

**A Report to the Board of Education
On the Status of the Advanced Topics Program**

November 17, 2008

The Advanced Topics Program has made noteworthy progress in meeting its announced goal of providing students a deeper, richer education that cultivates their higher-order abilities. This conclusion is rooted in the following data:

- observations by teachers, visiting professors and students
- Advanced Placement scores and other test scores
- college acceptance patterns

According to the available evidence, students have not lost the potential benefits of Advanced Placement credit. Further, the school has addressed implementation concerns including the variability of teacher performance in different classes and the quality of students' preparation for AP tests. The Board's decision to authorize a second year of implementation appears to have been justified.

Currently, Scarsdale High School offers Advanced Topics courses in the following subjects:

English
Biology
Chemistry
Physics
Music Theory
Art History
Studio Art
Comparative Government
European History
Macroeconomics
Psychology
U.S. Government
U.S. History

Advanced Placement courses continue to be offered in these subjects:

Calculus AB
Calculus BC
French Language
Spanish Language

Review of the Data

In the spring of 2008, we asked teachers, university professors, and students to offer their observations about the strengths and weaknesses of the AT initiative. We present the data in that order because:

1. Faculty members are closest to the implementation process and are professionally trained to evaluate secondary curricula in terms of their capacity to promote higher order thinking skills and habits of mind. They offer the most critical source of information about the Program;
2. University professors are the most knowledgeable source of information about the skill sets required for success in college and the work required in the first year there. Their experience gives them special authority to speak on the current state of scholarship and the particulars of college preparation;
3. Students are in AT classes. Our pupils are bright, critical, and thoughtful. While they lack the wisdom and adult perspective that come with experience, they can offer valuable insights into the classroom and the interactions that occur there.

Faculty observations

A survey formulated by the Validation Committee (see Appendix, "Teacher Feedback Survey") asked teachers familiar with the AP and AT curricula to comment on the differences between the two approaches. As reported at the May 2008 Board of Education meeting, teachers offered a strong endorsement of the new pedagogical approaches available to them under the AT Program. "On balance," the report observed, "faculty members have concluded that the Advanced Topics Program has changed instruction for the better. We have learned important lessons that can be considered in a future rollout, but the benefits of the program are real and meaningful, in the view of the professional staff."

The report more specifically noted that AT courses offered:

- *Room for more discussions, more interesting readings, and better tests;
- *Time to examine subject matter connections;

- *Time to research and evaluate controversial public policy proposals;
- *Time to examine the different sides of issues, assess the merits, define positions, and advocate for positions;
- *Opportunities to access enriched resources;
- *Opportunities for more creative assessments;
- *Time for direct learning experiences in settings away from campus;
- *Closer analysis of complex issues;
- *More emphasis on critical thinking—i.e., historical context, visual analysis, creativity.

Particular teacher observations illustrate these points more concretely.

AT Economics

The final examination asked students to demonstrate a solid knowledge of basic and complex macroeconomic concepts and, more important, to apply that knowledge to current conditions in America. Students were asked to step into the role of an advisor to the newly-elected President, and to identify the four most significant economic challenges confronting the nation. Students were given 20 documents to use as evidence in support of their arguments. In order to complete this task, students were required to show an understanding of conflicting economic indicators and what they say about the state of the nation's economic health. In addition, students were asked to provide coherent and comprehensive analysis of the macroeconomic issues raised by these economic conditions. This process called upon students to evidence a high degree of abstract thinking. As one student said in discussing the fiscal policy issues, "the challenge most directly linked to your office is the expanding size of the federal debt. Under every President since Lyndon Johnson, the government has grown by at least 4.2% (after adjusting for inflation). Under the current President Bush, federal spending increased by 19.7%. These increases come from an explosion in mandatory spending for programs like Social Security and Medicare, as well as discretionary expenses such as defense. Our oversized federal budget stymies economic growth. Deficit spending leaves massive debt to future generations and, in

the shorter term, crowds out private companies from the credit markets." In sum, this student evidenced a complete understanding of the negative impacts of the federal deficit on investment and economic growth.

AT American Government

My students' final exam papers... illustrated ... that they were able to use the information that they had gained from the course to make persuasive arguments and write analytical essays. In response to a question about the Supreme Court being the "least dangerous branch" of government, the essays presented factual data to substantiate the increasing policy-making power of the Court while referencing the partisan nature of the selection of justices. The essays pointed to the number of 5-4 decisions handed down in recent years and examined the role of the media and interest groups in promoting the partisan nature of the selection process.

In response to a question about the presidential nominating process and how it might be changed, the essays reflected a thorough knowledge of the candidates' campaigns, the primary and caucus system, the role of campaign finance, and the role of the media. A number of papers made forceful arguments for a national primary, a system of regional primaries and/or government limits on spending. They questioned the "democratic" nature of super-delegates as well as the media's focus on trivial bits of information (kindergarten experiences, lapel pins).

I was very pleased with the quality of the written responses. The questions on the AT exam required students to write good thesis statements and well-organized essays, as opposed to the free response questions that the AP exams ask. {Often, these ...} do not even require a full sentence or even a full paragraph to answer. The students ably demonstrated both their analytical thinking skills ..[and] ... their ability to express their thoughts in focused, persuasive essays.

The level of analysis and original thinking on this test was far superior to anything the kids ever had to write on a College Board test where, at least insofar as Government is concerned, there aren't even "essays" anymore -- just multiple choice and some short-answer questions.

AT Comparative Government

As I... stated earlier in my overview of the year, my goal was to look at eight individual countries as unique, functioning, political and economic entities, but also to illustrate that each country was a part of an expanding interdependent network, and that one country's policies could affect others far beyond their individual borders. In other words, my goal was to show that the world of the 21st century, in Thomas Friedman's words, is "flat" and what happens in one country will have economic, political and social effects on others. To emphasize this global interconnectedness, ... I introduced the concept ...of globalization and democratization that ... were... taking place individually within... and ... among the countries that we studied in depth. Furthermore, as a class we looked at how these concepts ... affect public policymaking on the micro (country) level and the macro (global) level, and considered what the ramifications might be when individual countries and/or regions pursue their own public polic(ies)... despite opposition from the larger global community.

Having assigned excerpts from Thomas L. Friedman's The World is Flat, Joseph E. Stiglitz's Globalization and its Discontents, Samuel P. Huntington's The Clash of Civilizations, and articles on globalization and democratization from Foreign Affairs and The Harvard International Review among others last September, [I set] the stage ...for studying these concepts before applying them more specifically to the eight countries we studied, as well as to the unfolding international stories we followed all year. My final exam questions focused on an understanding of these concepts and their application to the countries we studied individually and comparatively.

Generally throughout the year, I felt that the discourse in class and the students' written work had much greater richness and depth than had been the case under the AP regime, for there was more time to read widely and to discuss ideas in class. I was also able to spend more time viewing issues... and demonstrating how viewing the history and culture of others provides a deeper and richer understanding of how a country and its people think, act, and make policy decisions. In the final exam, the students could draw upon a myriad of materials and ideas woven throughout the course, as well as bring in their own perspectives based on their own substantive research. I found their essays to be better written and the analysis more thoughtful than those in the past, for they

had a more in depth grasp of the overarching comparative ideas, and through a comparative study of the eight countries were able to demonstrate their understanding of how the world today is truly interconnected. Overall, their answers were thought -provoking and showed an in depth understanding of what they had learned and read over the course of the year.

AT Psychology

My goals were to help students develop an increased comfort level with the basic terminology associated with the scientific/research aspects of the field. While memorizing vocabulary is not a “deeper and richer” experience, seamlessly integrating that vocabulary into an analytical discussion of research does provide a deeper and richer experience because of the conceptual comfort it (provides). In addition to (incorporating)... more authentic research assessments ... into ... the AT Psychology curriculum this year, I specifically targeted this goal on my final by asking the students to be able to define key research terms such as placebo, independent variable, dependent variable, operational definition, random sample, control group, double-blind procedure, random assignment, and statistical significance, and, in a separate section without the vocabulary, (to) assess the validity of a conclusion drawn from a fictional scenario....

Given the depth and sophistication of our discussion of research during class, I was not surprised to find that the vast majority of the students in the class were able to offer clear definitions of the target words, [and] many were even able to provide an accurate example to further illustrate their understanding of the concept (above and beyond simply memorizing a definition). On the more subtle test of their understanding, the short answer question, many of the students included key terms from research analysis that were not provided in the identification section of the test – experimenter bias, confounding variable, hypothesis, representative sample, causation, correlation, etc. While my ultimate goal is for all students to be able to use this vocabulary without prompting and with equal comfort, having a majority of the class naturally use the vocabulary indicates that I am moving in the right direction with my efforts.

College Professor Observations

A subcommittee of the Validation Committee compiled a record of discussions with the professional staff (See Appendix, "Visiting Professor Summary Sheet"). Eighteen professors offered their perceptions about work in six departments in 2007-08 (World Languages, Social Studies, Fine Arts, Science, English, and Mathematics). They shared their thoughts about the preparation most valuable for high school graduates in the freshman year of college and offered specific comments about the Advanced Topics curriculum.

Teachers learned about problem-solving, "nature labs," and visual critique practices in the art classroom. They heard from historians who suggested that the "trans-national movement" in historical analysis should inform instruction. An expert on Islam offered thoughts about the significance of the religion in contemporary political history. "Integrated performance assessment" in the World Languages setting, an approach that uses reading skills and writing to promote analytical thinking in another language, was a topic in conversations with Spanish and French professors. An English consultant discussed the "ability to read critically and independently and to work independently on long-term assignments that require planning and follow-through. And an art professor discussed the new field of Visual Culture, which shatters distinctions between Fine Art and art forms that are experienced in everyday life.

As they reviewed curriculum plans in AT courses, professors noted, for example, that:

The current Advanced Topics course [in English] at Scarsdale does well to invite the student to analyze, indeed to dissect, the narrative form. In this way, the course clearly can introduce the student to a variety of approaches to reading and writing.

The proposed AT chemistry curriculum and laboratory component is appropriate and is aligned with the first-year inorganic chemistry course at New York University.

In general, the (history) program seems to be exactly what is needed by college-level students. Namely, this program seems to push students to think independently and to understand the complexity of issues rather than simply taking in content.

Such comments indicated that professors support the direction our AT courses are taking. As contacts deepen with university personnel and grow in number, we expect the Visiting Professor Program to offer additional insights into the nature of our program and the ways in which it can be improved. While these connections have been specifically aimed at enhancing the AT curriculum, furthermore, the implications for the broader curriculum presented to all students by our teachers are obvious. Professors have met not just with teachers of AT classes, but with entire departments, so that the benefits of the discussions are accruing far more widely.

Student Observations

A survey was administered to seniors during the month of May and to juniors immediately following the AP Examination in U.S. History (See Appendix, "Student Survey: The AP/AT Experience"). Sixty-eight percent of twelfth-grade students rated AT courses very good or outstanding; sixty-eight percent said the class was very good or outstanding in terms of expanding ways of thinking about the subject; sixty-two percent believed the AT class was very good to outstanding in enhancing their love of learning; and fifty-eight percent believed the course prepared them very well or in an outstanding fashion for the AP examination.

Students who had taken an AP course in their junior year, as well as AT courses in their senior year, offered somewhat stronger support for the AP approach (76%, 76%, 60% and 75% to the same four questions noted above). The significance of this difference is not clear. One explanation may be that the AP courses gave students more confidence about their readiness for AP tests and that this caused them to rate AP classes more positively. It is certainly true that both teachers and counselors observed heightened anxiety about AP exam results in the spring before the tests were given and/or before scores were available.

Also, a confounding factor is that the student course ratings were for different classes with different teachers in different subjects. It's therefore unclear whether some variable specific to A.P. U.S. History caused that course to receive higher ratings than the AT courses respondents were taking in their senior year. For example, it's possible that student views of teacher quality were more positive in the junior year, while the larger number of teachers involved in the senior year AT courses meant there was greater variability in the perceived quality of instruction. If so, the combined ratings for all AT courses in the senior year would logically have been lower than those for U.S. history in the junior year.

The phenomenon of disparate student ratings requires further investigation.

These qualifications notwithstanding, some students' comments indicate their awareness that they were involved in more engaging work and developing new ways of thinking. Some representative observations from seniors:

We were able to do more hands-on activities and go into more depth about the subject instead of just teaching to the AP test;

We were able to work in both 2D and 3D, mixed media, photography, and fine arts. This enhanced my understanding of [the] subject since we were able to freely use materials and experiment with new techniques to enhance our projects;

When we went on field trips to different presidential libraries, I was able to learn about the past in a more hands-on and interactive way.

Various perspectives taught me that history is open to many interpretations.

Similarly, juniors who took Advanced Topics in U.S. History offered the following comments:

I learned more history over the course of this year than I have ever learned in my life;

I felt like I didn't just learn facts, but got a true education. I learned the true significance of US history and all the facts it encompasses;

My teacher presented multiple points of view on historical events that allowed us to debate and discuss interpretations;

We took a trip to New York City to see the areas where immigrants settled when they came to the United States. This was an interactive experience that allowed me to see the actual effects of Immigration on New York City;

We went to Lowell, Massachusetts to see the mills and experienced it [sic] first hand.

At the same time, some student comments were negative in tone:

I felt let down and was not prepared for the AP test;

We skipped a lot because our teacher felt that we did not have to learn it because we did not have to take the AP test;

The in-class debates and document analyses were deep, but took away from learning about the actual history;

We did not really do anything past the Vietnam War.

The surveys provide important information about student perceptions and have caused professional staff to consider matters including variability in teacher performance and consistency of course content. Some of their discussions, along with Validation Committee recommendations, have led to the development of protocols and other measures aimed at addressing perceived problems.

At the same time, the timing of the surveys may have been problematic. Both juniors and seniors responded to the survey questions close to the when A.P. exams were administered; juniors, in particular, took it within a few hours of completing their tests. Anxiety about their readiness for, and performance on, the exams may have influenced student responses. Likewise, immediate “test decompression” may have caused some students to respond less reflectively and more emotionally.

Interestingly, actual A.P scores (discussed below) show that students’ concerns about levels of preparation were not borne out by their performance. Further, there is also a dissonance between student perceptions of what they are learning and faculty observations, particularly about the kind of thinking students are doing. This disconnect suggests that it may be productive to talk more directly with students about the nature of AP courses and the thought processes that are being encouraged.

Advanced Placement Scores

A survey of students from the class of 2007 illustrates that AP scores can be used to earn college credit and/or advanced standing in many universities. (See Appendix, “Alumni Survey Results”). Recognizing that a significant decline in AP scores would be a cause for concern, the Validation Committee urged professional staff to conduct a careful

review of those results, as well as of the results of the SAT subject area tests which can also be a source of credit and/or advancement.

An eight-year overview of AP scores in subjects that have now converted to an AT curriculum shows minor fluctuations in scores from year to year (See Appendix, "AP Scores"). Mean scores on all examinations, save two, increased slightly last year over the previous year. There was a slight decline in the results of the U.S. History and Government exams. The mean score on the SAT Subject Area Test in U.S. History was 705; in prior years, the score was 686, 708, 685, 676, and 622. A statistical analysis of these scores (and other data) appears below. The introduction of AT does not correlate with a statistically significant increase or decrease in scores on AP examinations.

Independent Analysis

Dr. Edward Fergus, Director of Applied Research, Evaluation and Policy at the Metropolitan Center for Urban Education at the Steinhardt School of Culture, Education and Human Development at New York University, was asked to provide an independent analysis of the data collected about the Advanced Topics Program (See Appendix, "Summary of Scarsdale School District's AP exam Results for AT and AP Students"). In his review of student performance of students on AP exams, Dr. Fergus observes:

Overall, the data reviewed for this summary suggests the patterns of performance on the AP exam have not changed. More specifically, the test taking habits, percentage of students attaining a four, and mean performance has not changed with the 2008 cohort in ways that differ from prior cohorts.

Following an analysis of student observations about the program, Dr. Fergus concludes:

In examining the surveys of students who took an AT class, there appeared to be a consistent pattern of students perceiving the AT classes as covering more material in depth, and finding the faculty more engaged in the topic. In the students' comments about the course material, most students could cite specific content covered that was either new or resonated for them. In addition, the students' comments reflected the experiences in the AT courses focused on synthesis and analysis, which are higher-order thinking strategies. Some students also cited challenges in the coverage of the content, specifically feeling that the project was not fully engaging. Finally, students continuously noted multiple modalities of learning (e.g., research papers, classroom debates,

researching articles, simulations, etc.) that helped them to learn in new ways. Furthermore, students [stated that] these different modalities of learning helped them learn additional “sides to arguments.”

Overall, the students' responses to the survey demonstrate the qualities of the AT courses that were different. Also important to note about these perceptual responses from students about AT (i.e., modalities of learning and depth of understanding the content), [is that the course] highlight the maintenance of college preparatory strategies in AT courses, as well as the maintenance of modalities of learning premised on higher-order thinking. It's apparent students, in general, were satisfied with and benefitted from AT courses.

Dr. Fergus offers the following summary of faculty perceptions:

The surveys of teachers who taught the AT courses revealed ... a general perception of the AT classes benefiting students. Specifically, teachers noted students being more engaged and approaching material in different and more authentic ways. The survey asked several qualitative questions regarding curriculum and teaching strategies. Teacher responses regarding the nature of homework assignments suggest they are using more primary and varied texts for the AT classes, as well as looking at how to utilize homework assignments to encourage more analytical and creative thinking. Teachers also note (that) their teaching changed (with regard to) ... how they think about and utilize assessments and the type of assignments they provide to students. Finally, teachers also noted several challenges in the implementation of AT: need for more planning time; need for more time with students; and assistance in balancing curricular intent of AT and (the) need to have students take the AP exam.

Finally, Dr. Fergus recommends areas for further study:

The next steps in the examination of the AT program should focus on understanding the process of implementation (i.e., what is the theory of the program and how is it implemented?) and measure impact on student academic and social progress (i.e., academic engagement, AP exam scores, SAT subject and general scores).

The first of these suggestions is of particular interest. Schools have relatively few reliable and meaningful ways to evaluate goals such as “promote deeper, richer, learning.” This is a potentially valuable course of investigation, and we look forward to working with Dr. Fergus on ways to address it.

Implementation in English, Music Theory, and Science (2008-09)

In the course of its discussions last year, the Validation Committee raised several concerns about the AT Program. These concerns were summarized for the Board in June (See Appendix, “Lessons Learned”) and eventually evolved into a set of protocols for the subsequent year of the AT rollout (See Appendix, “Implementation Procedures for Advanced Topics Courses”). A calendar of activities to accompany the rollout was also developed to assure the implementation of these procedures (See Appendix, “Advanced Topics Course Calendar”).

The first issue was that of variability in instruction. Committee members noted that different teachers were pursuing different strategies for instruction, potentially compromising the consistency of students’ experience as well as preparation for AP examinations. “Variability”, of course, is not unique to AT courses; it can be found at all levels and in all courses with multiple teachers.

In response to this discussion, the professional staff agreed to develop an outline of the “assured experience” all students can expect in courses taught by different teachers. One of the new implementation protocols describes collaborative teacher efforts to build a common course outline and a common final assessment that assure that all students have a learning experience whose core is consistent, with the goal of giving all equal access to the same important knowledge and skills.

Scarsdale teachers have always worked together, but the protocol specifies the two products— core outline and common assessment— that are to result from their collaborative work on AT. Working together this past spring and summer, teachers in AT courses with multiple sections developed outlines and assessments to provide the common backbone for their individual instructional strategies and approaches.

A second concern was about the transparency of learning expectations and instructional strategies. Some teachers had offered their students highly detailed schedules of readings, papers, and projects, while others provided more general outlines of major units of study. Yet others gave out no roadmap of their courses at all. Faculty agreed that students new to the AT Program and to particular classes will perform best if they have specific guidance about the objectives of the course and a framework for learning. Department chairs in Art, English, Music, Science, and Social

Studies confirm that each teacher has distributed a syllabus to students early this year.

Third, there were concerns about variability in materials students received on AP exams and preparation sessions. Different teachers gave out announcements about procedures for signing up for exams in different ways and at different times, and there were some failures to do so at all. This year department chairs will monitor information flow to be sure that all students receive consistent notices about the sign-up procedure at approximately the same time. In addition, departments will publicize review sessions for AP exams and schedule those sessions at different times in an effort to reach as many students as possible.

Finally, faculty agreed on the need for a more systematic process for collecting data from visiting professors. Last year, one teacher usually transcribed the observations and recommendations of visiting faculty. In the current year, we will ask visitors to fill in a response form that records answers to specific questions, covering ground such as the nature of new developments in the discipline and suggestions for improved instruction (See Appendix, "Visiting Professor Response Form").

Conclusion

The second year of AT implementation draws on the data gathered in the spring and summer of 2008 and continues with the support and advice of the two cross-constituency committees. Additional data will be gathered during the second semester of 2008-09, and this will be shared with the Board of Education in the spring prior to its prospective consideration of the third year of the AT Program.

The goal of advancing deeper and richer learning for our most accelerated students remains at the center of this enterprise, and we look forward to presenting our conclusions about this year as we gain further experience with the initiative in three additional subject areas. For the moment, we can confirm that students are receiving the enhanced experience we have sought to provide them and we can document those refinements that have accompanied this year's further implementation.