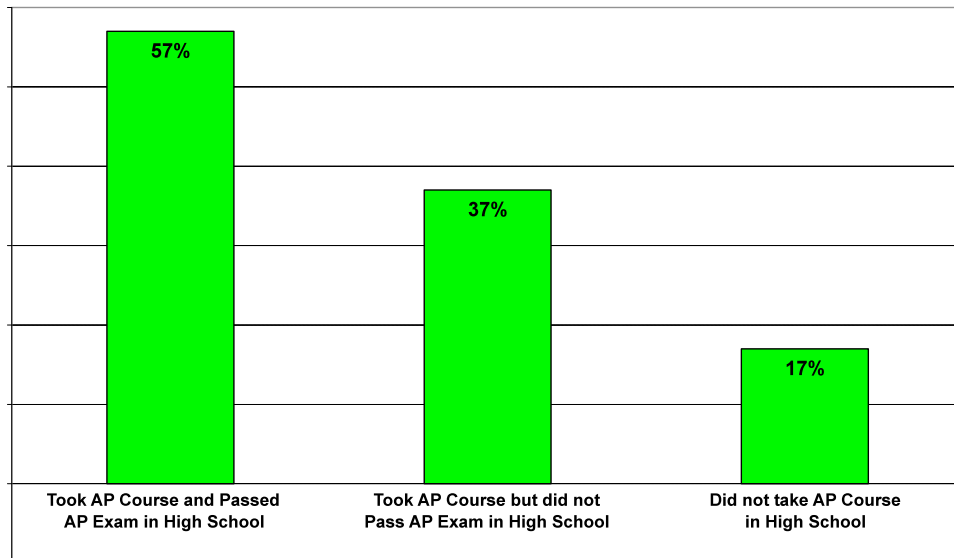


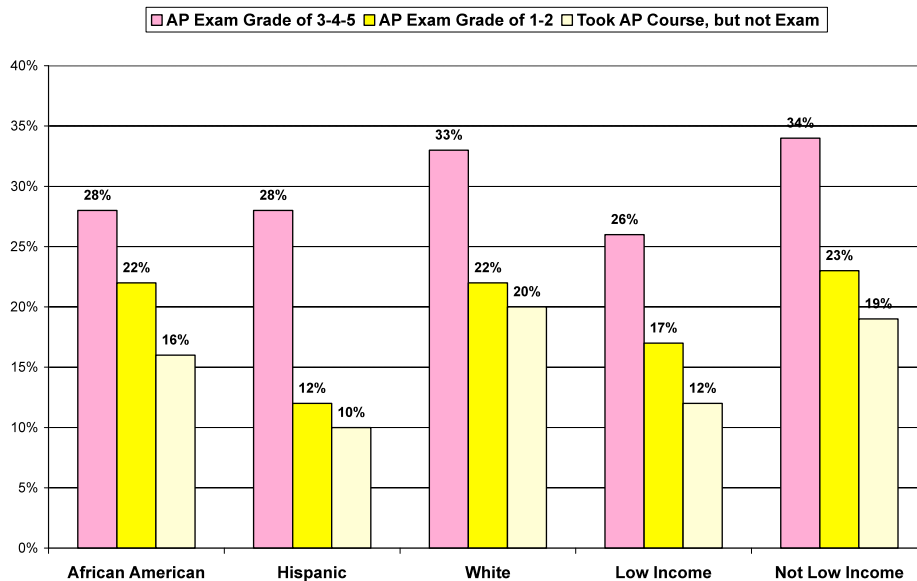
## Why Take AP?

% of Texas High School graduates  
receiving degree from Texas college/univ. within 5 years



## Comparing AP Students to Students with Comparable Academic Profiles

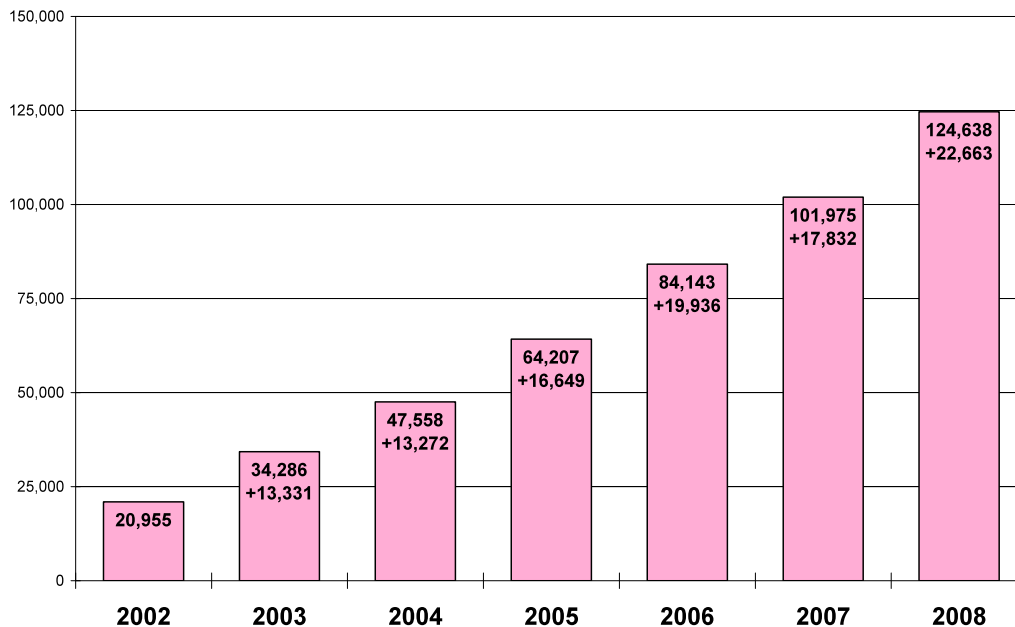
How much more likely were AP students to graduate from college?



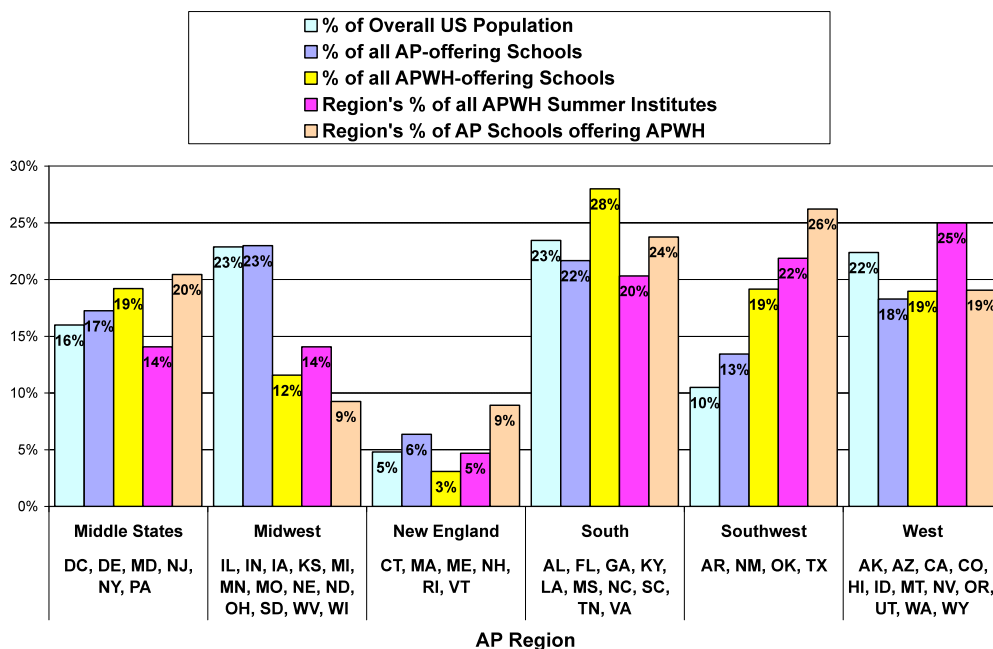
First things first. While AP has a well-earned reputation for helping high school students get *into* college, what good is it if students don't *finish* college? These graphs address a concern that will get your students' parents' attention at Open House.

The point is: just TAKING an AP course helps improve students' chances for finishing their college degree. Obviously it helps even more if high school students pass an AP exam, but these graphs should encourage those students & parents who wonder whether AP is really worth the effort.

## Growth of AP World History, 2002-2008

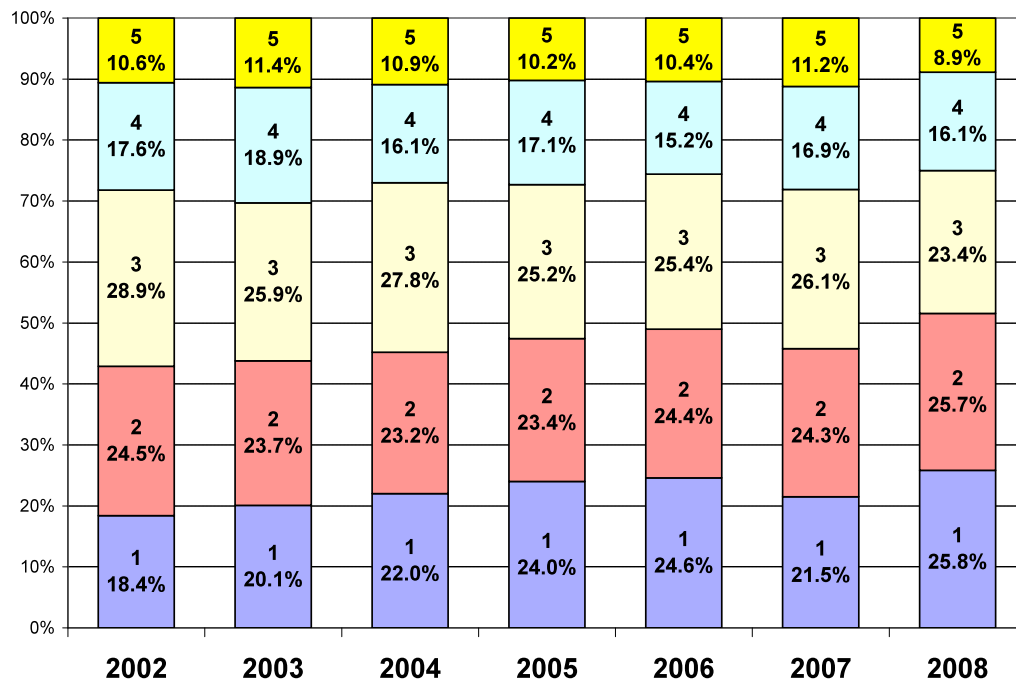


## Distribution of AP World History in Schools across the U.S.

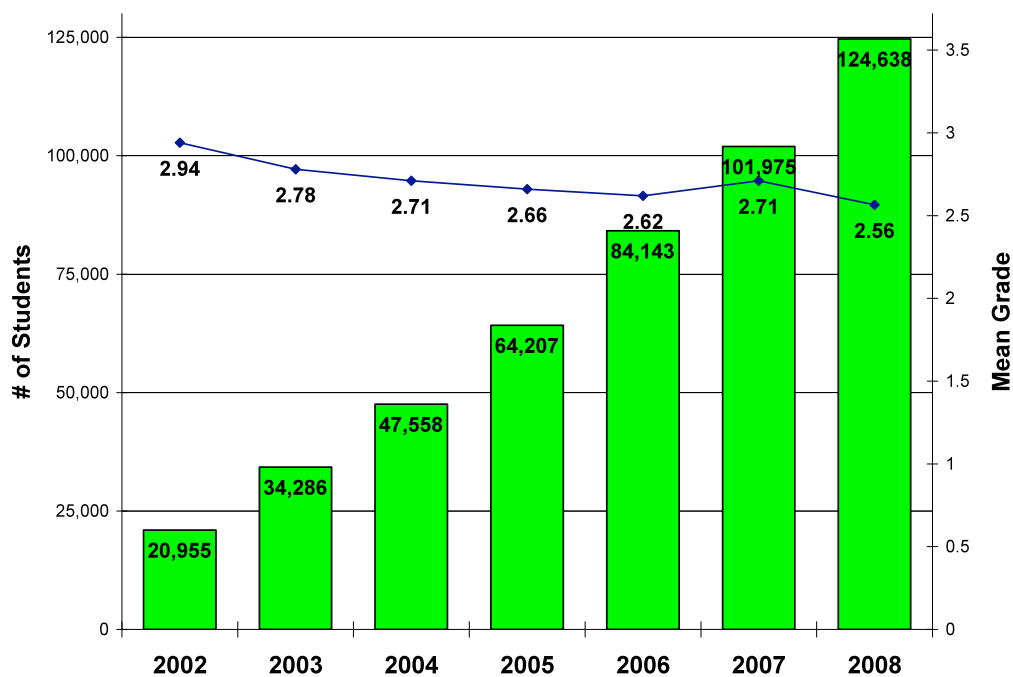


While APWH and the entire AP program have grown dramatically in recent years, the growth is not evenly distributed around the country. APWH is heavily concentrated in schools in the Southwest and South Regions, but underrepresented in the Midwest and New England. This data may help explain why it may be easier/harder to find colleagues and/or APWH Workshops & Summer Institutes in various regions around the country.

### AP World History Score Distribution

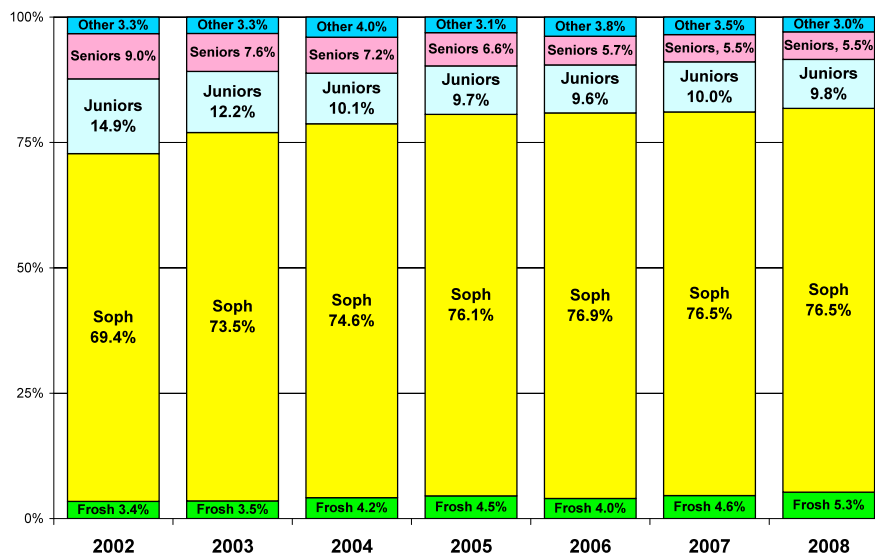


### AP World History National Mean Grade



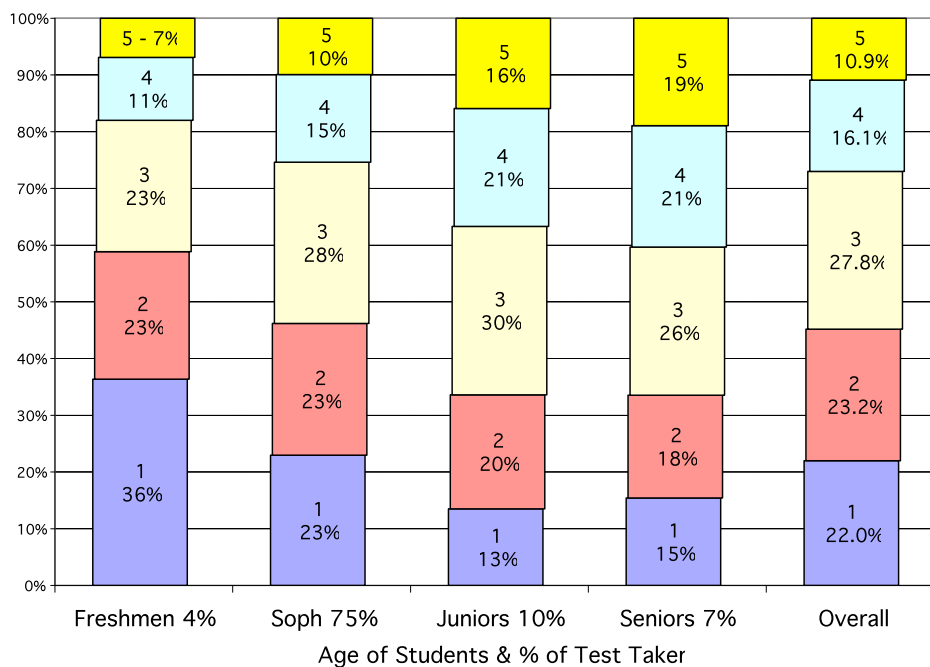
In the first 5 years of the APWH Exam, the Mean Grade dropped each year. 2007 was an exception, though it now seems that 2007 was merely an aberration to this trend rather than a true reversal.

## AP World History Student Age Distribution



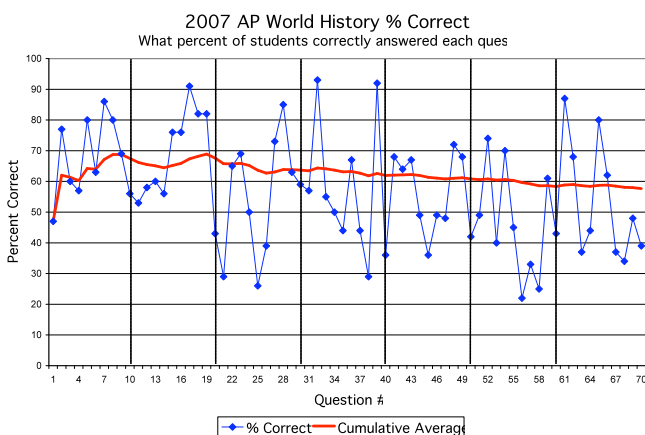
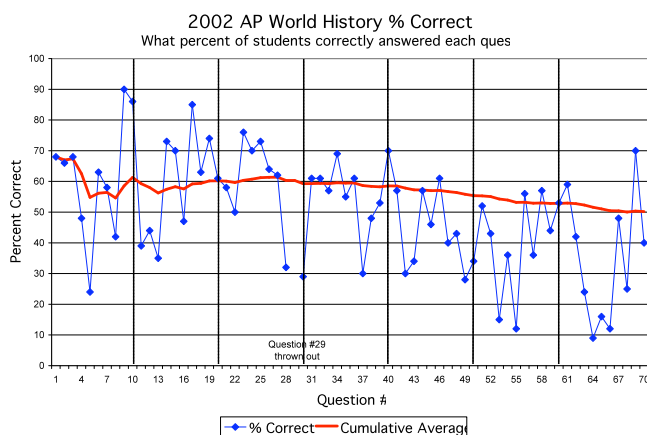
This graph simply shows what percent of AP World History students are what grade level. Common questions that teachers, administrators, and parents ask include, “Can Sophomores handle the demands of an AP course?” or “At what grade level should we schedule AP World History?” While these graphs can’t give specific advice on this question, they can show that the overwhelming majority of APWH students are in fact Sophomores.

## 2004 AP World History Score Distribution by Grade Level



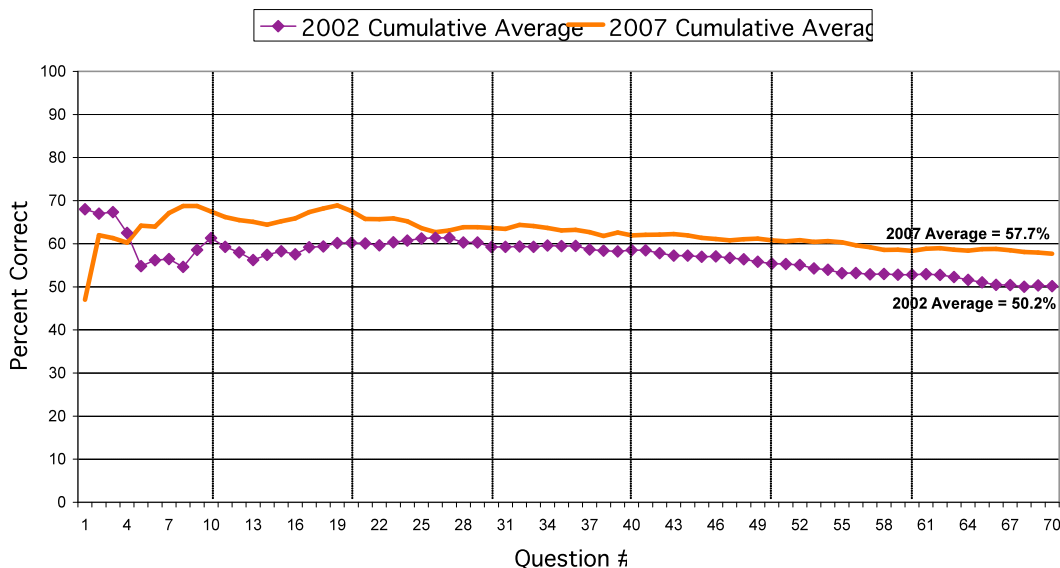
How do different age students perform on the APWH Exam? Note how there is significant improvement in students’ performance between Freshman and Sophomore year, and Sophomore and Junior years, but there is only a slight difference between Juniors’ and Seniors’ performance.

## Multiple Choice Section



This shows the percentage of students who answered each question on the 2002 AP World History Exam correctly. (e.g. 90% of students in 2002 answered Question #9 correctly, while only 9% answered Question #64 correctly).

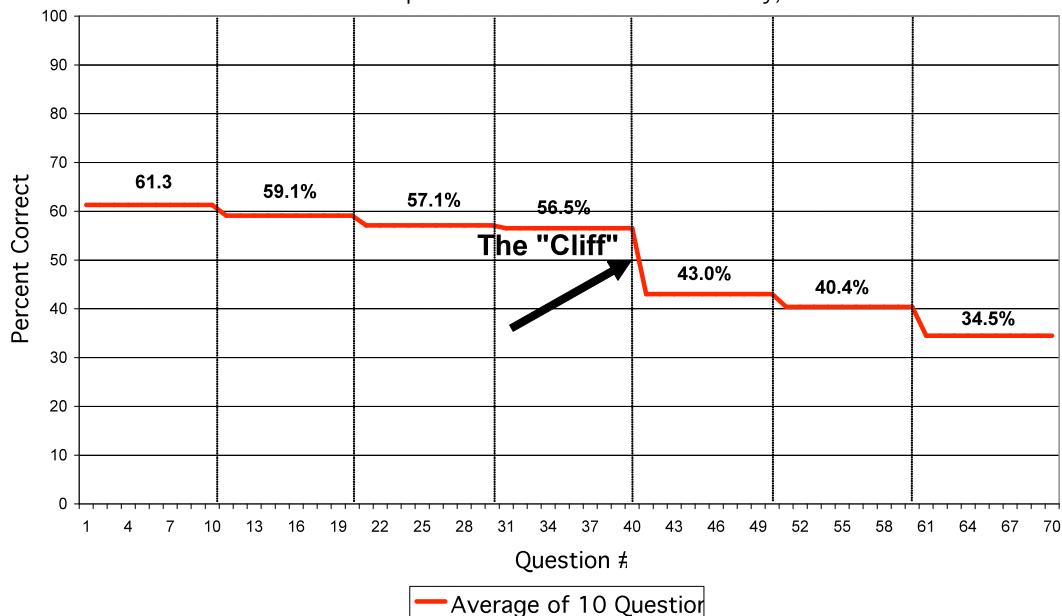
2002 vs. 2007 APWH Multiple Choice % Correct  
What was students' average score on the multiple choice sec



Note how students on the 2007 exam had much less “degradation” of their multiple choice section score as compared to the 2002 exam. While students in the 1<sup>st</sup> year of APWH in 2002 experienced a high degree of “mental fatigue” during the exam, by 2007 students were better prepared, improving their multiple choice section score by 7.5% (approx. 5.25 questions). My interpretation of this trend is that APWH students are now significantly better prepared for the multiple choice section of the APWH Exam than they were the first year of the course. In 2002 it was difficult to find high quality, AP-level of difficulty multiple choice questions. By 2007 there are several widely used sources for high quality multiple choice questions.

## The "Cliff" - 2002

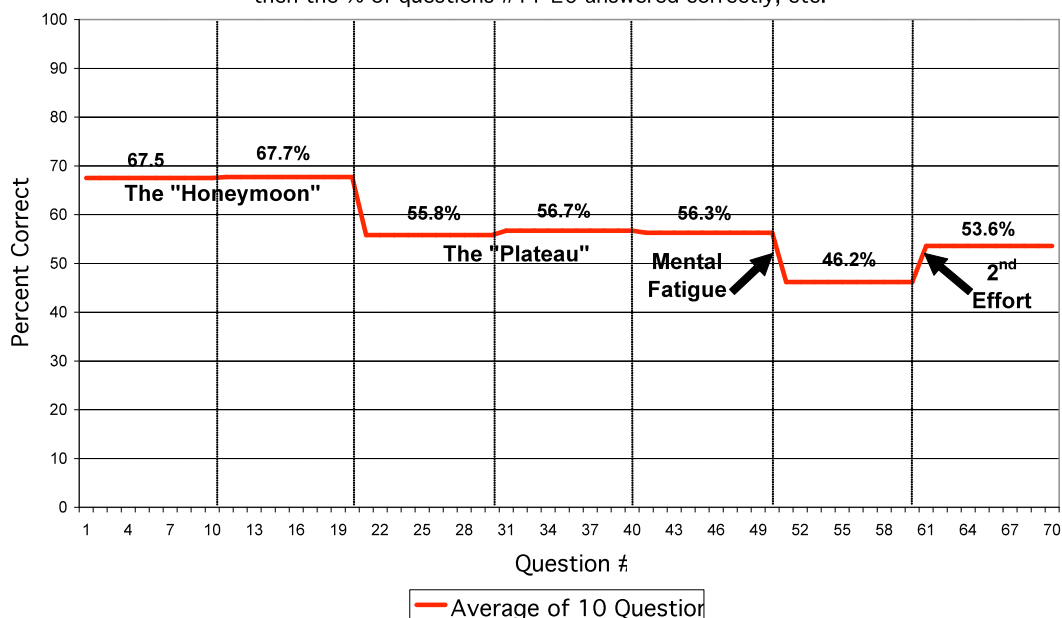
Shows the % of questions #1-10 students answered correctl then the % of questions #11-20 answered correctly, etc.



In 2002 students seemed to hit a “Cliff” around Question #40, and lost at least some of their mental focus for the rest of the exam. It is important for students to have experience taking a demanding exam (with ~70 AP-quality questions) that forces them to keep concentrating for a solid hour of sustained mental effort.

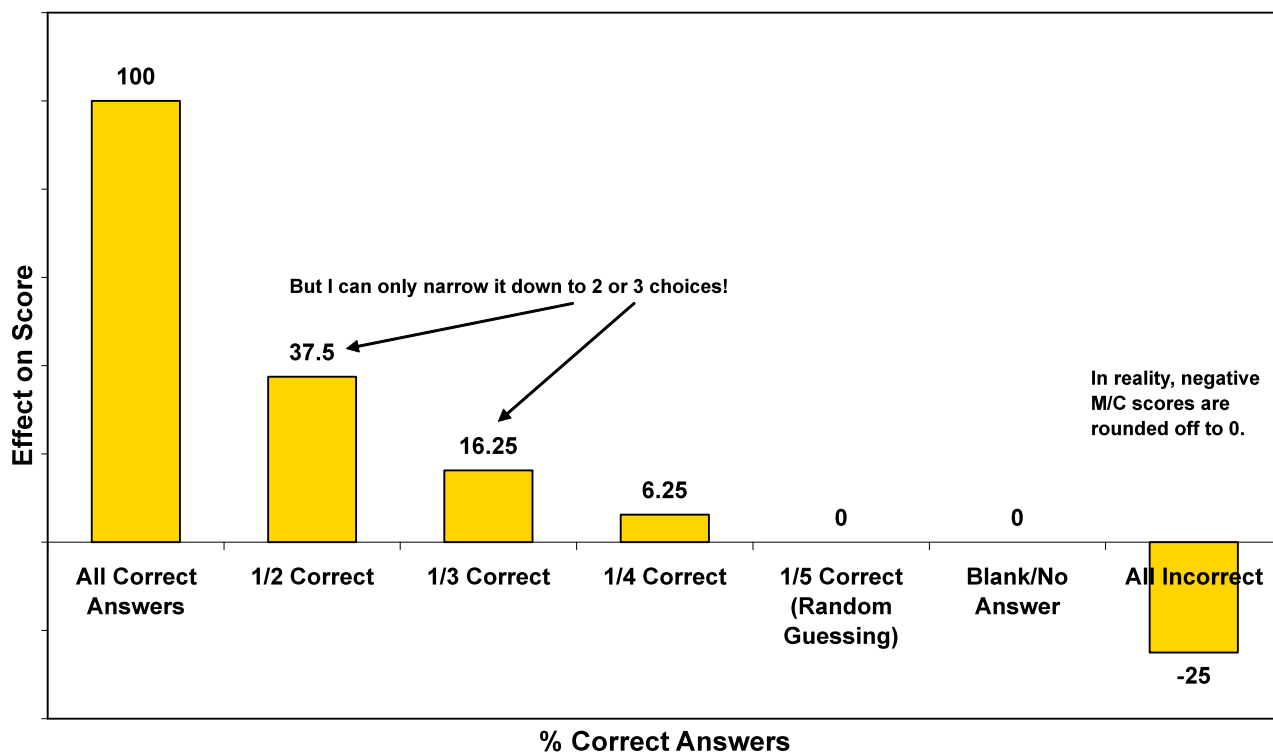
## The "Cliff" - 2007

Shows the % of questions #1-10 students answered correctl then the % of questions #11-20 answered correctly, etc.



By 2007, students were significantly better prepared for the multiple choice section. Not only did they perform better overall on the (50.2% in 2002 vs. 57.7% in 2007) their “mental stamina” persevered through the multiple choice section, as evidenced in the “2<sup>nd</sup> Effort” stage above.

**Should I Guess?**  
**Bars Reflect 'Adjusted Score' Penalty (-1/4 point)**  
**for Incorrect Answers**



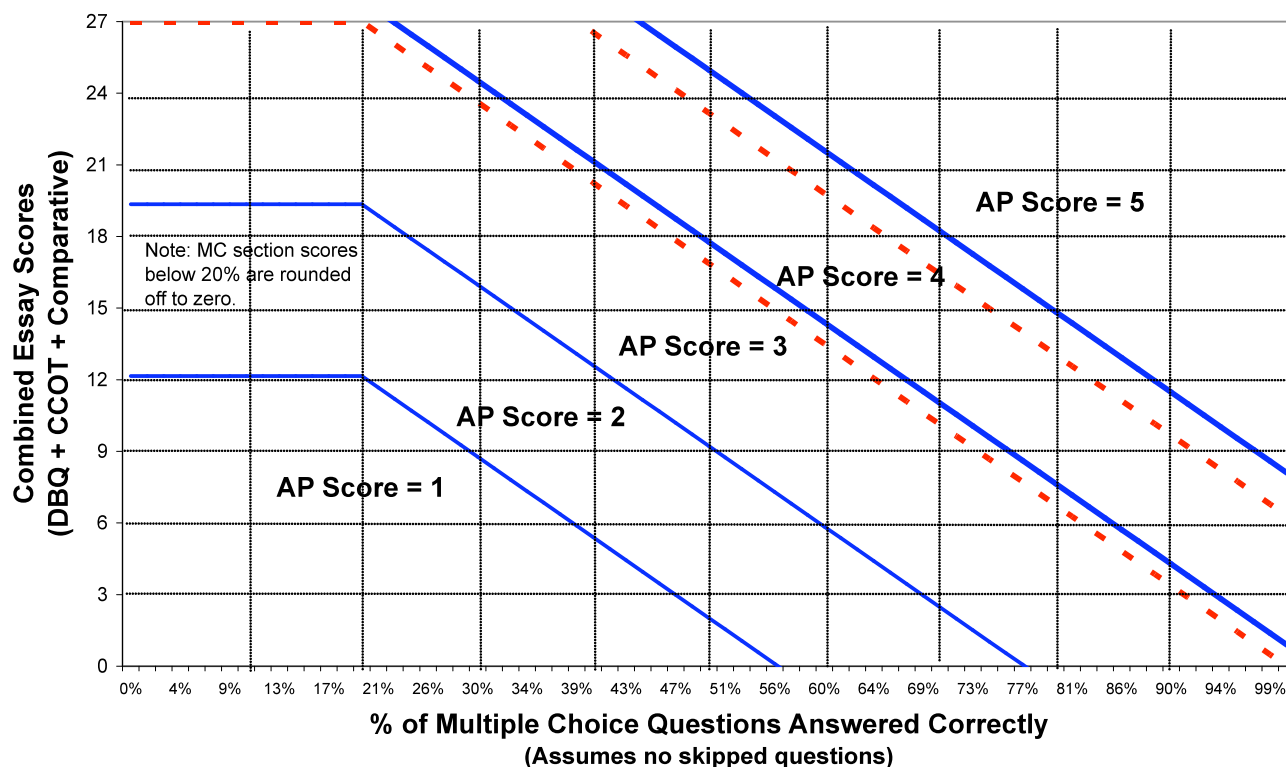
Occasionally a student will be so afraid of failure that they won't answer a question unless they're absolutely sure of the answer. This is too cautious for AP. This graph shows the effect that guessing would have on a student's score. The first bar shows how a 'perfect' student would score on the multiple choice section of the exam. The second bar shows a student's score if the student narrowed the answers down to two, then guessed. (Remember that there is a -1/4 point 'penalty' for incorrect answers, which neutralizes the effect of random guessing). The point of this chart is that the effect of guessing between two answers is NOT neutral, but will in fact HELP a student's score. Guessing between 3 possible answers will also help, though only 16.25% as much as a consistent right answer.

How should Teachers use this graph? Talk with your students. Reassure them that guessing between 2 or 3 answers WILL help their overall score. Leaving a question blank is almost as bad as answering it incorrectly. Note: While randomly guessing among 4 possible answers will officially help students' scores (+6.25%) one has to factor in the TIME it takes students to read and answer each question. Many students have difficulty finishing the exam, and may not want to spend valuable time guessing between 4 answers on a question when they still have several more questions to answer.

## Combination of Multiple Choice Section and Essay Section

### 2002 vs. 2007 Combination of APWH MC & Essay Scores

Cutoff levels required for a Final Score of 2 or 3 were unchanged.  
Cutoff levels required for a Final Score of 4 or 5 were lowered. (red dashed lines = 2007)



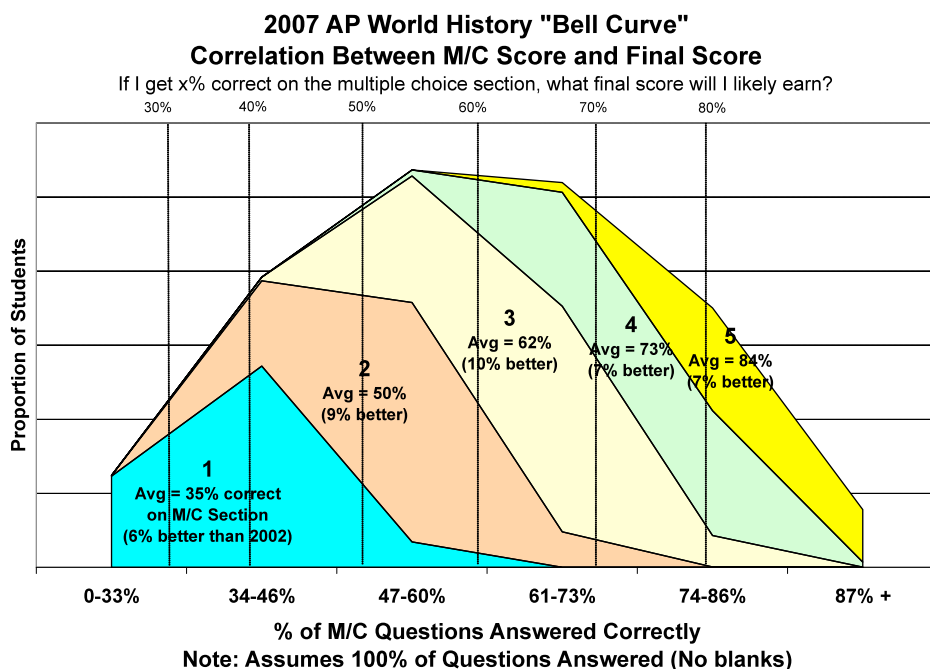
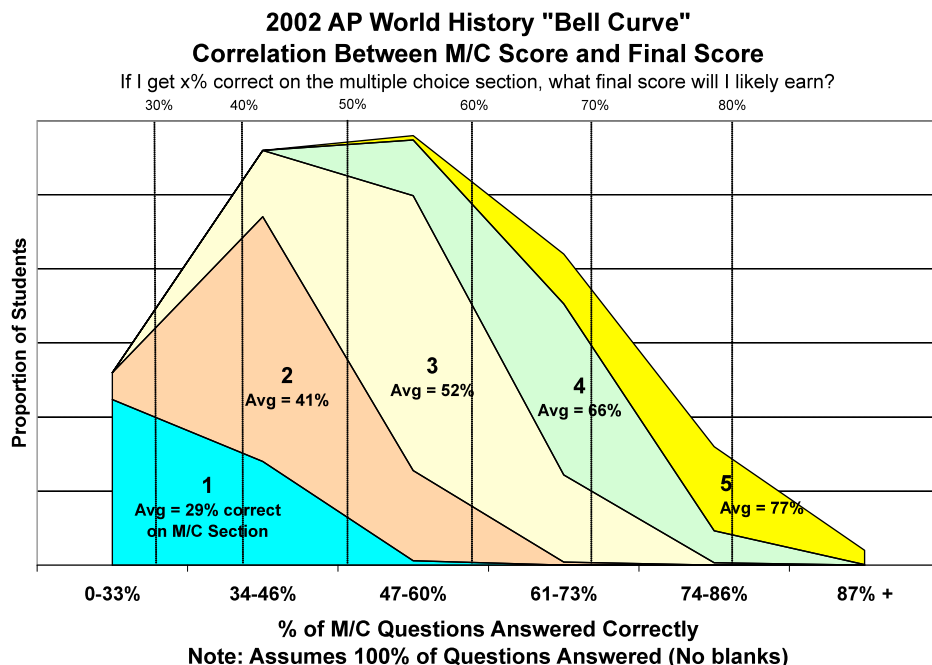
Students often ask, “I got x% of the multiple choice questions correct on the semester exam. What AP score would that get me?” This graph (together with the “Bell Curve” graph on the next page) is designed to answer that question as nearly as possible. Note: the “cutoff” levels are adjusted slightly each year by ETS and the Chief Reader. We only have data for 2002 and 2007, not for intervening years.

Students often make the mistake of thinking that doing well on one half of the exam guarantees them a high score, or that doing poorly on one half ruins their chances. This graph is designed to dispel both of these misconceptions. A student who gets 100% of the multiple choice questions correct and then walked out of the exam would score a (very high) ‘3’. Same with a student who didn’t answer any multiple choice questions correctly, but wrote three perfect 9-point essays. Note: the lines for this graph are accurate for 2002 and 2007 only. The levels are adjusted slightly by the Chief Reader and ETS each year.<sup>1</sup>

<sup>1</sup> The complete description of the Scoring Process is described in detail at

<http://apcentral.collegeboard.com/apc/public/courses/1994.html>





Students often ask, "I got x% of the multiple choice questions correct on the semester exam. What AP score would that get me?" This graph (together with the "Combination of MC and Essay Scores" graph on the previous page) is designed to answer that question as nearly as possible. Note: there is no absolute answer, only a probability.

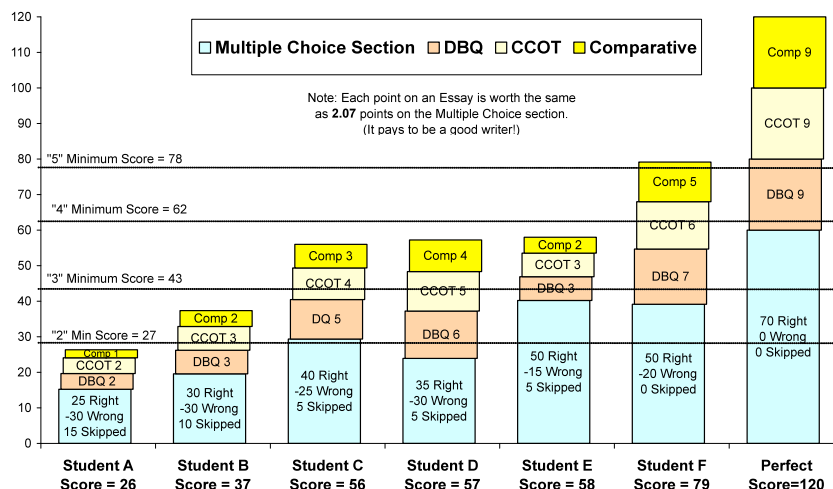
The 2002 national average score on the multiple choice section of the exam was approximately 50%. In the center of the 2002 graph you'll see a vertical line labeled "50%". Students who answered 50% of the multiple choice section questions correctly were most likely to earn a '3', but some who wrote better essays earned a '4', while those with weaker essays earned a '2.' Note: a small percentage of students earned a '5' or '1'.

Obviously the higher one's multiple choice section score, the farther right on the graph and the higher the likely Final Score. It is important to note though, that it is possible for a student to score 70% on the multiple choice section and earn a final score of '3', while another student might score only 50% on the multiple choice section and earn a final score of '5'. The lesson is that there are NO GUARANTEES! It is POSSIBLE (though not likely) to answer 30% of the multiple choice questions correctly and still earn a '3', but only by writing outstanding essays. It is also POSSIBLE to answer 70% of the multiple choice questions correctly and still earn a '3', but only by writing poor essays. Teachers: use this chart to impress the importance of well-roundedness on your students. They can't be good at only one part of the exam!

The most encouraging fact from these graphs is that the "bell curve" of students' multiple choice answers is no longer "skewed" toward the lower scores. Together with the fact that the students' averages scores for the multiple choice section are significantly higher (57.7% in 2007 vs. 50.2% in 2002) indicates that students are performing much better. My hunch is that much of this improvement is due to the fact that teachers are more frequently using AP-level multiple choice questions now than in the first year of the course.

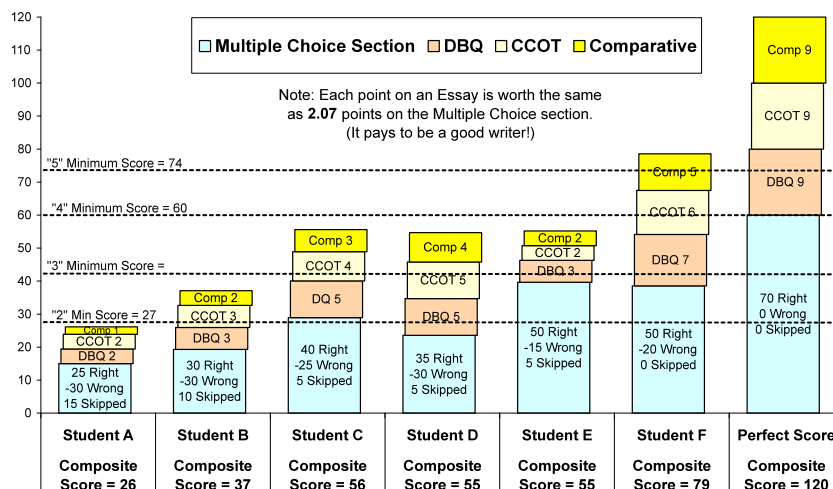
## 2002 APWH Composite Scores

Note: The cutoffs between each score apply to the 2002 APWH only. These levels change slightly each year according to the specific characteristics of that year's test results.



## 2007 APWH Composite Scores

Note: The cutoffs between each score apply to the 2007 APWH only. These levels change slightly each year according to the specific characteristics of that year's test results.



There is an official score computation worksheet in the AP World History Released Exams, but most students and teachers do not have a clear understanding of how the multiple choice and essay section scores factor into the final score. The cutoff levels for a Final Score of 2 or 3 were unchanged in 2007, though the levels were lowered for a 4 or 5. Note: probably the most important fact is the fact that each Essay point is weighted the same as 2.07 multiple choice questions.<sup>2</sup>

<sup>2</sup> This is a rather tricky calculation. Depending on how one defines "multiple choice Question" this ratio could change. Technically the 27 possible points on the Essay section are worth the same as the 70 multiple choice Questions, which would make each Essay Point worth 2.59 multiple choice questions. However, when answering a multiple choice Question, most students choose between answering the question correctly and answering it incorrectly, not between answering correctly and skipping the question entirely. Thus the "opportunity cost" of a single multiple choice Question is really worth 1.25 points on the multiple choice section, taking into account the -0.25 penalty for incorrect answers. Therefore the formula I used when calculating this ratio is: Essay Question =  $(2.2222 / (1.25 \times 0.8571)) = 2.07$ .

Student A: This student correctly answered only 25 out of 70 multiple choice questions, incorrectly answered 30 questions, and skipped 15 questions. In addition, this student earned only 5 points on their three essays.<sup>3</sup> Student A's Composite Score was 26, just shy of the Composite Score of 27 needed for a Final Score of '2'.

Student B: This student did a little better on the multiple choice section (30 correct, 30 incorrect, and 10 skipped) and also wrote slightly better essays. Their Composite Score was 37, squarely in the middle of the '2' range.

Students C, D, & E: I structured three hypothetical students together to highlight a few principles: All three of these students score the same Final Score ('3') and virtually identical Composite Scores (56, 57, 58). The point is that Student C is a well-rounded student, evenly able in both the multiple choice and essay sections. Student D is the student who does poorly on the multiple choice section, but is a better writer than his/her multiple choice section score would predict. Student E is a gifted multiple choice question answerer, but is weak on the writing portion of the exam.

Student F: This student illustrates what is necessary to earn a '5'.

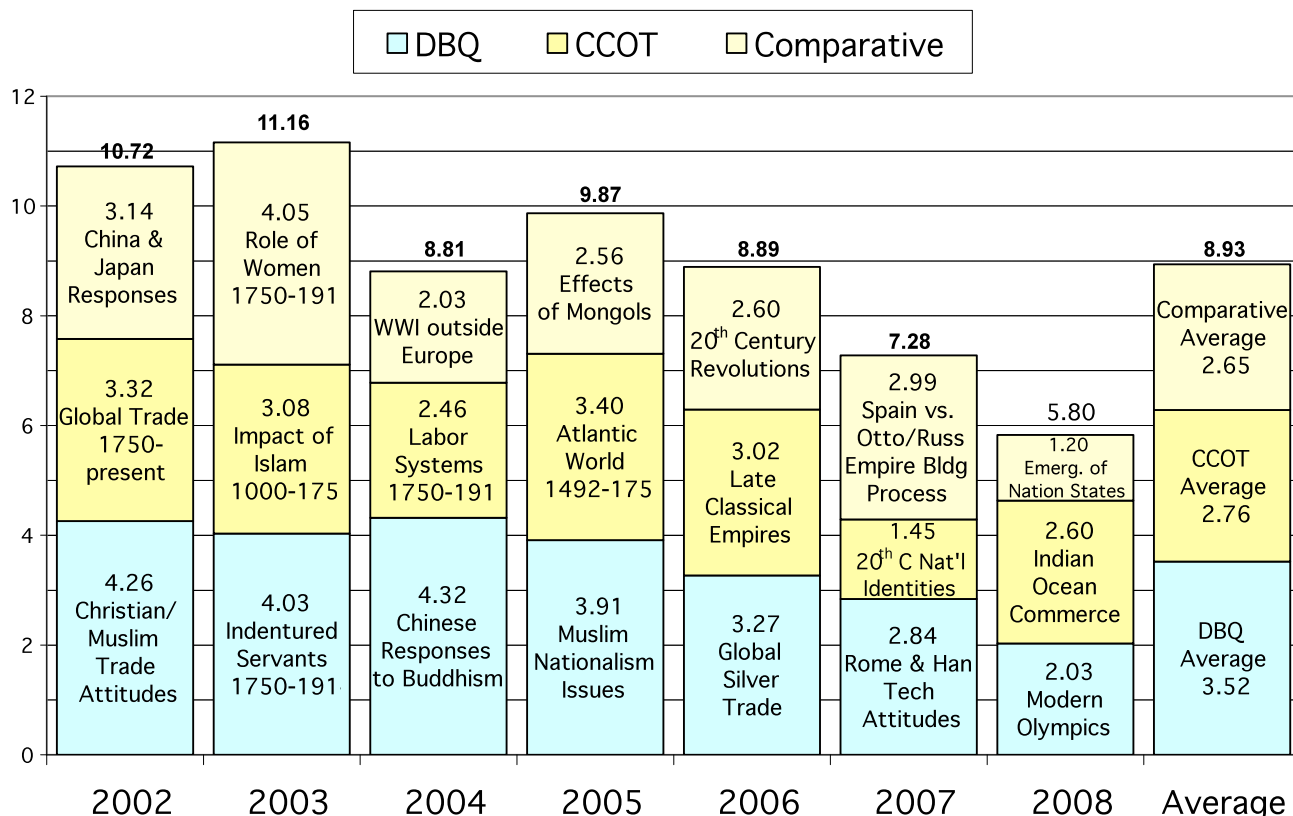
Perfect: Just In case students start to complain, I remind them that someone who answered all multiple choice and essays perfectly would earn a Composite Score of 120.

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<sup>3</sup> It doesn't matter which essay earned which score. A point on any essay (DBQ, COT, or C&C) is worth the same as a point on any other essay.

## Essay Scores

### AP World History Essay Mean Scores



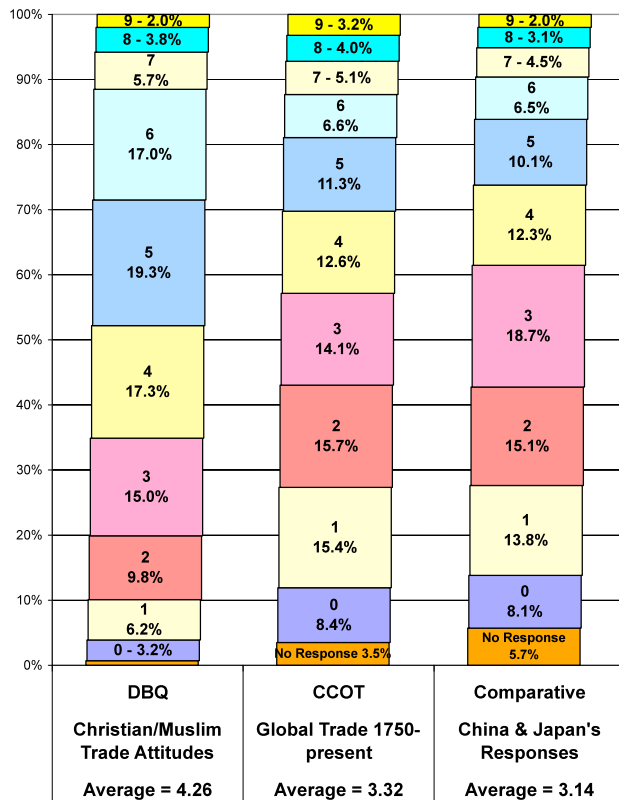
Explaining the recent decline of essay scores is difficult at best. There are three main factors that color any interpretation of the evolution of students' APWH Essay writing between 2002 and 2007.

1. The Essay Rubrics changed. (e.g. the CCOT and Comparative questions added an "Analysis" category to the Core Rubric)
2. The definition of identical Rubric categories became more demanding.
  - a. In 2002 an "acceptable" Thesis" could be 'split' into two non-contiguous sentences, while 'split' Theses were not accepted beginning in 2004.
  - b. In 2006 an inadvertent "loophole" in the DBQ rubric that allowed students to ignore one document *and* misinterpret a second document was closed.)
3. The 2007 CCOT essay was unusually difficult, and should probably be interpreted as an exception to the general trend of students' performance.

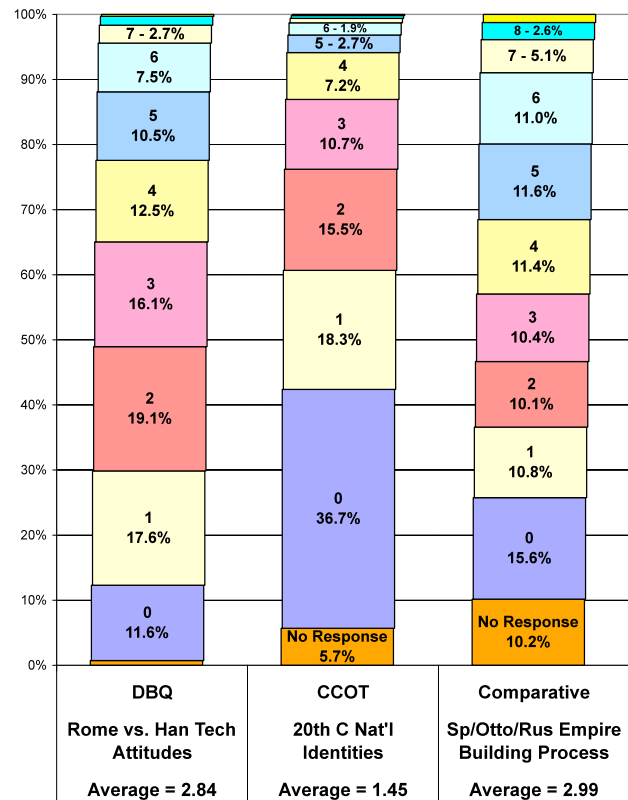
Given these changes, it is difficult to make any clear diagnosis of students' general essay writing skills with a high degree of confidence. The author's personal opinion is that essay writing skills are improving incrementally, but not as quickly as the Rubrics requirements have increased. If the 2007 essays were somehow magically graded according to 2002 standards, there would probably be little if no decrease in student writing quality. (e.g. an essay earning a score of '3' in 2007 might be equivalent to a '4' in 2002 given the newer, more demanding essay rubrics.)

# Commentary on AP World History Charts & Graphs

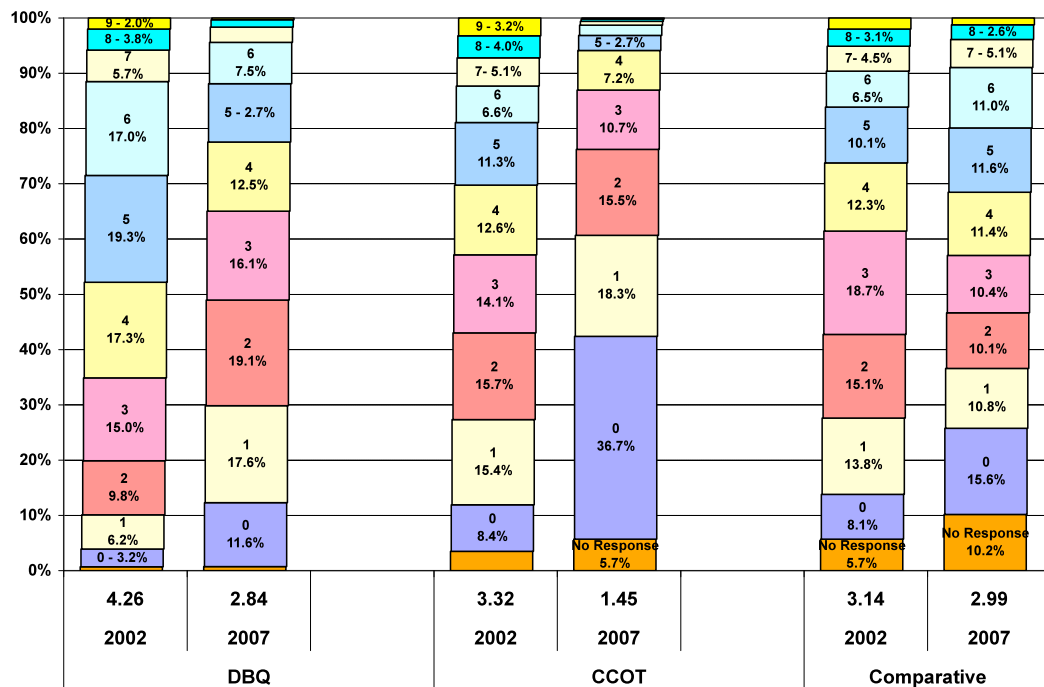
## 2002 AP World History Essay Scores Distribution



## 2007 AP World History Essay Scores Distribution



## 2002 vs. 2007 AP World History Essay Scores Distribution



Note the trend from DBQ through CCOT to Comparative. This chart is the Essay equivalent of the multiple choice cumulative average chart. Note how the average essay scores drop, and the frequency of “No Response” essays increases. Students might lose track of time during the exam, or become tired and less willing/able to write a quality essay as they struggle through the two hour of the writing portion. What does this mean for AP Teachers? We have to train our students to write essays under realistic testing conditions. (10 min to read DBQ documents, then 40 min per essay)

Just as students’ performance on the multiple choice section of the exam is encouraging, their performance on the essay writing section leaves much room for improvement.

### Final Conclusions

All of this data raises an interesting question that teachers want to know:

“Has the APWH Exam become ‘easier’ or ‘harder’ from 2002-2007?”

The answer is difficult to quantify, and any conclusions should be tentative. What is clear is that students performed better on the multiple choice section in 2007, but worse on the essay section compared to 2002.

	2002	2007	Difference
Multiple Choice Section score	50.2%	57.7%	+7.5%
Weighted Composite Score equivalent	22.65	29.50	+6.85
Raw Essay Section Score	10.72	7.28	-3.44
Weighted Composite Score equivalent	23.83	16.18	-7.64
Net Overall Composite Score	46.48	45.68	-0.80
Composite Score Required for a: 5	78	74	-4
4	62	60	-2
3	43	43	Same
2	27	27	Same

The author is not a statistician, and claims no special expertise in determining the appropriate “cut levels” between 5-4-3-2-1. The multiple choice section has become “easier” while the essay section is “harder,” but on first glance the “cut levels” between 5-4-3-2-1 have been adjusted accordingly to ensure reliability throughout 2002-2007.