

MEMORANDUM

TO: Advisory Committee on Instruction

FROM: Science Advisory Committee

DATE: March 25, 2019

SUBJECT: Non-Recommendation Year Update

In 2018-19, the Science Advisory Committee (SAC) held follow-up discussions on aspects of three recommendations made in 2017-18:

- expand student use of the Outdoor Lab;
- assess consistency of middle school approaches to independent science projects; and
- increase site-based outdoor learning.

1. Additional funding to support middle and high school student opportunities to visit the Outdoor Lab

The SAC is grateful to the Arlington Public Schools (APS) School Board for funding additional staff and transportation for the Outdoor Lab program, starting with the 2018-19 school year. The SAC also commends the APS Science Department for quickly planning for and implementing the visits by more classes made possible by additional resources.

The SAC notes, however, that numerous changes in Outdoor Lab staff since last year have brought to light job classification issues that warrant further consideration and study. Specifically, the current staffing of the Lab is heavily weighted toward instructional positions, and staff in those positions regard certain maintenance tasks as outside their job responsibilities. This is not an unreasonable view, even though instructional staff may previously have performed these maintenance tasks.

Additionally, the Arlington Outdoor Education Association (AOEA) owns the Outdoor Lab property; is responsible for overall maintenance; and provides routine services (such as cleaning), ad hoc support (such as appliance repair), and major projects (such as work crews for trail improvement). Unfortunately, the AOEA faces a significant constraint in the provision of these services and support, as AOEA volunteers are not permitted to use APS-owned equipment at the Outdoor Lab (including tools and the APS tractor) due to insurance and liability considerations.

As a result of the recent changes to APS staffing responsibilities and the restrictions on AOEA support work, the level of maintenance and services at the Outdoor Lab is falling short of past levels and may not meet parent and teacher expectations. The SAC anticipates spending time in the coming year to discuss (i) scenarios and staffing alternatives that may be better suited to operating this unique learning environment and

its science programs and (ii) possible solutions for easing constraints on the AOE's ability to use APS equipment to perform maintenance and services to benefit APS users of the property.

2. Consistency of APS middle school approaches to independent science projects.

The SAC continued the prior year's discussion of anecdotal reports of inconsistency in scientific research requirements and expressed support for ongoing APS staff efforts to make the science curriculum consistent across all middle schools, particularly with regard to independent scientific research requirements, standards and expectations. The Science Office has been working with middle school science teachers to develop a progression plan for teaching scientific research that will result in greater consistency across the middle schools. This approach is aligned with the objectives of the 2017-18 SAC recommendation.

The SAC generally supported an approach in which independent science research projects are a required curriculum element in each middle school year, as long as there is project support (appropriate to the grade level) provided to all students as part of the science curriculum, with science fair presentation and competition remaining an extra-curricular option.

The SAC also discussed the benefits of enhancing APS communication with parents of middle school science students to clarify requirements and expectations regarding independent projects. Students and parents may not have a uniform understanding of the scope of the "independent research project" and what in-school resources will be available to students. For example, it may not be clear that even though the project is described as independent, it will be completed as part of the curriculum and supported in science instructional time.

The SAC also discussed the potential benefit of increased communication with eighth grade students and their parents about high school science curriculum requirements and opportunities. Given the extensive range of high school science classes available and the varying requirements for independent research projects, students and parents may welcome additional clarification of distinctions between regular, intensified and AP classes. The Program of Studies is one means of conveying the information, but a supplemental means (possibly similar to the math track options handout provided in middle school) may be beneficial for middle school learners and parents.

3. APS Site Outdoor Learning Enhancements

The SAC continued its discussion of research and publications that document the benefits of outdoor learning for students of all levels in all subject areas. The SAC noted outdoor learning initiatives that could expand opportunities for students at APS

sites, and on one occasion the SAC welcomed a guest speaker presenting on the Arlington Living Schoolyard Initiative (ALSI). This project has support from members of the Superintendent's Committee on Sustainability, which joined in the SAC's 2017-18 recommendation to dedicate additional resources to enhancing APS outdoor learning environments. Funding for the ALSI is expected to come from local stakeholders whose objectives are to mitigate environmental concerns while providing equitable access to natural learning spaces and gardens to all students. While not offering any formal endorsement of the ALSI, the SAC noted prior SAC recommendations supporting similar objectives and encouraged ALSI outreach to stakeholders in the APS community.

In addition to the discussions described above held by the SAC during scheduled meetings, two members of the SAC are participating on the Science Department Program Evaluation Committee.

Acknowledgement

The SAC thanks Dat Le, APS Science Liaison, for all of his work in providing relevant data and information about issues and developments in the APS science program, coordinating SAC meetings, and providing input for this report.

2018-2019 SAC Members

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