HB 423

Department of Legislative Services

Maryland General Assembly
2014 Session

FISCAL AND POLICY NOTE

House Bill 423 (Delegate Ready, *et al.*)
Ways and Means

Education - Implementation of Next Generation Science Standards - Prohibition

This bill prohibits the State Board of Education and local boards of education from establishing educational policies, curriculum guides, and courses of study that include or are based on the Next Generation Science Standards (NGSS). By July 1, 2014, the State Board of Education must take the necessary actions to rescind its adoption of NGSS.

The bill takes effect June 1, 2014.

Fiscal Summary

State Effect: The Maryland State Department of Education (MSDE) can revise science literacy standards, curricular resources, and professional development materials aligned with NGSS using existing resources. Not developing new assessments aligned with NGSS reduces expenditures, although no funds have been budgeted. However, if new college and career ready (CACR) science standards and assessments are developed expenditures will increase.

Local Effect: Local school systems can revise curricular resources and professional development materials aligned with NGSS using existing resources.

Small Business Effect: None.

Analysis

Current Law: To graduate from high school a student must complete at least three credits of science, including two laboratory courses. All students must take biology

and the remaining two courses can consist of earth science, life science, physical science, or environmental science.

Students are assessed in science in grades 5 and 8 using the Maryland School Assessment (MSA), and high school students are assessed using the High School Assessment (HSA) in Biology. Since 2008, the federal Elementary and Secondary Education Act (ESEA) has required students to be tested in science at least once in grades 3 through 5, 6 through 8, and 9 through 12.

Background: Twenty-six states, the National Research Council, the National Science Teachers Association, the American Association for the Advancement of Science, and Achieve teamed up to develop NGSS. The development process began in summer 2011, and the team published the final standards in April 2013. To date, NGSS have been formally adopted by eight states and the District of Columbia. The Maryland State Board of Education formally adopted NGSS on June 25, 2013.

NGSS replaces Maryland's previous science standards, which were based on 15-year-old standards known as the National Science Education Standards and Benchmarks for Science Literacy. Maryland last adopted a science curriculum in 2005. The State's previous standards were regarded as incomplete regarding current research and advancements. NGSS have been described as "knowledge in use" rather than just "knowledge" and include the practice of science and engineering.

Although NGSS are separate from the Common Core State Standards (CCSS), NGSS are aligned with the technical literacy standards in CCSS. CCSS and the Maryland Common Core Literacy Standards for Science and Technical Subjects address literacy in science, not science content. Science content is found in NGSS. For a further discussion on the implementation of CCSS, see the **Appendix – Implementing the Common Core State Standards and Transitioning to the Partnership for Assessment of Readiness for College and Careers.**

State Fiscal Effect: MSDE reports that science literacy standards, curricular resources, and professional development materials aligned with NGSS will need to be revised. It is assumed that this can be accomplished using existing resources. It is also assumed that there may be cost savings associated with not needing to develop assessments aligned with NGSS. Assessments for NGSS have not yet been planned; developing assessments aligned with NGSS may be complicated and costly due to the focus on "knowledge in use" in the standards.

Assessments aligned with NGSS could be developed either by Maryland alone, or with a consortium of other states. In either case the development, administration, scoring, and reporting of a new assessment will require a contract with a vendor. For other CACR

assessments, MSDE has advised that for a Maryland-specific assessment the initial year of the assessment development contract would cost approximately $14 million, and field testing, which helps ensure the assessments are valid, reliable, and fair for all students, would cost an estimated $40 million. Beyond that, there would be an annual cost associated with administering, scoring, reporting, and updating the assessments. However, if Maryland were to join a consortium with other states to develop the assessments there could be significant cost savings.

On the other hand, the development of any CACR science standards and assessments will have costs associated with it, and it is assumed that eventually Maryland will need to replace the science curriculum that was adopted in 2005 based on out-of-date standards. These costs cannot be reliably estimated but are likely to be significant.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Maryland State Department of Education, Prince George's County, Next Generation Science Standards, *Education Week*, Department of Legislative Services

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Appendix – Implementing the Common Core State Standards and Transitioning to the Partnership for Assessment of Readiness for College and Careers

In 2009, President Obama established the federal Race to the Top (RTTT) competitive grant program to encourage states to adopt specific educational reforms, including adopting the Common Core State Standards (CCSS), administering new assessments aligned with CCSS, and tying teacher and principal evaluations to performance and specifically student growth on the new assessments. Maryland was 1 of 12 states that applied and was awarded a grant; the State received $250 million in August 2010. As the states have moved to implement RTTT initiatives, the U.S. Department of Education (USDE) offered states flexibility from the No Child Left Behind (NCLB) requirement that 100% of students achieve proficiency by 2014, which no state is able to meet. NCLB is the most recent reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), which has not been reauthorized since 2001. Known as ESEA Flexibility Waivers, USDE incorporated many of the RTTT requirements into the ESEA Flexibility Waivers and continues to use the waivers as a tool to encourage states to implement reforms in exchange for federal education funding. Although they are not federal requirements, linking federal funding to implementation of reforms like CCSS and new assessments has raised concerns around the country that local control of education is being lost to the federal government and/or philanthropic foundations and replaced by standardization. In Maryland, implementation of a new State curriculum based on CCSS and new assessments has gone relatively smoothly but has not been without its challenges.

The Common Core State Standards

CCSS were created through a state-level initiative coordinated by the National Governors Association and the Council of Chief State School Officers in collaboration with education stakeholders from across the country. Forty-five states have adopted CCSS, which are a set of academic standards in two subject areas, English/language arts (ELA) and mathematics, that define the knowledge and skills all students should master by the end of each grade level. The standards require students and teachers to focus on fewer topics and concepts while emphasizing depth, detail, and critical thinking skills. Maryland adopted CCSS in June 2010 and has since worked to design a State curriculum, the Maryland College and Career Ready Standards (MCCRS), which aligns with the standards.

MCCRS is being fully implemented statewide in the 2013-2014 school year. To aid the transition to the new curriculum, the Maryland State Department of Education (MSDE) has been holding Educator Effectiveness Academies during each summer since 2010,

including 11 regional academies during the summer of 2013. The Educator Effectiveness Academies provide professional development on the new curriculum, assessments, and teacher and principal evaluations to teams of educators from each of the State's 1,500 schools. Each school team consists of four representatives that include the principal and teachers of ELA, mathematics, and STEM (science, technology, engineering, and mathematics). Each team is required to develop a transition plan for the school to move to full implementation of MCCRS, and plans were required to be submitted to MSDE by October 2013. MSDE will deploy teams from the Division of Curriculum, Accountability, and Assessment to local education agencies to develop a needs assessment and provide additional support. Information provided at the Educator Effectiveness Academies has been uploaded to MSDE's Blackboard Learn, the department's online professional content management tool, along with updated model units and lessons from mdk12.org.

In addition, MSDE partnered with the University System of Maryland and other education and higher education stakeholders to convene a Teacher Education Summit in October to review the major issues and components of teacher education in Maryland in order to identify common challenges, themes, and priorities to meet the issues presented by MCCRS and other changing needs of students and society.

Partnership for Assessment of Readiness for College and Careers

MCCRS will require a new assessment system that can measure the content and skills found in the curriculum. RTTT funding was awarded to two state-run consortiums to develop new assessments aligned with CCSS. In spring 2010, Maryland joined the Partnership for Assessment of Readiness for College and Careers (PARCC), a consortium of 14 states working to develop a common set of assessments aligned to CCSS for ELA and mathematics. Then, in November 2013, Maryland was asked to manage the federal grant for the PARCC consortium and serve as its fiscal agent in place of Florida beginning on January 1, 2014.

The PARCC assessments will measure student progress and track status on a trajectory toward college and career readiness. The goal for the assessments is to be entirely computer-based in order to provide more timely feedback to educators to be used to target or improve instruction during the instructional year. The assessments will have two parts – a midyear performance-based assessment and an end-of-year assessment. According to MSDE, field testing of the PARCC assessments, which are intended to replace the reading and math Maryland School Assessment (MSA)[1] and most of the High

[1] The science MSA will continue to be given in grades 5 and 8 until the Next Generation Science assessment currently under development is completed. The Alt-MSA and English Language Learners MSA will be replaced by new tests in addition to the PARCC tests.

School Assessments (HSAs)[2], will take place in spring 2014 in PARCC states. Maryland is the only state that will field test PARCC in nearly every school. The PARCC field test will include both paper-based and computer-based assessments; however, the field test will only include the midyear performance-based assessment. Full implementation of PARCC is planned for the 2014-2015 school year, although the schedule for phasing out HSAs is still under development.

State Assessment Legislation

Beginning with the 2014-2015 school year, according to State law, the State Board of Education and the State Superintendent of Schools must implement assessment programs in reading, language, mathematics, science, and social studies that include written responses. At the middle school level, the assessment program must be a statewide, comprehensive, grade band program that measures the learning gains of each public school student towards achieving mastery of the standards set forth in the State's adopted curricula or the common core curricula. At the high school level, the assessment program must be a statewide, standardized, end-of-course assessment that is aligned with and that measures each public school student's skills and knowledge of the State's adopted curricula.

After the 2014-2015 school year, the State Board of Education must determine whether the assessments at the middle school and high school levels adequately measure the skills and knowledge set forth in the State's adopted curricula for the core content areas of reading, language, mathematics, science, and social studies. If the State Board of Education determines that an assessment does not adequately measure the skills and knowledge set forth in the State's adopted curricula for a core content area, MSDE must develop a State-specific assessment in that core content area to be implemented in the 2016-2017 school year.

If the State Board of Education has not adopted an assessment to measure the common core curricula before July 30, 2014, the middle school assessments and the evaluation of the middle school assessments may not be implemented until the first day of school in the school year that follows the adoption of an assessment to measure the common core curricula by the State board.

Challenges with Implementing MCCRS and Transitioning to PARCC

The implementation of MCCRS has not been without challenge. A survey of 745 teachers conducted in November 2013 by the Maryland State Education Association

[2] The Government HSA will continue to be required for graduation and the Biology HSA will be replaced with the Next Generation Science Assessment currently under development.

(MSEA) indicated that 64.9% of the teachers surveyed did not feel adequately prepared to implement MCCRS. In addition, 86.8% of the teachers surveyed responded that there are still significant challenges to understanding and implementing MCCRS.

In order to provide more information to parents and the public about implementation of MCCRS and to address concerns with CCSS, the State Board of Education, in partnership with the Maryland Parent Teacher Association, held public forums around the State during fall 2013, noting specifically that CCSS is a set of learning goals, not a curriculum. Maryland developed its own curriculum based on State-specific standards aligned with CCSS. Legislation was introduced in at least 14 states in 2013 to pull out of CCSS or prohibit funding to implement CCSS. Indiana is the only state that has passed legislation to "pause" CCSS implementation; however, although legislation to stop CCSS implementation in Michigan failed, funding to implement CCSS was removed from its budget. To date in 2014, legislation to pause, stop, or "void" CCSS agreements has been introduced in at least 12 states including Maryland.

The transition to PARCC is also not without challenge. Maryland has requested an amendment to its ESEA Flexibility Waiver to allow the PARCC field test to meet the federal requirement that all students be assessed annually in grades three through eight and high school in specific subjects. Otherwise, students participating in the PARCC field test would also have to take the MSA in spring 2014, which would result in double testing of those students. MSDE anticipates that, with a few exceptions, one classroom in each elementary and middle school will take PARCC in reading or math and the MSA in the other area; one class in each high school will take PARCC in a non-HSA reading or math course. The 2013-2014 school year is the last year that most MSAs are expected to be administered. Some have argued that the MSAs should not be given this school year, since they are not aligned with MCCRS. However, since Title I of ESEA requires the annual assessments and that the results be made publicly available, Maryland could be found out of compliance with the law and risk losing a portion of the approximately $280.9 million in federal Title I funds and other federal funds targeting at-risk students received in 2012-2013. In response to a California law enacted in October 2013, USDE notified California that it risked losing up to $3.5 billion in federal funds if it does not administer state assessments this year. California recently applied to USDE for an ESEA waiver from double testing and wants to give only the common core field tests to all primary school students in spring 2014.

Student test scores are expected to drop as PARCC is implemented since the tests are more rigorous and tied to college and career readiness. Stakeholders have expressed concerns that the anticipated drop in test scores may shake confidence in MCCRS and the new assessments. Already student proficiency scores have declined slightly in Maryland, as the MSA scores from spring 2013 in elementary school reading and mathematics and middle school mathematics reflect the transition to MCCRS in many school systems

during the 2012-2013 school year. This misalignment between the curriculum and assessments will continue during this school year and is also expected to affect spring 2014 MSA scores. MSDE has implemented a PARCC Transition Committee to address the concurrent implementation of PARCC and the phasing out of MSA and most HSAs. One of the transition committee's key tasks is preparing a public communication plan to describe the implementation of PARCC, the phase out of most HSAs, the anticipated score results of PARCC assessments and their implications, and the college- and career-ready cut scores to the various stakeholders.

Finally, the full cost to administer PARCC is still unknown. In July 2013, PARCC announced that the summative math and reading tests would cost $29.50 per student. This is a little less than the $32 per student Maryland currently spends on assessments, but it does not reflect several other formative tests PARCC is developing that Maryland may select or the technology infrastructure required in every school to handle the capacity and network requirements to administer the computer-based assessments. Many schools do not have sufficient technology infrastructure to meet these requirements. MSDE is in the process of assessing the technology readiness of Maryland's schools. The local school systems identified over $100 million in needed technology improvements to implement PARCC online. MSDE has contracted with Education Superhighway, a consulting firm, to evaluate the technology gap to implement PARCC online by the 2016-2017 school year. Several states, most recently Georgia and Oklahoma, have recently left the PARCC consortium over cost concerns. There are also long-term budget implications for maintenance and operational costs of assessment administration upon the termination of federal RTTT grant funds to the State and to PARCC.

A related challenge to implementing MCCRS and transitioning to PARCC involves using the student growth component, a large part of which is based on test results, in a teacher's or principal's evaluation. The MSEA survey found that 82.7% of the teachers surveyed responded there are still significant challenges to understanding and implementing the new teacher evaluation systems. Maryland's current ESEA Flexibility Waiver states that personnel decisions will be informed by the evaluation system based on student growth in the 2014-2015 school year; however, MSDE has requested a delay of this requirement until the 2016-2017 school year in order to be respectful and responsive to the complexity and change inherent in new standards, new curricula, and applying test scores that may not yet be perfectly aligned to hiring and firing decisions. Further, MSDE states that allowing for additional time will both elevate teacher and principal confidence in MCCRS and give local school systems and the State more time to validate that component measures are performing as planned and that the combined measurements of performance correctly reflect educator performance and the concomitant professional development of each educator.