

Virginia STEM Education Advisory Board Meeting
June 30, 2022
Science Museum of Virginia
Academies of Loudoun



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Academies of Loudoun, Rooms 2201 and 2219

Board members present: Gary Artybridge, Jr., Chris Dovi, Dr. Venicia Ferrell, Casey Roberts, Amy Sabarre, Dr. Padmanabhan Seshaiyer, Dr. Susheela Shanta, Zainia Tarafdar, Amy White

Ex-officios and staff present: Dr. Brendan Albon (Department of Education - joined late), Rich Conti (Science Museum of Virginia), Chuck English (VA STEM Board staff), Michael Perez (Office Diversity, Opportunity, and Inclusion), McKenzie Snow (Sec. of Education Office),

Also present: Del. Tara Durant; SOE Intern Denise Daniels; Todd Oldham, VEDP; VEDP intern Delanie Boone.

Ms. Sabarre called the meeting to order at 10:16. The late start resulted from Chuck English's delay in arriving and setting up the presentation.

Opening Remarks Board Chair and State Offices and Representatives - Ms. Amy Sabarre, Board Chair, welcomed everyone and introduced guests. She then turned the floor to the guests for opening remarks.

- Secretary of Education Office: McKenzie Snow - Discussion of stats related to CS and STEM careers in Virginia. Opportunity and gaps, etc. The top Priority is CS standards implementation and revision of math and science standards. Lab School priority - \$100mil in approved and adopted budget. Seeking to replicate CodeRVA High School - expand to all eight superintendent regions.
- Office of Diversity, Equity, and Inclusion: Dr. Rosa Atkins - Michael Perez - Discussion of retention of minorities and females in STEM. Tracking companies in Virginia that "need a highly technical workforce ." The effort to maintain Virginia's "best in class" status attracts industry to our talent pipeline.
- Visiting Representative: Del. Tara Durant. Ed report release - Approached Sec Guidera about Va. Literacy Act and need to do same with math and science. She suggested the lack of a national model is an opportunity for Virginia to address learning loss.

The official meeting was called.

Minutes from previous Board Meetings (Vote). Sheila motioned to approve the minutes, and Chris seconded the motion. Unanimous pass to adopt minutes. Mr. English then presented all of the minutes from the various subcommittees. No vote was taken since most Board members did not attend these meetings. A brief minutes/notes document was created for each subcommittee meeting and made available for all Board members. Mr. English will check with the Attorney General's Office to see if they need to be posted.

Ms. Amy Sabarre and Mr. Chuck English introduced the STEM Advisory Board bylaws draft. Mr. English charged the Board with reviewing the Draft Bylaws and sending him language, suggestions, or changes that may be added so he can compile a document that can be finalized by Ramona Taylor (Attorney General's Office representative). Ms. Sabarre presented significant sections of the bylaws we should take note of within the PowerPoint. We hope to finish these changes for the next meeting scheduled for September 9, 2022.

STEM Education Definition Subcommittee report (Vote) presented by Mr. Casey Roberts. CASEY via phone - car broke down. Discussed process of the subcommittee - met two or three times to flesh out a working definition of STEM for the advisory Board. They began with a draft definition the entire Board worked on during the April 1 meeting and the VDOE's existing definition. The working definition added specific language to narrow processes and scope. How does STEM instruction look different than "just good instruction?" We discussed creating a Rosetta stone that fleshes out the terminology and expectations of the definition. For instance: Universal Human Challenges. The ability of regions and localities to develop local connections relevant to the definition and its terms, etc. We discussed what it means for students to be problem solvers—centering around the design thinking process as a logical method of iterating through a problem and a proposed solution. Soft skills also were discussed. The Virginia Literacy Act also was discussed - can we link STEM literacy concepts to the Virginia Literacy Act? Post definition, shifting committee to Rosetta Stone efforts.

Committee worked on parsing down the language to two options that are essentially the same but rearranged the order of the three sentences in the definitions.

Discussion of the two options. The consensus seems to be Definition Option 1, then changed Commonwealth of Virginia. Discussion of Virginia versus Commonwealth of Virginia. Dr. Seshaiyer - notes VDOE definition uses "authentic learning." Dr. Shanta notes the committee's decision to move away from the term authentic, which has become very general and vague, to add the "universal human challenges" language. Mr. English pointed out that the structure of the definition was similar to the existing structure of the Virginia Department of Education definition. The Board agreed that the language changes improved the definition's clarity and focus.

Mr. Dovi asked for a motion to vote on Definition # 1, and Dr. Shanta seconded the motion. There was a unanimous vote to adopt the definition with recommended changes.

STEM Metrics Subcommittee report presented by Dr. Venicia Ferrell.

The committee started work in May and, in addition to board members, brought in Todd Lynn from Shenandoah, Kelly Aiken from Fredericksburg PS, and Anne Petersen from VDOE for their expertise. The group considered the work and research done by other states, including Maryland, Georgia, and NC.

We need to create a STEM "bucket list" to look at what we want in the rubric/metric. The committee decided to use the term 'metric' so it wasn't just yes or no to whether it was STEM (or seen as a grade), but rather a method to identify where one would see their programming and provides a pathway for improvement. Everyone agreed this would give a better phrasing and model for continuous improvement.

- Not included in the presented model are resources available to a teacher/students to "do STEM."
- We asked the subcommittee to add what was missing or to combine repetitive pieces.
- Talked about metric - steps being taken include a tour of STEM programs, having partners pilot the metric, and ensuring that this addresses multiple provider types - OST, textbook providers, STEM in-school programs, classrooms, and schools.
- Ms. Snow asks whether the STEM Board might award blue ribbon designations. Dr. Ferrell notes that this is an advisory board creating tools that can be used/adopted by agencies for those purposes.

Lunch is Served

STEM Summit Subcommittee report by Dr. Padmanabhan Seshaiyer. Dr. Seshaiyer presented who served on the committee and the purpose/intent of the summit. External perspectives were brought from the Secretary of Labor's Office, George Taratsas, Virginia Department of Education, Keisha Tennessee, and Dominion Energy, Matt Kellum. There were several questions regarding the audience and whether we are trying to work on an appropriate size audience for the inaugural event. The primary audience may be Business Industry and Government (BIG). How do we engage the work-based coordinator from VDOE? Is this meant to focus on industry and education? Mr. English brought up the lack of funding for this event, so the STEM Summit may need to be aligned with another partnering organization. How should we approach fundraising? The subcommittee would take these thoughts and concerns back to their committee meeting for further discussion.

STEM Occupations Subcommittee report/partnership was introduced by Mr. English and then turned over to Todd Oldham from the Virginia Economic Development Partnership. Presentation on working off of the NSF/NSB reports from 2021 and 2022, which include Skilled Technical Workforce (STW) in their definitions of STEM Occupations. If we add those careers, the percentage of STEM and STEM-related jobs will increase by at least 33%. VEDP would use these career codes and match them up with career/hiring needs and could match it with student data. This local analysis may help regionally identify the community's needs and potential support for training and post-secondary and lead people more clearly to occupational opportunities. The VEDP dashboard may also break down the STEM occupations into skill sets to help youth identify the skills needed to enter particular trades/occupations. Currently, there are no funds in the budget for a separate platform/dashboard.

New Business included a presentation by Mr. Dovi on CodeVA and how they have created a STEM Hub model and potential fundraising model that the VA STEM Education Advisory Board could adopt. Mr. Dovi detailed the existing CS Hubs and how VA STEM may partner/align with these hubs to lead into one of this Advisory Board's charges. He also discussed how CodeVA uses these hubs to help fundraise, not only for larger national level grants but local support and foundations that can help raise the attention more locally.

There were no public attendees for public comments.

Ms. Sabarre led closing remarks, thanked the speakers, and requested that we move to close the meeting. Mr. Dovi motioned to close the meeting, and Mr. Conti seconded the motion. It was unanimously agreed upon, and the meeting ended at 1:50.

An optional tour of the Academies of Loudoun (2:00-2:45) was led by Principal Dr. Tinell Priddy.