Rigor, Relevance & Best Practice Newsletter

SECONDARY EDUCATOR EDITION

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Preparing Today's Students for Tomorrow's Challenges

Northeast Regional Center
Collaboration among the Education Service Agencies of
Apache, Coconino and Navajo County

CCESA

Engaging Students in Discourse

As a student, I did not have much interest in history/science or other academic content areas because I learned it as a set body of knowledge. When I talk to others who are of a similar age, they tend to have the same opinion. There was nothing to figure out or argue. I never once considered what historians/scientist did.

My misconception of history and science as a set body of knowledge had everything to do with the sources and pedagogical methods that were being used. My textbooks presented history and science as a static body of knowledge devoid of all traces of historical and scientific thinking.

The Arizona College and Career Ready Standards in reading, writing and speaking & listening validate the importance of students engaging in the practice of analyzing and writing historical/ scientific arguments. To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

What I have since learned is that while history and science may begin with facts, they do not end there. The excitement and rigor of learning lies in the interpretation—how one makes sense of the facts.

If our students are going to develop an appreciation of history and science as dynamic disciplines of meaning-making, they must be immersed in models of texts that demonstrate varied perspectives on a topic. Our students need to analyze historical and scientific arguments that allow them to identify and evaluate authors' claims and the evidence used to support those claims. Additionally, our students need multiple opportunities to try their own hand at making meaning through historical and scientific thinking and writing.

As a student, what I did not yet know about history and science is that there always has been and always will be historical and scientific meaning to be made and arguments to be constructed. The Arizona College & Career Ready Standards offer an exciting expectation that our students can and will engage in the rigors of this historical and scientific discourse. To support students in meeting this expectation, teachers need access to a wide range of writing models beyond those offered in textbooks. Teachers also need access to resources that are based in pedagogical methods that align with an understanding of history as a dynamic discipline based in interpretation.

We work in an exciting time in education. Our office looks forward to collaborating with all of you as we move forward. To find some exciting resources please click on our resource link.

Cheryl Mango-Paget & The CCESA I & D Team

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Resources

Here are a few links containing additional information, including details on what each child will be expected to know and do in each grade and tips for parents:

http://ccesa.az.gov/

http://www.azed.gov/standards-development-assessment/parcc-assessment/

http://www.azed.gov/standards-development-assessment/parcc-assessment/

http://parcconline.org/

www.corestandards.org

www.pta.org/parentsguide

http://ww.azed.gov/standards-practices/files2012/05/rttt-implementation-plan-2-6-12.pdf

http://www.parcconline.org/samples/item-task-prototypes

www.theteachingchannel.org/

College Admission Exams Connecting to the Work of High School…Why Now?

By Lindsey Tepe — March 7, 2014

The SAT and ACT—the premier college admissions examinations– have "become disconnected from the work of our high schools." This proclamation by David Coleman, president of The College Board (the developer of the SAT), came during his announcement of forthcoming changes to the SAT that will aim to address this issue. And while this news has touched off a flurry of headlines, the national media and higher education outlets are missing a huge piece of the story: the role the Common Core has played in driving these changes.

The major content and procedural changes the SAT will undergo have been well documented by news outlets—the New York Times, the Chronicle, and Inside Higher Education, to name a few. The announced changes move the SAT closer to ACT's content-based method of assessment, an achievement test seen as more connected to the work of high schools. Wonkblog pointed out that ACT's increased market share (up to 54 percent) is no doubt driving these changes. It's not just ACT's increased market share that's got the SAT's creators worried. In a country with 50 sets of education standards and 50 different state-developed high school assessments, the ACT and SAT have touted their unique ability to compare diverse applicants from across the United States. But the work of high schools themselves is now converging, and students from 45 states and the District of Columbia are working toward mastery of the same academic standards.

While the Times, the Post, the Chronicle, and Inside Higher Ed all gave a brief nod toward Coleman's role in developing those Common Core State Standards for K-12 education, adopted by this large majority of states, **neither Coleman** nor the national media have really honed in on how the standards are driving the College Board—as well as the ACT—to change their product. To this point, in the new education landscape that has taken shape since these standards' widespread adoption, how useful really are college admissions tests that do not actually assess the standards that we have determined prepare students for college and careers?

While the SAT and ACT are trying to stay ahead of the curve, perhaps the two new college- and career-ready assessments will have better grades.

There's little doubt that ACT recognized this point and has updated their products in response. ACT recently announced the launch of new assessments for grades 3-8 that are explicitly designed to assess the Common Core standards, ACT Aspire, which will culminate in the ACT for high school assessment. Last year, Alabama officially announced that it will use these tests to assess mastery of their state standards, the Common Core.

When Coleman became president of the College Board back in 2012, after his work developing the Common Core, he stated his goal for moving the SAT to better reflect those standards. On Wednesday, Education Week described in detail how the new changes to the SAT align with the Common Core—and presented an excellent side-by-side comparison of the SAT and Common Core that illustrates how Coleman's goal will become a reality. (Education Week, largely focused on K-12 education news, has expertly covered the role of the Common Core in driving changes to the SAT.)

This new SAT will not be released until 2016—but next year students will begin to take assessments developed by two state consortia that explicitly measure mastery of the Common Core standards. The high school assessments will provide detailed information about student achievement in reading and mathematics, and will provide a source of student achievement data that is comparable across states. It may prove that these state-developed Common Core assessments are also a strong predictor of college success.

As the New York Times reiterated, "Critics have long pointed out—and Mr. Coleman admits—that high school grades are a better predictor of college success than standardized test scores." While the SAT and ACT are currently the only players in the market of college admissions exams, they still have not succeeded in creating products that have stronger predictive power than high school grade point average. Though these two assessment giants are now trying to connect with the Common Core, it remains to be seen whether their new tests will be more predictive of student success in college. While the SAT and ACT are trying to stay ahead of the curve, perhaps the two new college- and career-ready assessments will have better grades.

- See more at: http://www.edcentral.org/college-admissions-exams-connecting-to-the-work-of-high-school/#sthash.csswpjtH.ryFCyqv4.dpuf

Speaking and Listening Standards Source: http://www.youtube.com/watch?v=FZXwEaHrdbo

The key points of the standards require that students gain, evaluate, and present increasingly complex information, ideas, and evidence through listening and speaking as well as through media. An important focus of the standards is academic discussion with partners, in a small group and in whole class settings.

Formal presentations are one way such talk can take place. Such an opportunity can also be provided with more informal discussions that take place as students collaborate to answer questions, build understanding and solve problems. From kindergarten through high school, Standard One insists that students work responsively and respectfully with diverse partners. Students need to come prepared with research they have done for the discussion. In addition, they must listen carefully, share findings,

Middle School Discourse Strategy: A Discussion Web

The Discussion Web enables students to identify opposing points of view on a matter.

1. After reading a selection, form groups of three to five students each.
2. Groups discuss a focus question and identify evidence to support any claims made.
3. Groups record their information, including key words and phrases, on the template.
4. Groups work together to form a consensus by stating their conclusion as well as the reasons upon which the conclusions were based.
5. A spokesperson from each group shares the group's point of view with the entire class.

http://www.educationworld.com/a_lesson/lesson/lesson032.shtml

Alvermann, D.E. (1991). The Discussion Web: A graphic aid for learning across the curriculum. *The Reading Teacher*, *45*(2), 92–99.

Fishbowl Discussion Targets Speaking and Listening

Form two circles with the desks. One half of the students sits in the inner circle facing each other and the other half of the students sits in the outer circle. The students in the inner circle actively participate in a Socratic Seminar while the students sitting in the outer circle listen, observe and take notes on the discussion. One variation is to reserve an empty 'hotseat' in the inner circle of desks so that if a student from the outer circle would like to jump in to make a comment and leave, he/she can. At the end of the discussion, the students in the outer circle share their observations with the students in the inner circle. Their roles are then reversed.

Source: www.nwabr.org/ education/pdfs/PRIMER/PrimerPieces/SocSem.pdf

Below is an example of how a Fishbowl Discussion supported the leaning in a science class:

Students were asked to make a claim based upon the following statement:

Dark-colored materials transform light energy into heat energy.

Students inside the bowl were given the following directions:

- Inside Bowl – Discuss the claim (3 minutes)
  - Do you agree/disagree?
  - What is the evidence & reasoning for why you agree?

Students outside the Bowl were given the following directions:

- Outside the Bowl
  - Listen & Take Notes
  - Write down one statement made by the group that you agree or disagree with and provide evidence to support your answer.

The teacher then debriefed asked the outer group to share responses.

Finally, the class made a claim and recorded the supporting evidence and a reasoning statement (unit of justification) linking the evidence to the claim.

Source: CCESA Office of I & D

FOCUS ON THE AZCCRS-Mathematics:
Effectively Incorporate Technology in the Classroom

Today's students will continue to grow up in a rapidly evolving digital age. With this in mind, we need to expose our students to quality technology in a meaningful way to prepare them for the future. The new Arizona College and Career Ready Standards specifically say students should be using technology to learn.

Mathematical Practice Standard 5, Use appropriate tools strategically, says "When making mathematical models, (students) know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. "

Examples from the Content Standards are:

7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or side, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.

8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurement of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.

Students need to not only view the teacher using technology as part of direct instruction, but more importantly, they need to have access to and the skills necessary to choose technology as a tool when appropriate. These tools can be calculators, geometry construction software, virtual manipulatives video lessons or even collaboration tool like Google docs. A few representative websites for technology integration are listed at the end of this article.

The most common and therefore possibly the most powerful mathematical technology is the graphing calculator. The next generation of state and national assessments will require students to be proficient with these calculators. The ACT, SAT, and AP exams are also written with the expectation that the student will be using a graphing calculator. Every mathematics instructor beginning with Algebra 1 should be incorporating these skills into their daily lessons. The standards for 8th grade math assume students will have access to scientific calculators. At this level of mathematics the calculator is not being used for simply "calculating" but rather as a tool for discovering patterns, comparing and analyzing data and creating multiple representations of quantitative information for communication of ideas. Although the ideal is for each student to have their own calculator there is an online option. A free online graphing calculator can be found at https://www.desmos.com/.

- **The National Library of Virtual Manipulatives** is free and has activities separated by grade level and domains. http://nlvm.usu.edu.
- **GeoGebra** is free dynamic software that allows students and teachers to create and manipulate shapes and equations. It also has a large selection of free materials/videos already created for every grade level. http://www.geogebra.org.
- **Club Academia and Math train** are websites with math videos created by kids for kids. Students on average will watch another student's video seven times and a teacher's video only once. http://clubacademia.org http://mathtrain.tv
- A **Google doc** is not typically considered a tool for mathematics class. However, this is a tool which focuses on collaboration. Students can work on the same document at the same time. This is a way in which groups of students can share their work, arguments, evidence, reasoning, etc. with the teacher and the rest of the class or school. Consider Mathematical Practice #3, 'Construct viable arguments and critique the reasoning of others'. *docs.google.com*