

**MINUTES
STATE BOARD OF EDUCATION
COUNCIL OF BASIC EDUCATION**

**333 Market Street | 1st Floor
Harrisburg, PA 17126**

September 11, 2019

The meeting was called to order at 10:42 a.m. by Mr. Kirk Hallett.

Attending:

James Agras <i>(via phone)</i>	Sandra Dungee Glenn	Jonathan Peri
Carol Aichele	Anne Griffin	Arynn Pratt
James Barker <i>(via phone)</i>	Pamela Gunter-Smith	Ashley Svec
Nathan Barrett	Kirk Hallett	Jillian Sweigard
Jamie Bracey-Green <i>(via phone)</i>	Jeffrey Keeling	Karen Farmer White
Nicole Carnicella	Maureen Lally-Green <i>(via phone)</i>	A Lee Williams

APPROVAL OF MINUTES

The minutes of the July 10, 2019, meeting of the Council of Basic Education were approved on a **Keeling/Williams** motion.

**REPORT OF THE DEPUTY SECRETARY FOR
ELEMENTARY AND SECONDARY EDUCATION**

Deputy Secretary Matthew Stem thanked teachers and school administrators for their dedicated focus in educating students across the Commonwealth as the 2019-2020 year begins.

Mr. Stem highlighted annual reports on Special Education due process requests and outcomes and Gifted Education compliance monitoring and due process requests and outcomes that were submitted to the Board by the Department of Education (PDE). He then introduced Carole Clancy and Amy Pastorak, PDE's new Director and Assistant Director of Special Education, respectively.

Mr. Stem shared that his staff led a redesign of the PDE's comprehensive planning tool. He said the new tool will take the busy work out of strategic planning and make it a robust and meaningful process focused on identifying high priorities and aligning it to PDE's work in school improvement to create a coherent system.

PRESENTATION
STATUS OF ACADEMIC STANDARDS FOR SCIENCE AND TECHNOLOGY & ENVIRONMENT AND ECOLOGY

Deputy Secretary Stem introduced Dr. Carla Zembal-Saul, Kahn Professor of STEM Education at Penn State University. Dr. Zembal-Saul discussed the status of Pennsylvania's academic standards in Science and Technology and Environment and Ecology, science standards adopted by other states, and the research base on the learning and teaching of science. Dr. Zembal-Saul further made the case for providing equitable access to high-quality science education for all children regardless of their background.

According to Dr. Zembal-Saul, Pennsylvania's two sets of standards in the sciences – adopted in 2002 – were informed by work of the national research that was produced in 1996. She stated that curriculum, instruction, and assessment of these standards varies dramatically across the state, is driven by the Pennsylvania System of School Assessment (PSSA), and is no longer aligned with contemporary research about learning and teaching science.

Dr. Zembal-Saul discussed the vision for science instruction articulated in the most recent Framework for K-12 Science Education produced by the National Research Council. She presented additional research on instructional practices in the sciences that lead to deeper comprehension and more meaningful engagement for students. Dr. Zembal-Saul also discussed the Next Generation Science Standards that were developed by 26 states and released in 2013. She reported that 44 states (representing 71% of U.S. students) have adopted science standards influenced by the Framework for K-12 Science Education and/or the Next Generation Science Standards. Dr. Zembal-Saul concluded that the time is ripe for Pennsylvania to reconsider its science standards to reflect more current research on the teaching and learning of science.

Sandra Dungee Glenn asked if PDE would recommend a course of action on science standards. Deputy Secretary Stem replied that the Department would initiate a process to develop a recommendation for revised standards if directed by the State Board of Education to do so.

Dr. Lee Williams, Chair of the Chapter 4 Committee responsible for academic standards, she supported pursuing an update to align Pennsylvania's science standards with current research.

Dr. Jamie Bracey-Green said updating the science standards is a matter of urgency and is important to the future competitiveness of the Commonwealth.

Dr. Pamela Gunter-Smith echoed that now is the time to revise Pennsylvania's science standards. Speaking as a college administrator and as a former scientist, Dr. Gunter-Smith said postsecondary students lack the skillset to apply scientific practices that is required for success in science curriculum, leading to high attrition rates for individuals pursuing careers in science.

Jillian Sweigard said she never imagined that she would need chemistry to be successful as a student in beauty school. She stated that she uses knowledge of chemistry, biology, and electricity in cosmetology and concluded that understanding of various sciences is important for

many jobs that many not be thought of as traditional jobs in science. Dr. Zembal-Saul echoed that we don't always realize how essential science can be in many career fields.

Ms. Dungee Glenn said there is no sense of hesitancy among Board members that updating the science standards is necessary. She stated that individuals from the state's centers of innovation should be included in the planning effort. She further stressed the need to focus on an aligned system of supports necessary for standards implementation to be effective, including teacher preparation, equity in access to instructional materials, and appropriately equipped facilities.

Dr. Jonathan Peri said there is a strong sense of direction among the Board to move ahead with updating the standards. He encouraged looking at examples of what other states have done and determining what is the right fit for Pennsylvania.

Dr. Jeffery Keeling said the current science standards are extremely outdated and that he fully supports moving forward with a standards update.

On behalf of the Council, Mr. Hallett directed PDE to begin the process of developing recommended revisions to the state's science standards. He said the process should include a focus on what will be needed for classroom teachers to deliver new standards.

Karen Molchanow, Executive Director of the State Board of Education, stated that any proposed revisions to academic standards would need to be promulgated through the regulatory review process. She noted that this would include outreach to affected stakeholders, an assessment of the fiscal impact of the revisions, and approvals of the Chapter 4 Committee and Council of Basic Education before reaching the full State Board.

Dr. James Barker said revisions to the state's science standards are long overdue and are a critical component for Pennsylvania's future development.

Ms. Molchanow said there was consensus for the Department to engage in exploratory work to formulate recommended revisions to the Science and Technology and Environment and Ecology standards and that, once complete, PDE's recommended revisions could be accepted on the agenda of the Chapter 4 Committee to begin a broader public review process.

PUBLIC COMMENT

Jeff Nesbitt, STEM Coordinator for the Haverford Township School District, said he attended the meeting to voice concerns about Pennsylvania's current science standards and expressed thanks for Dr. Zembal-Saul's presentation. He echoed concerns about the expense of delivering science instruction. Mr. Nesbitt encouraged the Board to look at the Next Generation Science Standards rather than modifying simply not to have a national curriculum. Mr. Nesbitt said that when districts are looking for resources to implement science instruction it is difficult to find resources that are not aligned to the Next Generation standards. He also encouraged the Board to think about how state assessments and Next Generation standards go hand and hand and spoke in support of implementing assessments that engage students in demonstrating hands

on scientific skills. Mr. Nesbitt concluded by stating that he was excited that the process of reviewing Pennsylvania's science standards is getting started.

ACTION ITEMS

There were no action items.

ANNOUNCEMENTS

There were no announcements.

ADJOURNMENT

There being no further items of business, the meeting was adjourned at 11:52 a.m. on a **Williams/Barrett** motion.



Stephanie Jones
Administrative Assistant