

# 21<sup>st</sup> Century Education

## *Focus Points & Year I Action Plan for AHS*

Over the last year and a half, we have discussed and researched a great deal answering the question “What skills, knowledge, and habits of mind will best prepare our students for social, emotional, and vocational success?” A grant from the Arlington Schools Foundation as well as APS money for study groups has allowed us to produce the following document, which shows both what we are doing now and what we need to do to reach our 21<sup>st</sup> Century Education goals.

Happily, we have broad agreement on the key themes and needs, with one puzzling difference of opinion. Sadly, a public school system cannot address every 21<sup>st</sup> century need – at least not right away. What follows are the 7 focus areas that are both important for students in the 21<sup>st</sup> century and can be impacted by Arlington High over the next 5 years.

### *1. Higher-order thinking skills through interdisciplinary learning, analysis, and synthesis of information.*

The 21<sup>st</sup> century will require students to think not just memorize as facts, especially as facts can be easily retrieved. The problems students and society face will be complex, and sifting through information and drawing thoughtful conclusions will be critical to work, democracy, and personal life choices.

As issues grow in complexity, they also cross over traditional subject delineations. As the world becomes more interdisciplinary, so should we.

- What we do **now** that emphasizes higher order thinking skills –

In classes across the curriculum, students are being asked to do more evaluating and analysis rather than comprehension and recall. Students are asked to judge, predict, verify, hypothesize, and agree or disagree with ideas in addition to defining, recalling, or remembering information.

### 2007/2008 Action Steps

- Incorporate “Pre AP” skills such as SOAPSTONE and OPTIC in grades 9 and 10 classes, including strategies to analyze text for inferences, synthesis, and purpose in all classes including College Prep 1 and College Prep 2. This builds on the foundation started in the middle school.
- Provide training in Pre AP concepts and strategies for staff.
- Create an interdisciplinary course study group of teachers and administrators to develop practical methods to create some interdisciplinary courses.
- Create year 2 implementation steps.

## ***2. Media literacy***

The internet has led to an explosion of easy access to information – some accurate, and some not. Evaluating the reliability, bias, and value of information is increasingly critical to our decision making and learning.

- What we do **now** that emphasizes higher order thinking skills –

Teachers in all curriculum areas model media literacy on a regular basis by downloading supplementary information from the internet to share with students and creating projects and assigning research papers to students that mandate the use of school databases and other electronic media.

### **2007/2008 Action Steps**

- Incorporate in 9<sup>th</sup> grade social studies explicit instruction in evaluating source material.
- Include one 9<sup>th</sup> grade social studies research paper that requires evaluating source material.
- Grade 9 English and social studies staff to jointly develop uniform rules, standards, and expectations for research papers, including acceptable sources citations.
- Share the guidelines for research papers between and among departments so all students are held to the same research writing expectations.
- Implement the academic honesty policy developed this year that defines rules and consequences re plagiarism and other issues of cheating.
- Provide enhanced support for teachers and students via our library program on best practices for evaluating web sites and sources.
- Create year 2 implementation steps.

## ***3. Teamwork in a diverse, multicultural world***

Problems and tasks are becoming more complex, requiring diverse skill sets to work together to find solutions. Work teams are spreading across the states and the globe. Many of our students will be part of work teams, rather than individual contributors. Increasingly, members of these teams will be of many cultures, religions, races, and nationalities. The ability of our students to effectively participate in diverse groups will only grow over time.

- What we do **now** that emphasizes teamwork and diversity –

Students work in teams and groups to complete long-term projects as well as problem solve and brainstorm to increase student participation in the classroom. Our multi-cultural events have gone beyond mere celebrations of other languages and ethnicities to include morning-long workshops where students attend seminars to hear from community leaders and cultural experts about cultural diversity.

#### **2007/2008 Action Steps**

- Train teachers to create teamwork rubrics that encourage active listening, peer evaluation, and equity and accountability for work done by each group member.
- Create study group of teachers and administrators to review options for world languages, with emphasis on increased spoken fluency and cultural understanding.
- Offer new/revised courses in Race and the 20<sup>th</sup> Century, War and Peace in Modern Times, and Contemporary Foreign Policy.
- Create year 2 implementation steps.

#### ***4. Stress and time management***

Our days are becoming busier. Expectations are rising, global competition adds to life's pressures, and access to unhealthy distractions is increasing. This all adds up to more stress and a greater need to learn how to cope and manage stress.

- What we do **now** that emphasizes time and stress management –

Guidance counselors meet with students individually and in small groups to work on academic stress-causing issues from course levels to college search. Teachers check in with students about long assignments, making sure that students complete successive steps of an assignment to produce a quality final project. Deans, guidance counselors, and the school nurse meet weekly as a Student Support Team to discuss at-risk and failing students and brainstorm solutions for the challenges these students face.

#### **2007/2008 Action Steps**

- Provide social worker at AHS.
- Increase communication between and among teachers in each department so that homework loads are more even and coordinated.
- Provide increased mental health services via partnerships with non-profit, private practice, and third-party billing providers in the community.

- Create year 2 implementation steps.

### ***5. Communication skills***

In the 20<sup>th</sup> century, communication skills were greatly valued. The importance and forms of communication continue to increase. Writing remains a central form of communication, but visual and spoken presentations are also becoming critical.

- What we do **now** that emphasizes communication skills –

Teachers in all areas of the curriculum encourage students to present projects to the entire class. Teachers include pair work and small groups as a part of lesson planning and encourage students to talk to and learn from one another as part of the classroom experience. Senior English research papers include a requirement for interviewing an expert and quoting him or her in the paper, not just reading information from text or electronic resources. Many teachers bring guest speakers into the classroom to interact with students, not just to deliver a lecture. The First Annual Career Day allowed AHS juniors to meet representatives from the career field of their choice and talk about career requirements and opportunities. Closure speeches in Intro to Psychology courses allow students to share their educational, personal, and emotional experiences with classmates.

### **2007/2008 Action Steps**

- Increase communication opportunities in all classrooms, especially through the inclusion of more adult mentors, advisors, experts, and guest speakers.
- PowerPoint common assessment in one grade level of social studies. Emphasis on clarity of communication, not just technical proficiency.
- Share the guidelines and expectations PowerPoint presentations between and among departments so all students are held to the same technology/presentation expectations.
- Purchase or find equipment necessary to foster greater classroom use of PowerPoint and other computer-based presentations.
- Create year 2 implementation steps.

### ***6. A love of learning coupled with a willingness to work hard***

Most of what students need to know over the next 50 years, they must learn after they leave high school. Life-long learning is a reality in the 21<sup>st</sup> century and requires sustained efforts and self-motivation over long periods of time.

- What we do **now** that emphasizes a love of learning coupled with a willingness to work hard –

AHS offers courses across the curriculum that inspire and excite students. Students in the Childcare classes talk about the skills and knowledge they acquire in a class that is both theoretical and hands-on and prepares them for careers as diverse as teacher assistant to child psychologist. Students in AP Psychology discover both the complexities of the mind as well as their own intricacies as they create a portfolio for a final project that allows them to reflect on the important people and moments in their lives that have shaped them to this point. Students in the War and Genocide Class learn to be up-standers and try to make sense of the existence of evil and how to act against it. Students in the Madrigal Class or the Jazz Band Class learn a love of music and performance that will be theirs for a lifetime.

### **2007/2008 Action Steps**

- Insure that as many core courses as possible, especially in Grades 9 and 10, contain affective elements that excite students about learning.
- Create a study group of teachers and administrators to investigate a grade 12 cap-stone project. Issues to discuss include integration with grade 12 major paper student-selected topics, and potentially requiring interviews and public presentations. The question whether this should be a graduation requirement and what role, if any, for independent study/self-directed learning will also be investigated.
- Create year 2 implementation steps.

### ***7. Math, Science, Technology, and Engineering expertise***

Many careers and more of our personal lives will require a deeper understanding of math, science, technology, and engineering. All students will benefit from the logic and clear thinking embedded in math and the scientific method. Many students will be well served by a deep command of these subjects as the world places a greater value on these skills, even though fewer Americans are mastering them.

This focus point represents the one area of mixed opinion. Nearly all experts list mastery of math, science, and technology as one of the most critical 21<sup>st</sup> century skills. For many experts, it was the top 1 or 2 recommendation. Arlington parents and staff, on the whole, considered it less important, but not unimportant. The primary area of difference was whether these skills were needed for just a small group of students or more universally required.

- What we do **now** that emphasizes a love of math, science, technology, and engineering –

AP courses in physics, chemistry, biology, statistics, calculus, and computer programming allow our most talented students to indulge their love of and affinity

for the math, science, and technology side of the curriculum. Courses such as Introduction to Engineering, Computer-Aided Drafting, and Fundamentals of Computer Programming allow students an introduction and access to technology and engineering. Almost 70% of 10<sup>th</sup> grade students score at the advanced level in math on the MCAS exam. AHS students compete in and win national math and computer competitions.

**2007/2008 Action Steps**

- Investigate creating a multi-year science and engineering academy consisting of a series of existing courses, extracurricular activities, partnership with local universities, participation in national math or science competitions, and close teacher-student support.
- Create methods to expose and introduce students to potential careers in math, science, and engineering.
- Create year 2 implementation steps.

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