $p < .001$) reported that it occurred in most of the lessons or more often.

Table 30
Students' Experiences With Critical Thinking During Class Time or With Homework Assignments by Content Area

Item	% of student responses for Almost always or always or Most of the time			Difference in percentage points between content areas		
	AE7 (N = 536)	IS6 (N = 410)	AWS7 (N = 379)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
1. I have chances to give examples or reasons for my answers.	85	77	80	8**	5*	-2
2. I have chances to explain my thinking orally or in writing.	82	70	73	12***	9*	-3
3. I am encouraged to make conclusions or judgments based on information that I read, research, or discover.	80	67	76	13***	4	-9*
4. I have opportunities to interpret the meaning of [texts relevant to the course]. ^a	77	67	72	10***	5	-5
5. I am encouraged to form my own conclusions or opinions about what I am learning in this class.	73	65	75	8**	-2	-10**
6. I am asked to connect what I'm learning to what I learned earlier in this [subject] class.	70	64	61	6	9*	3
7. I have chances to evaluate issues or problems related to what I am learning in this class.	66	64	66	2	0	-2
8. In this [subject] class, the teacher asks for different opinions or points of view about issues or topics. ^b	84	73	74	11***	10***	-1

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

^aTexts were novels, poems, stories, or videos for AE7; reading materials, pictures, graphs, or videos for IS6; and documents, pictures, graphs, or videos for AWS7.

^bFor this item, response categories were "In almost all or all of the lessons or In most of the lessons" and "In some of the lessons or In very few or none of the lessons."

* $p < .05$, ** $p < .01$, *** $p < .001$.

The remaining statistically significant differences reflect that a lower proportion of science students gave responses of moderate to high frequency than students in one or two other courses (Table 30). For item 3 on encouragement to make conclusions or judgments based on information that I read, research or discover, fewer students in science (67%) reported this frequency than students in English (80%, $p < .001$) or world studies (76%, $p < .05$). For item 4 on opportunities to interpret the meaning of texts, a lower proportion of students in science (67%) reported a moderate to high frequency than students in English (77%, $p < .001$). Finally, for item 5 about encouragement to form my own conclusions or opinions, fewer students in science (65%) responded that it occurred most of the time or more often, than students in English (73%, $p < .01$) or world studies (75%, $p < .01$).

Student Experiences with Student-centered Instruction

Eight items on the student survey concerned experiences with student-centered instruction. For six items, students reported the frequency of their experiences. For the other two items, which concerned class norms, students indicated the extent of their agreement with each statement.

All content areas. For six items that reflect student-centered instruction, more than one half of all students reported a moderate to high frequency of experience (Tables 31 and 32). About three quarters of students reported that they were encouraged to find solutions (item 1) or explore ideas or topics (item 2) most of the time or more frequently (Table 31). A smaller proportion of students (55%) reported this frequency of experience for item 3 on chances to choose how to complete assignments.

Table 31
Students' Experiences With Student-centered Instruction During Class Time or With Homework Assignments

Item	% of student responses (<i>N</i> = 1,325)		
	Almost always or always or Most of the time	Some of the time or Almost never or never	No response
1. I am encouraged to find solutions or figure things out on my own.	78	21	1
2. I am encouraged to explore ideas or topics related to this [subject] class.	74	26	1
3. I have chances to choose how I complete my [subject] assignments.	55	43	1

Note. Percentages may not total 100% due to rounding.

Three items concerned class discussions (Table 32). About 8 in 10 students reported a moderate to high frequency of experience (i.e., in almost all or all of the lessons, or in most of the lessons) for item 4 on teachers encouraging most students to participate. A smaller proportion of students, slightly more than two thirds, reported that they had an opportunity to discuss what they were learning and build on discussions (items 5 and 6) in most of the lessons or more often.

Table 32
Students' Experiences With Student-centered Instruction During Class Time

Item	% of student responses (<i>N</i> = 1,325)		
	In almost all or all of the lessons or In most of the lessons	In some of the lessons or In very few or none of the lessons	No response
4. The teacher encourages most students to participate in discussions.	81	18	1
5. In this class, I get an opportunity to discuss what I am learning.	69	30	1
6. I am encouraged to build on discussions by adding my own ideas in this class.	67	32	1

The other two items for experiences with student-centered instruction related to class norms (Table 33). Almost 9 out of 10 students strongly agreed or agreed that “it’s okay to respectfully disagree with others during class activities” (item 7). More than three quarters of students agreed with item 8 about asking for help.

Table 33
Students’ Experiences With Student-centered Instruction During Class Time

Item	% of student responses ($N = 1,325$)		
	Strongly agree or Agree	Disagree or Strongly disagree	No response
7. It’s okay to respectfully disagree with others during class activities.	89	10	1
8. In this class, I can ask other students for help, if I need it.	77	22	1

Differences across content areas in student experiences with student-centered instruction. Analysis of student reports about experiences with student-centered instruction revealed statistically significant differences between courses for six items (Tables 34 and 35). For five items, these differences reflected that a greater proportion of Advanced English 7 students gave responses of moderate to high frequency (i.e., in most of the lessons or in almost all or all of the lessons) than students in the other courses. For item 1 regarding encouragement to find solutions, more students in English (82%) reported this frequency than students in science (76%, $p < .05$) or world studies (75%, $p < .05$). Further, more students in English (77%) responded that they were encouraged to explore ideas or topics related to this class (item 2) most of the time or more often than students in science (69%, $p < .01$) (Table 34).

Table 34
Students’ Experiences With Student-centered Instruction During Class Time or With Homework Assignments by Content Area

Item	% of student responses for Almost always or always or Most of the time			Difference in percentage points between content areas		
	AE7 ($N = 536$)	IS6 ($N = 410$)	AWS7 ($N = 379$)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
1. I am encouraged to find solutions or figure things out on my own.	82	76	75	6*	7*	1
2. I am encouraged to explore ideas or topics related to this [subject] class.	77	69	74	8**	3	-5
3. I have chances to choose how I complete my [subject] assignments.	58	53	54	5	4	-1

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Similar differences were found for all three items related to experiences with student-centered class discussions (Table 35). For item 4 “The teacher encourages most students to participate in discussions,” a higher proportion of students in English (86%) responded that it occurred in most lessons or more often than students in the other courses (78%, $p < .01$). Likewise, for item 5 regarding an opportunity to discuss what I am learning, a higher percentage of students in English (75%) reported this moderate to high frequency than students in science (62%, $p < .001$) or world studies (61%, $p < .001$). Finally, for item 6 about encouragement to build on discussions, more students in English (73%) responded that it occurred in most lessons or more often than students in science (67%, $p < .05$) or world studies (65%, $p < .05$).

Table 35
Students' Experiences With Student-centered Instruction During Class Time by Content Area

Item	In most lessons or In almost all or all of the lessons			Difference in percentage points between content areas		
	AE7 (N = 536)	IS6 (N = 410)	AWS7 (N = 379)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
	4. The teacher encourages most students to participate in discussions.	86	78	78	8**	8**
5. In this class, I get an opportunity to discuss what I am learning.	75	62	61	13***	14***	1
6. I am encouraged to build on discussions by adding my own ideas in this class.	73	67	65	6*	8*	2

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

* $p < .05$, ** $p < .01$, *** $p < .001$.

The last difference across content areas concerned experiences with a class norm (Table 36). A lower proportion of students in science (71%) strongly agreed or agreed that “I can ask other students for help” (item 8) than in English (80%, $p < .001$) or world studies (78%, $p < .05$).

Table 36
Students' Experiences With Student-centered Instruction During Class Time by Content Area

Item	Strongly agree or Agree			Difference in percentage points between content areas		
	AE7 (N = 536)	IS6 (N = 410)	AWS7 (N = 379)	AE7 vs. IS6	AE7 vs. AWS7	IS6 vs. AWS7
	7. It's okay to respectfully disagree with others during class activities.	89	89	88	0	1
8. In this class, I can ask other students for help, if I need it.	80	71	78	9***	2	-7*

Note. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Content-specific Indicators

Students in each course answered questions about their experiences with content-specific instructional practices.

Advanced English 7. There were five content-specific items for students in Advanced English 7, each of which concerned writing instruction and practices. At least two thirds of the students in English reported a moderate to high frequency of experience for each item (Tables 37 and 38).

Three items focused on the use of precise language or on which words are important. About three quarters of the students reported that each of these items (1 through 3) occurred most of the time, or almost always or always (Table 37). These experiences included why an author chooses certain words (item 1), which words and phrases are more effective in my own writing (item 2), and chances to think about different techniques that writers use (item 3).

Table 37
Students' Experiences With Advanced English 7 During Class Time or With Homework Assignments

Content-specific item	% of student responses (<i>N</i> = 536)		
	Almost always or always or Most of the time	Some of the time or Almost never or never	No response
1. I am encouraged to think about why an author chooses certain words or phrases.	76	24	1
2. I have opportunities to focus on which words and phrases are more effective in my own writing.	74	24	2
3. I have chances to think about different techniques that writers use.	74	25	1

Note. Percentages may not total 100% due to rounding.

Students in Advanced English 7 also responded to two items about their experiences with writing (Table 38). Close to 9 out of 10 students responded that an opportunity to write (item 4) occurred in most of the lessons or more frequently. Two thirds of the students reported the same frequency for item 5 that this class focuses on how to write.

Table 38
Students' Experiences With Advanced English 7 During Class Time

Content-specific item	% of student responses (<i>N</i> = 536)		
	In almost all or all of the lessons or In most of the lessons	In some of the lessons or In very few or none of the lessons	No response
4. I have an opportunity to write in this English class.	87	12	1
5. This English class focuses on how to write.	66	34	0

Investigations in Science 6. There were three content-specific items for Investigations in Science 6, each of which concerned connections of class content to an authentic problem or a real-life issue, including the unit projects. At least one half of the science students reported a moderate to high frequency of experience for each item (Table 39). At least 6 in 10 students responded that the class “helps me with my unit project” (item 1) and relates to real-life problems (item 2) in most of the lessons or more frequently. Fewer students—just over one half—reported this frequency of experience for item 3, “I get to work on solutions to real-life problems.”

Table 39
Students' Experiences With Investigations in Science 6 During Class Time

Content-specific item	% of student responses (<i>N</i> = 410)		
	In almost all or all of the lessons or In most of the lessons	In some of the lessons or In very few or none of the lessons	No response
1. This science class helps me with my unit project.	70	28	1
2. This science class relates to real-life problems.	63	37	1
3. In this science class, I get to work on solutions to real-life problems.	54	46	0

Note. Percentages may not total 100% due to rounding.

Advanced World Studies 7. There were five content-specific items for Advanced World Studies, each of which concerned an historical thinking skill. More than two thirds of the students in world studies reported a moderate to high frequency (i.e., most of the time or more frequently)

for each item (Table 40). About three quarters of the students reported that item 1 on learning about multiple perspectives and both items 2 and 3 on identifying context occurred with this frequency. About 70% of students responded that item 4 on categorizing and item 5 about the helpfulness of multiple perspectives occurred most of the time or more often.

Table 40
Students' Experiences With Advanced World Studies 7 During Class Time or With Homework Assignments

Content-specific item (Historical thinking skill)	% of student responses (<i>N</i> = 379)		
	Almost always or always or Most of the time	Some of the time or Almost never or never	No response
1. I get to learn that people often hold different opinions about the same events or issues. (Multiple perspectives)	76	22	1
2. I have opportunities to learn that when and where (the context of) a document was written influences its content. (Identifying context)	76	24	1
3. I have opportunities to identify pieces of evidence that best support my conclusions about events or issues. (Identifying context)	73	26	0
4. I have opportunities to analyze documents for topics, main ideas, inferences, or limitations. (Categorizing)	72	27	1
5. I get to think about why studying other people's points of view is helpful for understanding events or issues. (Multiple perspectives)	69	30	1

Note. Percentages may not total 100% due to rounding.

Conclusions

Question One: To What Extent Are Key, Rigorous Instructional Practices Being Implemented as Intended, Across Content Areas?

Across observed classes in all content areas, implementation was moderate for focus on big ideas and critical thinking and low for student-centered instruction, with respect to expectations set by program staff for the three practices (Table 41). For focus on big ideas and critical thinking, somewhat more world studies classes and somewhat fewer science classes achieved the expected level of implementation. More English and science than world studies classes showed implementation at the desired level for student-centered instruction.

Table 41
Number of Observed Classes That Met Expectations for Key Instructional Practices by Content Area

Content area (# of classes)	One half or more of class time on focus on big ideas <i>n</i> (%)	One half or more of class time on critical thinking <i>n</i> (%)	Sustained evidence of a student- centered class <i>n</i> (%)
All content areas (<i>N</i> = 51)	30 (59)	26 (51)	15 (29)
Advanced English 7 (<i>n</i> = 17)	10 (59)	9 (53)	7 (41)
Investigations in Science 6 (<i>n</i> = 18)	8 (44)	7 (39)	7 (39)
Advanced World Studies 7 (<i>n</i> = 16)	12 (75)	10 (63)	1 (6)

Question Two: To What Extent Are Key, Content-Specific Instructional Practices Being Implemented as Intended?

Implementation of key, content-specific instructional practices was low for Advanced English 7 and Investigations in Science 6 and moderate for Advanced World Studies 7, based on classroom observations.

In the 17 English classes, the level of implementation met expectations for one indicator: usage of written texts from the approved list for the course. Expectations were not met for the other three indicators: student writing, use of precise language, and writing instruction.

In the 18 science classes, the level of implementation met expectations for one indicator: teachers inviting students to apply knowledge and skills to an authentic problem. Expectations were not met for the other two indicators: teachers encouraging students to evaluate or refine solutions to an authentic problem and linking every component of the class to a real-world issue.

In the 16 world studies classes, implementation met expectations for two indicators: an opportunity for students to work on at least one historical thinking skill and an opportunity for students to work on one of the three historical thinking skills considered most important. The expectation concerning student writing was not met.

Question Three: What Are Teachers' Experiences With the Implementation of the Advanced Courses?

A total of 70 teachers responded to the survey. Although it was the second year of implementation for each of the advanced courses studied, it was the first year of teaching the course for about one third of the surveyed teachers.

The majority of teachers agreed that the advanced course curriculum/curriculum guide was helpful for planning rigorous instruction, critical thinking, and writing instruction and was appropriate to challenge and prepare highly able students. Somewhat fewer English teachers than those in the other areas agreed about the curriculum's helpfulness for planning for critical thinking. However, the majority of teachers disagreed that the advanced curriculum/curriculum guide was appropriate for all middle school students. Further, most teachers did not believe that every student should enroll in these courses, although almost all science and world studies teachers, plus 4 out of 10 English teachers, reported that all students in the related grade level were enrolled in the advanced courses. The presence of some on-grade-level students in every class, as reported by teachers, may explain why less than one half of the teachers agreed that the advanced course curriculum had sufficient materials to meet the learning needs of all their students. A majority of English and world studies teachers agreed that content-specific components in their curricula were helpful for implementing the advanced courses, while only one third of the science teachers agreed.

The majority of teachers who reported using resources in the form of support from various staff members inside their school and from the central office agreed they were helpful for implementing the advanced courses. Although the majority of English and world studies teachers found sufficient planning time helpful, less than one half of the science teachers agreed. The majority of users indicated that content-specific materials were helpful for implementation, although some materials in English and world studies had low usage rates.

Question Four: How Do Students Experience the Advanced Courses?

A total of 1,325 students responded to the survey. More than one half of them reported a moderate to high frequency (i.e., most of the time or more often, in most of the lessons or more often) for all experiences with their advanced course including six about focus on big ideas, eight about critical thinking, and six about student-centered instruction. Further, more than three quarters of students agreed or strongly agreed with another two items concerning experiences with student-centered instruction.

For 17 of the 22 experiences with focus on big ideas, critical thinking, and student-centered instruction as mentioned above, there were statistically significant differences between student reports across content areas. Almost all of these differences were because a higher proportion of Advanced English 7 students or a lower proportion of students in Investigations in Science 6 gave responses of moderate to high frequency for these experiences, compared to one or both other content areas.

At least one half of students reported a moderate to high frequency for all content-specific experiences, including five concerning writing instruction and practices for Advanced English 7, three concerning connections of class content to an authentic problem or a real-life issue for Investigations in Science 6, and five concerning historical thinking skills for Advanced World Studies. The percentage of students reporting this frequency was lower for science than for English and world studies. Although a focus for Investigations in Science 6 was to make connections between content and the real world, a lower proportion of students in this course than in the others reported a moderate to high frequency of opportunities to make personal connections. Thus the student survey results reinforced observation findings that students in the science classes did not experience the intended level of connections to an authentic problem or a real-world issue.

Recommendations

Based on the findings, program staff should consider the following suggestions to support implementation of the advanced courses. Additionally, so as to determine the best response, staff should review and discuss teachers' recommendations to improve the advanced courses.

- **Increase implementation of key, rigorous instructional practices for all courses through professional development and other support (e.g., instructional monitoring).**
 - Support teachers to infuse more critical thinking and focus on big ideas in their classes, especially for teachers of Investigations in Science 6.
 - Provide more guidance in the curriculum guide of Advanced English 7 about planning for critical thinking.
 - Support teachers to increase the focus on student-centered instruction, especially for teachers of Advanced World Studies 7.
 - Include more guidance about planning for writing in the curriculum/curriculum guide for each course.
- **Increase implementation of key, content-specific instructional practices.**
 - Encourage teachers of Advanced English 7 to emphasize close attention to the use of precise language and to incorporate writing instruction more frequently. In the curriculum guide for this course, continue to include the content-specific components.
 - Encourage teachers of Investigations in Science 6 to put more emphasis on encouraging students to evaluate or refine solutions to problems and on linking all class components to real-world problems. Explore how to make the Design-folio in the curriculum more helpful to these teachers.
 - Encourage teachers of Advanced World Studies 7 to continue their focus on historical thinking skills and to incorporate student writing more frequently. In the curriculum guide for this course, continue to include the content-specific components.
- **Provide guidance on student grouping and enrollment in the advanced courses.**
 - Encourage schools to utilize a variety of data points to identify students to participate in the advanced courses.
 - Continue to provide professional development on differentiation and include additional suggestions in the curriculum on how to scaffold instruction, to allow students to be successful with the advanced curriculum.
- **Continue to provide resources and materials for teachers and encourage more users.**
 - Encourage teachers in all content areas to share materials and plan with other teachers and to utilize the following resources: content specialists, central office trainings, school administrative team, central office instructional specialists, and sufficient planning time.
 - Encourage more users for those materials in Advanced English 7 and Advanced World Studies 7 with low usage rates.
 - Explore how to improve the formative assessments for Advanced English 7.
- **Focus attention on Investigations in Science 6 (IS6).**
 - Work with school-based staff to provide professional development and other supports (e.g., instructional monitoring) for IS6. IS6 is based on a new Grade 6 science course that was first implemented in 2008–2009, rather than on an existing course. Further,

the IS6 curriculum was disseminated in a new Web-based format. Among the three courses, IS6 appeared to have the most opportunities for improvement, as follows.

- Observation findings showed that the fewest science classes had the desired levels of implementation for critical thinking and focus on big ideas.
- On several student survey items related to these constructs, science students reported the lowest levels of moderate to high frequency among content areas.
- Both observation findings and student reports of their experiences indicate that these students are not experiencing the intended level of connections between the content and an authentic problem or a real-world issue.
- Fewer than one half of the science teachers agreed that sufficient individual planning time was supportive and that the content-specific curriculum component (i.e., the Design-folio) was helpful for implementing the course.

References

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- Montgomery County Public Schools (2009a). *Advanced English 7 curriculum*. Rockville, MD: Montgomery County Public Schools.
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- Strong, R., Silver, H., and Perini M. (2001). *Teaching What Matters Most*. Alexandria, VA: ASCD.

Appendix A: Observation Protocol

Observer:		Date:	Room #:
School:	<input type="checkbox"/> Banneker <input type="checkbox"/> Mont Village <input type="checkbox"/> Clemente <input type="checkbox"/> Newport Mill <input type="checkbox"/> Eastern <input type="checkbox"/> Shady Grove	<input type="checkbox"/> Silver Spring Int'l <input type="checkbox"/> Sligo <input type="checkbox"/> Tilden	<input type="checkbox"/> White Oak <input type="checkbox"/> Wood
Course:	Class Period # _____ Total minutes of observation: _____		Teacher's name:
TODAY'S LESSON (notes to help you remember this session) <i>Note: Get copy of handouts today from teacher.</i>			
<p>Summary questions:</p> <p>How much of the class was spent on big ideas (i.e., items 2, 3.1, & 3.2)? Little or none Less than half About half More than half</p> <p>How much of the class was spent on critical thinking (i.e., items 4-8)? Little or none Less than half About half More than half</p>			

Indicators of Focus on big ideas, Critical thinking & Student-centered class (See additional information on last page of protocol)		Extent of evidence (see notes)			
		None	Once or twice	Multiple times	More than 1/2
1) Content connects to enduring understandings for that unit or previous unit (listed below). (Should be clear to students.)					
2) Content goes beyond or behind the obvious, the concrete, or the superficial to conceptual understanding.					
3.1) Lesson content has one or more of the following traits: <ul style="list-style-type: none"> • provocative • ambiguous • complex • emotionally challenging 					
3.2) Instructional materials have one or more of the following traits: <ul style="list-style-type: none"> • provocative • ambiguous • complex • emotionally challenging 					
Can be orally or in writing.	4) Teacher encourages students to make judgments or evaluate situations, problems, or issues. (e.g., persuade, critique, justify.)				
	5) Teacher encourages students to think at analytic, interpretive, or abstract levels (typically in response to a text such as a document, image or audio).				
	6) Teacher encourages students to synthesize or summarize information within or across disciplines (involves more than one source, document, or discipline).				
	7) Teacher solicits diverse thoughts, opinions, or points of view about issues or ideas. (not just asking several students for answers)				
8) Teacher invites students to explain, elaborate on, or justify their thinking to peers and/or teacher, in writing or orally; not included in any of the 4 boxes above.					
9) Students have opportunities to make choices on tasks, products, processes, or content.					
10) Students and teachers build on or challenge each other's ideas through structured discourse , such as shared inquiry or Socratic seminar.					
11) Students use strategies or seek resources other than getting information from the teacher to solve problems or generate responses (e.g., collaborate with a peer, check notes, check the textbook, go online).					
11.1) Any other indicators (not covered in 9-11) that reflect a student-centered class. Please describe.					

<p>Extent of evidence:</p> <ul style="list-style-type: none"> • Once or twice and less than half the class time • Multiple times: more than two times and less than half the class time • More than half: more than half the class time, any number of times
<p>3.1 & 3.2) PACE model</p> <ul style="list-style-type: none"> • provocative (provokes students to think, challenges ways of thinking) • ambiguous (involves multiple meanings, open to interpretation, rich with imagery) • complex (contains interrelated or overlapping ideas or parts) • emotionally challenging (elicits emotional response or strong feelings, engenders a personal connection)
<p>4) Teacher encourages students to judge or evaluate situations, problems, or issues.</p> <ul style="list-style-type: none"> • Asks students to persuade, critique, justify. To support their opinion. • To show how they know what they know. (“How did you get to that?”)
<p>5) Teacher encourages students to think at analytic, interpretive, and abstract levels.</p> <ul style="list-style-type: none"> • Analytic=what we can learn from a document or image • Interpretive=what is suggested or implied (i.e., not obviously stated) by a document or image • Analytic=break down into pieces
<p>6) Teacher encourages students to synthesize or summarize information within or across disciplines (i.e., another content area).</p> <ul style="list-style-type: none"> • Within discipline = work done earlier in class (a skill or content) • Asks students to do a task and links it to material or skill learned earlier
<p>7) Teacher solicits many diverse thoughts and points of view about issues or ideas.</p> <ul style="list-style-type: none"> • Not one right answer • For example, asks students for pros and cons on an issue or asks each student to write up his/her opinion or point of view.
<p>8) Teacher invites students to explain, elaborate on, or justify their thinking to peers or teacher, in writing or orally and the topic does not fit one of the 4 boxes above.</p> <ul style="list-style-type: none"> • Teacher follows student thinking and asks deeper questions.
<p>11) If a teacher gives the students an assignment and directs them to get the answers from the textbook or another specific source (e.g. hand-out), that is NOT an example of this item.</p>
<p>11.1) In student-centered class:</p> <ul style="list-style-type: none"> • students are responsible for their own learning • students are questioners • students transfer knowledge between each other • teachers are not the only purveyors of knowledge • teachers serve as facilitators

Appendix B: Observations of Advanced English 7

Figure B1
List of Approved Texts for Advanced English 7

Unit 7.1	Unit 7.2
Fiction	Fiction
Adam of the Road	The Call of the Wild
The Adventures of Tom Sawyer	A Connecticut Yankee in King Arthur's Court
Catherine, Called Birdy	The Glory Field
Nothing But the Truth	Hatchet
The Sword in the Stone	Island of the Blue Dolphins
Where the Lilies Bloom	Journey to Topaz
Nonfiction	Living Up the Street
"Burning Out at Nine"	Warriors Don't Cry
Citizens of the World: Readings in Human Rights	Nonfiction
Gifted Hands: The Ben Carson Story	from <i>Barrio Boy</i>
"My Furthest-Back Person"	Citizens of the World: Readings in Human Rights
"Names/Nombres"	"The Eternal Frontier"
"Offerings at the Wall"	"Homeless"
The Story of my Life by Helen Keller	"I am a Native of North America"
Poetry	from <i>Immigrant Kids</i>
"Dusting"	"The Melting Pot"
"If I Can Stop One Heart From Breaking"	Poetry
"I'm Nobody"	"The Elephant"
"The Rider"	"Miracles"
"Thumbprint"	"The New Colossus"
"To You"	"The Walk"
"The World is Not a Pleasant Place to Be"	Short Stories
Short Stories	"A Boy and a Man"
"The Cat Who Thought She Was a Dog..."	"The Californian's Tale"
"A Christmas Carol"	"Dark They Were, and Golden-Eyed"
"A Crush"	"An Hour with Abuelo"
"Rikki-tikki-tavi"	"Last Cover"
"Seventh Grade"	"The Third Wish"
"Thank You M'am"	
"Two Kinds"	
"Zebra"	

Figure B2
Details on Writing Assignments in Observed Advanced English 7 Classes

Twelve classes had writing assignments; 3 of the 12 had more than one assignment.

Group vs. Individual Assignments

- Group assignments: three classes
- Individual assignments: nine classes

Format of Assignments

- Journal: three classes
- Graphic organizer or brainstorming notes: four classes
- Essay: four classes
- Friendly letter: one class
- Poem: two classes

Writing Prompts (verbatim comments from observers)

- Me in three; I say, I do, I think, I look like, Others say think do about me. About character in artwork.
- Activator: List one novel you've read (other than *Call of the Wild*) and explain how setting influences the plot.
- Writing assignment: List current setting details. List survival setting details. Write story summary.
- Poem had to address one of three topics related to settings and include elements of figurative language.
- How did the setting affect the change in Snoopy's behavior? What misconceptions did he have? What lessons did he learn?
- Warm up on either of the following: What global problem would you spend your prize money on [from winning Nobel Prize] to solve? Explain. OR Do you think any of your favorite songs will be popular in 30 years [like the Beatles]? Tell which one & why.
- How did setting, both physical and social, intensify feral instincts in Buck?
- What does the title *Call of the Wild* suggest the book will be about?
- Write a letter that Victor might send a good friend about his experience in French class (pg. 27 in "Literature" anthology).
- Write I am poem; requirements on hand out.
- Write meaning of word in your own words and write a good sentence for each word showing that you understand the meaning.
- Define word, identify part of speech, identify origin, locate antonyms and synonyms, give examples, and use word in sentence.
- Answer the question with supporting detail onto chart paper and present to the class: Identify three of Buck's character traits. Find two examples from the text to support each trait.

When Buck is beaten with a club, it marks his introduction to “the reign of primitive law.” Explain what this primitive law is and give two examples of it from the text.

Consider the narration of the novel: Who tells this story? Whose point of view do we learn? Why might London have chosen to handle the narration in this way rather than by simply having Buck be a first-person narrator?

Summarize Curly’s death scene. What does this incident teach Buck? What is the significance of this scene in terms of Buck’s introduction into this new world?

Analyze Buck’s theft of the chunk of bacon. How do you feel about Buck for stealing? Why? Why does this act “mark Buck as fit to survive” in his new environment?

Appendix C: Details on Teacher Experiences with the Advanced Courses

Table C1

Teacher Responses on Appropriateness of Process for Selecting Students by Type of Process		
Process	Agreement	Explanation for level of agreement
Recommend	Agree	Advanced level placement is typically based on elementary school placement during the 2nd grade. As a result, there are students who are often overlooked and fail to receive the skills necessary to be successful in an advanced class. As the years go by, the gap widens. Given the opportunity, these students rise to the challenge of the advanced placement. It requires diligence, flexibility, adaptability, and commitment on the part of the teacher to assist them. (AE7)
Recommend	Agree	While I have a range of student ability in my class (reading levels begin at 4th grade and go to 9+), most students can complete assignments with support. Independent reading assignments are sometimes problematic. I feel that even students who are not advanced academically, benefit from the class if they are motivated. (AE7)
Recommend	Agree	Some reading below grade level struggle mightily with texts and concepts and clearly feel overwhelmed by the content and pacing. (AE7)
Recommend	Disagree	Teachers were instructed to recommend students who had a glimmer of potential to comprehend advanced ideas or who demonstrate leadership qualities. Teachers also were encouraged to recommend the least represented groups in advanced classes, Hispanics and African Americans. Some students read several levels below grade level, were enrolled in reading classes, and had poor work/study habits. These factors contributed to their lack of success in advanced classes where books such as <i>The Adventures of Tom Sawyer</i> and <i>The Call of the Wild</i> demanded focused study of difficult texts. (AE7)
Recommend	Disagree	There were several students who fell behind in adv English because they are on a different academic level than the other students; they would have done better in an on-level class. (AE7)
Recommend + test scores	Strongly agree	If the course is to be taught as an advanced course, students should at the very least be able to read on-grade-level text. Most of the same concepts are taught in the Advanced 7 and English 7 levels. (AE7)
Recommend + test scores	Agree	There is some merit to all the ways the students are selected. (AE7)
Recommend + test scores	Agree	My students are able to do the work I'm giving them. (AE7)
Recommend + test scores	Agree	Most students who are in the advanced classes were already in advanced classes the previous year. (AWS7)
Test scores	Agree	The baseline numbers were lowered to address inclusion of more students representative of our population. (AE7)
Test scores	Agree	No response. (AE7)
Test scores	Strongly disagree	Placing them in Advanced English was a last minute decision dictated by our local superintendent. Lexile scores were not considered, therefore, there was a large gap in reading levels in my class. (AE7)
English course	Agree	They are placed if they are in advanced English. (AWS7)
Schedule convenience	Strongly disagree	There is no such thing as a truly advanced world studies section. As I mentioned earlier, you have many students in the advanced class who are only there because it fits in with the rest of their schedule. Recommendation: there should only be advanced students. (AWS7)
No description	Disagree	Parent request has much to do with where students are placed. (AE7)
No description	Disagree	I have a number of students in my Advanced English class who scored 'basic' on both the MSA [Maryland State Assessments] and MAP-R [Measures of Academic Progress-Reading] tests. These students are not able to keep up with the demands of the curriculum without extensive scaffolding. Recommendation: provide some standards/suggestions about which students should be assigned to Advanced English. (AE7)

No description	Disagree	No response. (AE7)
	Strongly disagree	I have students who are on 5th grade reading level or sometimes lower that are in my advanced placement courses so I can't properly implement the GT curriculum.
No description		(AWS7)

Note. Recommend = recommendation. AE7 = Advanced English 7, IS6 = Investigations in Science 6, AWS7 = Advanced World Studies 7.

Figure C1
Teachers' Reports of Other Supports That Help
Implementation of Advanced Middle School Courses

Advanced English 7

I have a collection of music, posters, maps, etc. to help the students in seeing the overall picture of the novel and play. These also help widen their background knowledge. I did try some extended activities this year that are not in the curriculum.

Knowledge and experience teaching 8th grade English curriculum as well as awareness of high school English requirements.

Literacy coach. (2)

Most supports I have to self select and discover independently to meet the needs of all students.

Summer trainings: modeling, materials, contacts.

Investigations in Science 6

Additional labs, United Streaming, and different science websites.

Experienced teachers who have taught this curriculum.

Hands-on activities and Prentice Hall texts were useful.

Hands-on investigations from previous curriculum guides. Information and lessons obtained from conferences I've attended. Government websites. Our school media specialist.

Using some of the material from the previous curriculum has been helpful in reinforcing concepts if kids don't understand through the new curriculum itself.

Advanced World Studies 7

- History Alive - Youtube - United Streaming - Maps/Atlases.
 - Google images and online media services.
 - History Alive was a HUGE asset!
 - MYP flipcharts designed by other 7th grade teachers were helpful.
-

Figure C2
Common Categories of Teachers' Positive Comments on
Implementation of Advanced Courses by Content Area

Advanced English 7 Teachers

Curriculum rigor, challenges for students, and opportunities for critical thinking (11)

- Opens possibilities to students not typically challenged.
- Kids are pushed to think longer, harder, deeper, and to reflect that in their writing.
- I think the advanced curriculum provides rigor in lessons and is helpful to the intellectual development of all students.
- Creative ideas for projects that are implemented by us to challenge and give students choices.
- The curriculum provides wonderful opportunities for advanced students to stretch their thinking.
- The opportunities to develop critical thinking vs. rote memory.
- The rigor in the advanced level novels.
- Increased across-the-board rigor.
- Common Tasks encourage critical thinking.
- It provides many opportunities for rigor and for students to explore and learn on an advanced level.
- Rigorous instructions. Opportunities for growth.

Resources and materials (3)

- Many resources are helpful.
- Choice of texts in each unit.
- Continued ability to choose texts and materials.

Instructional strategies (4)

- Shared inquiry discussions prior to writing tasks...big picture discussions about the connections between story elements (i.e., changes in setting bringing changes in characters).
- Incorporation of art and drama aspects.
- Connecting the arts to the curriculum is meaningful for kids. It challenges ME. That's good.
- Strategies have an impact on presentation of material in other classes.

Assignments (e.g., common tasks, unit projects) (4)

- Comprehensive or interesting writing tasks.
- Common tasks to guide units.
- Making sure common tasks are completed.
- Student choice on products that reflect learning.

Available to all students (2)

- Every student is exposed to the advanced curriculum.
- Critical Thinking Skills for all students.

Collaboration or team planning (2)

- Collaboration and sharing of materials. My school is very collaborative and we support each other in planning.
- The common planning time.

Investigations in Science 6 Teachers

Curriculum rigor, challenge for students, and opportunities for critical thinking (8)

- It forces kids to think more critically.
- Rigor and challenge.
- Some research and discovery opportunities.
- Students thinking out of the box. Rigor.
- Advanced students given opportunity to learn more than required by the curriculum on their own.
- Rigor.
- Engages the students in critical thinking.
- Higher expectations.

Resources and materials (5)

- Materials available online.
- The concepts use modern and local news, technology, and resources to address.
- Some materials, websites, worksheets were provided with lessons.
- Videos. Websites.
- Good Youtube videos.

Instructional strategies (5)

- There is room for differentiation.
- Hands on.
- More hands on. Less of me talking and more of the students.
- Cooperative learning.
- Group members depend on each other for information and answers.

Assignments (e.g., common tasks, unit projects) (3)

- Bumper project.
- I like that there is a specific project for each unit that is meant to sum up the concepts, though I wish it were clearer to the kids how the project does so.
- Assignments related to real life connections.

Available to all students (2)

- Available to all, more choices.
- Opportunity for all students to be exposed to the same curriculum irrespective of their academic levels.

Collaboration or team planning (2)

- Collaboration of others who teach IS6 in and outside the building. Using the IS6 site and IS6 discussion board to get information, updates, changes & others' feedback was helpful.
- It forces me to plan differently.

Advanced World Studies 7 Teachers

Curriculum rigor, challenge for students, and opportunities for critical thinking (10)

- Students analyzing pictures and documents. Open ended questions which require critical thinking.
- Documents and images allow the students to experience the historic time periods with some depth.
- Advanced lessons requiring students to be historians and think like historians.
- It helps some of the more advanced students. It gives more depth to some of the lessons. It does expose the students to pre-AP/pre-high school type of instruction/content.
- It will prepare kids for advanced placement social studies at the high school level.
- It gives me examples of rigorous instruction from where I can modify.
- It challenges students to think. Teaches students to research.
- Provided some rigor.
- The implementation of critical thinking activities. Asking students to support their opinions with evidence.
- Higher level thinking opportunities. Students connect emotionally to the materials being used.

Resources and materials (10)

- Use of primary source documents and materials which communicate multiple perspectives.
- The large number of documents and images.
- Use of visuals helps all students.
- It provides me with documents and photos to use.
- Good use of primary sources.
- The usage of primary source documents.
- Primary source materials.
- The resource materials.
- Interesting readings and inclusion of primary sources.
- Documents and images serve to motivate the students and let them see how history can be constructed.

Instructional strategies (3)

- Differentiating and scaffolding lessons.
- Sparked student discourse.
- Opportunities for students to engage in discussion.

Available to all students (2)

- Expose all students to the advanced curriculum.
- The fact that it is available to all students.

Collaboration or team planning (1)

- Encouraged teachers to collaborate in tweaking documents.

Figure C3
Content-specific Categories of Teachers' Positive Comments on
Implementation of Advanced Courses by Content Area

Advanced English 7 Teachers

Curriculum components (2)

- Basic ideas in curriculum such as activators and suggested plans. Scope and sequence is provided.
- Model lessons.

Other positive comments (3)

- Test scores were not used as gate-keepers in scheduling.
- The flexibility within the curriculum.
- Using the trainings to use and develop our own ideas for each unit in meeting the needs of our students.

Investigations in Science 6 Teachers

Student enjoyment, engagement, and interest with course (5)

- Overall content is interesting to students.
- Students enjoy sudden impact unit. Students are engaged.
- Students are highly engaged and motivated. Projects are of high interest.
- Interesting projects for the students.
- The type of content that is covered (ecosystems, adaptations, alternative energy, etc.) are appropriate for 6th graders.

Other positive comments (6)

- Estimated time on each topic.
- I as the teacher enjoy the curriculum. I got a few students who have connected classroom concepts and ideas to their own lives.
- Allowing students to be creative.
- The students are learning.
- Provision of student support (paraeducators) for the successful implementation of the course has led to better assessment performance by students.
- All teachers are teaching the same material for the same course.

Advanced World Studies 7 Teachers

Other positive comments (3)

- Content is good.
- The way it blends with the previous lessons.
- Skills introduction.

Figure C4
Common Categories of Teachers' Recommendations for
Improvement of Advanced Courses by Content Area

Advanced English 7 Teachers

Add resources to make the course accessible to more or to all students (5)

- More scaffolding models. More support for special education students.
- Increase the number of scaffolding lessons. I had to gather my own materials and develop many of my own pre-reading and pre-writing lessons
- I think parts of the curriculum should be rewritten to include more examples of recommended tasks or extensions using the ideas above and also more examples of scaffold tasks to make this curriculum accessible for all students. Include technology enhancements that help all students access the curriculum.
- More writing support for special education students.
- Needs to cater to the needs of all students, even students with support. A lot of the material is too advanced for some students with needs.

Add more lessons, more flipcharts (4)

- Lessons, lessons. Flipcharts.
- Link to share data base of Promethean lesson plans.
- I would like more model lessons available in flipchart form. This would facilitate new and old teachers using Paul & Elders Elements of Thought, PACE, and critical system questions.
- Use more curriculum materials (such as flipcharts and lesson plans).

Revise assessments (2)

- Formatives need to match the advanced curriculum.
- Revise questions on the formative and summative when teachers report that the majority of students fail to get correct answers.

Investigations in Science 6 Teachers

Add resources to make the course accessible to more or to all students (10)

- Adaptations of lessons shared to use in self-contained classes. Alternative/adapted readings already prepared for use. More time to adapt lessons to share and adapt or find alternative readings.
- References for differentiated lesson plans.
- Differentiation of the reading materials would be ENORMOUSLY helpful. While I understand the importance of authentic texts, they are sometimes inaccessible for my students without major modifications and I do not have the time or the resources to do them all by myself.
- Have the physics problems on the same level as the 6th grade math level.
- Readings at a lower level to support low readers. Differentiated project materials.
- Need differentiated materials.

- More modified versions of the worksheets/activities provided.
- Materials for Special Education students need to be provided.
- Make sure that the readings are not too far above grade level and make sure that the readings are more engaging to 11-year-olds.
- A scaled down class of on-grade to below-grade level students.

Add more lessons, more flipcharts (4)

- Use teachers' feedback from the Private folder to fix the lessons.
- Incorporate more visuals in lesson plans.
- More flipcharts in the curriculum guide.
- Having content information and some flipcharts available would be helpful. Spent a lot of time gathering materials, setting up investigations, and developing flipcharts and worksheets that meets the needs of all students at all levels of learning.

Revise assessments (2)

- Provide a review packet for county summatives. Redo the summatives. They don't always relate to the material covered during the quarter. Provide some formatives and other summatives for each unit.
- Summative assessments need to align with Maryland indicators.

Advanced World Studies 7 Teachers

Add resources to make the course accessible to more or to all students (4)

- More tiered for different levels and learning styles.
- Make sure that the instructional material is balanced to engage all learners.
- Provide reading materials for lower level readers. I must modify all reading materials or find other reading materials that are more suitable for my students.
- Alternatives for lower level readers.

Add more lessons, more flipcharts (2)

- Alternative lessons within the 7th grade advanced lesson plans.
- Even more flipcharts being shared.

Revise assessments (1)

- Modify the assessments.

Figure C5
Content-specific Categories of Teachers' Recommendations for
Improvement of Advanced Courses by Content Area

Advanced English 7 Teachers

Add more grammar lessons/activities/instruction (5)

- More grammar lessons to improve/support good writing habits.
- Grammar activities.
- Increase the amount of grammar and language instruction.
- I believe that a more structured approach to grammar instruction is needed beginning in the elementary grades.
- More grammar and spelling.

Increase choices of texts (5)

- Money to buy other texts that we would like.
- Add to or modify the books and stories for the advanced course.
- Choice and availability of texts.
- More short stories as anchor texts.
- More choice and flexibility to choose approach and text used to convey the information.

Revise tasks (3)

- More authentic tasks.
- Decrease the number of required common tasks.
- Fewer common tasks such as paragraphs; variety and creativity needed. Less prescription and more description in implementation.

Need more time (3)

- More time to work with county supervisors. Time to observe colleagues.
- But of course by far the biggest factor is TIME. Rarely do I have a day with much true planning time: I attend one meeting or another virtually every day during the student day, work with kids after school, and have various obligatory hall and committee/department /staff duties as well. When to plan? When to write comments and grade? The eternal struggle of English teachers everywhere in all times, one suspects.
- Too much material to cover in too little time.

Other improvements (6)

- Having access to other teacher's e-mails (who teach this course) for questions, etc.
- Having more access to the computer lab.
- A survey of students re how they think they best learn and what are their areas of strength and improvement in English. The training should be at least two days if not longer.
- Supplementary support should be in the archive for every unit, not just unit 1.
- I feel that the Q3 formative is the easiest of all 4 in the curriculum: its texts are the most accessible; I wonder if a similar reading level would be more encouraging in the first Q.
- Provide a more complete Curriculum Guide rather than the few pages we had this year.

Investigations in Science 6 Teachers

Revise projects and Request for Proposals (RFP) (8)

- A better design for the STEM project.
- Totally revise STEM projects. They are long, boring, and really do not use the scientific method.
- You need to get rid of the Request for Proposal format for the STEM projects
- Modify the RFP (or if possible take out) because it's very redundant.
- More specificity in what is expected of projects.
- There are no options for projects; all kids are to do the same thing with the same format such as the butterfly written work. That is in opposition to what we know about middle school learners. The SSL aspect of the 6th grade was destroyed with the removal of the Bay unit which I have found to be one of the most popular among students. Thrill ride unit stimulated kids to build different projects and study Newton's laws- the bumper is basically the same for all and in the end they have a broken project.
- Need more choice for projects.
- Making the STEM easier to understand and the tasks doable. For example, the Checkerspot butterfly habitat is impossible to do in the courtyard because an artificial swamp would have to be made.

Change length, content, and order of units (7)

- The units are too packed. The Sudden Impact lessons do not make connections with the bumper design culminating activity. All the physics learned and mathematics that the students have struggled through and failed, students are not able to apply them to the bumper project. Redesign the culminating activity so that the students can apply what they have learned. They should have to complete a proposal for a grant and have a list of items to purchase from the teacher (like a variety of plants, benches, water fountain, trees, all the things that a park has such as bathroom facilities, parking space, bike racks, etc.).
- Too much content to cover, so students don't get the depth or time to absorb the material. I would eliminate most of the Going Green and Alternative Energy units to allow more time on other indicators. Too many students are unable to make the critical thinking connections between the STEM projects and the content they learned. For example, in the past, when students did the Thrill Ride project, they had to really understand Newton's Laws, types of energy, etc. when doing this project. With the bumper, for example, I'm not seeing the same level of critical thinking taking place even when I'm prompting them.
- **MORE TIME TO ACTUALLY TEACH THE CONCEPTS!!!** It's ridiculous to ask about how the students are critically thinking and reflecting when we don't have the TIME to reflect and discuss in this way! I feel like I am flying by the seat of my pants just to cover the indicators, let alone take the time to actually relate the concepts to real-world applications and let the kids discuss it. These kids (at least my students) need more time to digest before we move on to something new. Coverage a mile wide and an inch deep isn't going to make these concepts stick.
- More time for sudden impact.
- Re-organize the length and coverage of the units- Make Butterfly a 12 week unit. Combine going green and alternative energy into one 6 week unit. Sudden Impact is

okay, but the bumper project isn't acting as the culminating project it should (however it may be designed).

- Change the order of units so we could actually plant a butterfly garden, incorporate field trips.
- There needs to be more hands on science using the scientific method. Just adding more indicators to a curriculum and calling it rigorous does not make it rigorous. We can do a lot better. IS 6 has sucked much of the fun out of science.

Add or rework labs (3)

- More labs in first unit if possible.
- Need more labs in some units.
- Some of the labs should be reworked. Students don't see the connection between the lab and the material covered.

Materials (3)

- The Butterfly unit - students should be supplied with materials to be able to make a 3D model (architect model) using miniature fixtures provided by the county to design their butterfly habitat.
- List of consumable materials needed for each unit, so we can easily replenish supplies for the next year.
- Supply more supplies (kits like in elementary school).

Provide answer keys (2)

- Answer keys might be a nice addition.
- ANSWER KEYS, ANSWER KEYS, ANSWER KEYS. Some of the worksheets are very confusing and nobody can figure out what they are asking. Answer key would help solve this.

Improve unit tests (2)

- The Unit Tests are too long, poorly written, at times ambiguous, and filled with grammatical and factual errors.
- Unit tests are not good.

Other suggested improvements (6)

- Develop better Guiding questions.
- The web links are hard to get, my biggest suggestion for improvement would be an issue with age of the computers to support the web links. Many times, I would try to get to links on United Streaming and my older computer was unable to pull up the video clips. More time and support to learn how to use equipment and help in putting it together. More planning time that we get paid for.
- It appears that about 1/3 of my students are still not consistently taught science in the lower grades. They come to class with little background knowledge.
- Follow-up evaluation of each unit. Would like to hear from others about what problems and successes they had with the units.
- Computer access is problematic.

Advanced World Studies 7 Teachers

Change the curriculum or curriculum guide (6)

- Improve the guide.
- Incorporate the new lessons into the existing curriculum guide.
- Change some of the DBI questions to be less Eurocentric.
- Integrate geography skills of the on-level curriculum with the advanced curriculum.
- Focus more on vocabulary.
- Not use the projects.

Add more materials or resources (5)

- More supplemental materials, e.g., there are no materials in the DBQ binder for Incas.
- A database with potential guest speakers would be helpful.
- Locate more sources in advanced 7 from other than European perspective.
- Provide all schools with all the necessary materials.
- More maps, better maps (more geography). More tools/resources to work with when implementing the advanced lessons.

Revise content (2)

- Content could be more extensive.
- The subject matter is rather dull & not very well documented. For example, to have an entire unit on Africa in the Middle Ages is very difficult simply because there are not very many sources out there which document the life & times of that time period. More creative supports in the advanced curriculum guide. Some of the material in there has very little interest to student and teacher alike. Also, there needs to be a reflection on how useful some of these skills are. The lessons do not seem to take into account the multitude of digital sources available today & instead focus on the “old” way of historical research.

Graphic organizers (2)

- Simplify the graphic organizers. I have had a very difficult time explaining how to complete the content and context analysis graphic organizers. The directions on the page are very confusing to the students. Use analysis graphic organizers similar to the ones from the National Archives website.
- Provide more practice with the graphic organizers, such as homework assignments.

Other suggested improvements (3)

- Make the classes smaller (like Math/English/Reading). Also, our school has an immersion program. For some reason, someone has deemed it necessary that immersion students get their social studies class in the target language. This is taught by a foreign language teacher, who often struggles, not only with the social studies vocabulary (often in the foreign language it is not simply a word-for-word translation), but also struggles with the content, due to the fact that they are not a social studies teacher. But I know that many other people think the opposite of me, which is why immersion students get their social studies taught by their immersion foreign language teacher.
- More time, more time and more time.
- More demonstrations of lessons.