



**WYOMING**  
DEPARTMENT OF EDUCATION

*Creating Opportunities  
for Students to Keep  
Wyoming Strong*

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To: Select Committee on School Finance Recalibration  
Co-Chairmen Senator Hank Coe and  
Representative Albert Sommers

From: Jillian Balow, Superintendent of Public Instruction

Date: October 12, 2017

Subject: The “Basket of Goods”

### **Introduction**

My apologies for not being able to attend your meeting in person today. I am Co-Chair of the Wyoming Women’s Antelope Hunt which is taking place in Johnson County this week.

These are challenging times for education in Wyoming. We have been blessed with an abundance of resources and wisely invested those into our education system. Our system funds and educates students more equitably than any other in the country. Our facilities are top flight. Our school district personnel put in countless hours to improve the lives of those who will build the future of our state and country. We must not let this economic downturn distract us from our mission of ensuring all of our students are ready for post-secondary success. But we must also make tough decisions, and we at the Wyoming Department of Education (WDE) seek to do our part in helping you, the Legislature, with the task you are faced with regarding K-12 funding.

While the WDE knows neither the immediate nor the long-term fiscal impact of the possible changes below, from a programmatic perspective we believe they work to the benefit of our system and increase our overall return on investment in education. This memo is also not an exhaustive legal analysis of applicable federal and state code and jurisprudence, but highlights relevant areas of such.

### **History of the “Basket of Goods”**

The “basket of goods” (BOG) is referred to in statute as the “common core of knowledge,” the “common core of skills,” programs designed for the special needs of specific student populations such as children with disabilities and gifted and talented, and foreign language instruction to all students kindergarten through grade 2, W.S. § 21-9-101 (Appendix A). Furthermore, graduation requirements contained in W.S. § 21-2-304(a)(iii) are included with the student content and performance standards created for the common core of knowledge and skills.

A brief history of Wyoming's BOG starts with the Wyoming Supreme Court's 1995 ruling in *Campbell County School District v. State*, 907 P.2d 1238 (Wyo. 1995). In *Campbell*, the Supreme Court determined that Wyoming's education system was unconstitutional. The Court asked the Legislature to define a proper education for students. The Legislature did so by creating a list of core knowledge areas and skills in statute that are required to be taught to students by local districts. This definition of a proper education is also known as the BOG.

Once the definition of a proper education was settled, the Legislature was to develop a system to deliver that proper education. The Court went as far as to require that a cost study be done for the new system. That cost study established the adequate level of funding for local districts to deliver the BOG. The subsequent school foundation block grant is used to fund the local school districts.

This quick history is noted because the threshold question before the Select Committee on School Finance Recalibration is to first determine whether the original definition of a proper education is still appropriate for today. Even at the time of the first *Campbell* decision, the court noted that "The definition of a proper education is not static and necessarily will change." *Campbell County School District v. State*, 907 P.2d 1238, 1274 (Wyo. 1995). Once this committee agrees upon the definition, which practically speaking is the BOG, then the discussion moves to the new cost study and establishing adequate funding for delivering the agreed upon proper education.

### **Relevant Federal Law**

The Wyoming Supreme Court suggested that change to the BOG would be necessary. However, alterations to the BOG have not been made in some time, despite significant shifts in learning expectations for children. And while the funding crisis is certainly a driving force behind the current evaluation of our BOG, both relevancy and financial impact are key to sound policy. The WDE seeks to ensure the BOG is in the best interests of our students as they head into a rapidly changing 21<sup>st</sup> century economy. The federal government has recently provided us some insight on this matter and the ever changing definition of a proper education.

The federal requirements related to the basket of goods concept were recently significantly updated in the 2016 reauthorization to the Elementary and Secondary Education Act (ESEA) known as the Every Student Succeeds Act (ESSA). **One of those updates was the addition of computer science as a component of what is defined as a well-rounded education.** But before I dive into the current federal basket, a short synopsis of how the federal government got there is informative. Section 2402 of the 1994 Improving America's Schools Act, a reauthorization of ESEA, defines "core academic subjects" as those subjects listed in the third National Education Goal as set forth in section 102(3) of the Goals 2000 Educate America Act.<sup>1</sup> In the Educate America Act of 1994, Title I, Section 102(3) Student Achievement and Citizenship reads in pertinent part, "By the year 2000, all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy."<sup>2</sup> This was akin to a federal basket of goods and is very similar to the basket created in Wyoming several years thereafter.

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<sup>1</sup> <https://www.govtrack.us/congress/bills/103/hr6/text>

<sup>2</sup> <https://www2.ed.gov/legislation/GOALS2000/TheAct/sec102.html>

ESEA was reauthorized again in 2001. This reauthorization was known as the No Child Left Behind Act (NCLB). NCLB Section 9101(11) reads in pertinent part, “CORE ACADEMIC SUBJECTS.—The term ‘core academic subjects’ means English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography”<sup>3</sup> and were required to be taught by “highly qualified” teachers, another piece of NCLB. These core academic subjects mirror those in the 1994 Improve America’s Schools Act. No substantial changes were made to the federal basket at this time.

Skipping forward to 2015 when ESEA was reauthorized again with ESSA, there was significant change to the federal basket. There was also a significant shift in the federal government giving states full discretion to define their own baskets. ESSA moved away from the concept of “core academic subjects” and opted for a “well-rounded education” as determined by the states and local districts. This change is consistent with a widespread understanding in the education space that our traditional core academic focus must adapt to the needs of a new, technology-driven world.

ESSA offers a definition of what well-rounded might include, “courses, activities, and programming in subjects such as English, reading or language arts, writing, science, technology, engineering, mathematics, foreign languages, civics and government, economics, arts, history, geography, **computer science**, music, career and technical education, health, physical education, and any other subject, as determined by the State or local educational agency, with the purpose of providing all students access to an enriched curriculum and educational experience.”<sup>4</sup> The current federal law puts the onus on states to come up with a robust basket that provides all students with a relevant and well-rounded education experience.

### **Adding “Computer Science” to the BOG**

Recommendation: Add “computer science” into the common core of knowledge with a phased-in timeline of roughly five years before required implementation.

#### *Why Computer Science?*

Computer science, particularly coding, is a highly valued skill for today’s job market and is projected to be even more so in the future. Wyoming’s economy is driven by technology. All of our industries: minerals, retail, construction, agriculture, tourism, medical, etc. are not just using technology, but require a workforce that understands how technology works and how to create new technologies. Computer science is more than a skill set, it is an essential literacy that every Wyoming graduate should exhibit, as also evidenced in the APA Consulting stakeholder feedback. Given the importance of technology in our day-to-day lives, a basic knowledge of computer science is essential for an engaged and productive citizenry.

At the June Joint Education Committee meeting, the WDE was asked to develop a plan with key stakeholders to enable school districts to offer computer science education. Developing a skilled workforce pipeline prepared to meet the needs of a technology driven economy relies heavily on

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<sup>3</sup> <https://www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf> (Page 534)

<sup>4</sup> ESEA section 8101(52), pg. 399:

<http://legcounsel.house.gov/Comps/Elementary%20And%20Secondary%20Education%20Act%20Of%201965.pdf>.

the K-12 education system to prepare students with the knowledge and skills found in computer science and computational thinking. The WDE, in coordination with multiple partners, put together a task force to create a long-term plan to meet the goal of providing computer science education for students throughout Wyoming.

At the September Joint Education Committee meeting, the JEIC decided to draft a bill to be discussed at their November meeting that would include computer science in the basket of goods. The JEIC's recommendations can be found in the memo submitted to this committee dated September 29.

### *Computer Science by the numbers*

- 73% of new STEM jobs will be in computer occupations between now and 2024, but only 8% of college graduates currently receive degrees in computer science.
- 1.1 million projected unfilled programming jobs by 2022.
- There are currently 500,000 computing related job openings in the US. These jobs are in every industry, every state, and are projected to grow at twice the rate of all other jobs.
- 93% of parents want their student learning computer science, but most schools do not offer it.

### *Where is Wyoming right now with Computer Science?*

In multiple meetings with industry and economic development experts throughout Wyoming, the WDE has learned the need for K-12 to prepare a workforce pipeline with skills in computer science. Wyoming ranks last among all 50 states in the number of students who took the AP Computer Science exam in 2015-16.

1. In the 2016-17 school year, three AP Computer Science courses were offered in three school districts, one IB Computer Science course was offered in one school district, and dual/concurrent Computer Science courses were offered in three school districts.
2. In the 2016-17 school year, six of 16 school districts with certified staff offered Computer Science courses, utilizing nine of the 34 total certified staff in the state.
3. Six students took the AP Computer Science test in the 2015-16 school year (the College Board has not yet released data for the 2016-17 school year). In the 2016-17 school year, four students enrolled in a dual/concurrent computer science course.
4. PTSB has been progressive and developed a certification process to increase availability of certified teachers in computer science for districts.

### *What are other states doing with computer science?*

States across the country have been working toward providing students with greater access to computer science. Many states have implemented several key policies to support districts and students in making computer science and computational thinking accessible.

1. Seven states have developed full independent computer science standards and eight others are in progress. According to APA's materials, all but two of the high performing comparator states have already adopted computer science standards.
2. Six states require computer science to be taught in high school, with two others working toward this goal.
3. Thirty states allow computer science to count toward math or science credit for graduation.

4. Fourteen states allow computer science to count towards higher education admission requirements.

*What is the federal government doing with computer science?*

1. The new basket of goods contained in ESSA explicitly references computer science as a component of a “well-rounded” education. This is an acknowledgement of the importance of children learning this content area.
2. There are multiple opportunities to leverage computer science within federal education programs including the Carl D. Perkins Career and Technical Education Act, Title I School wide programs, Title II professional development, and 21<sup>st</sup> Century Community Learning Centers. ESSA affords states the opportunity to flex federal and state dollars in these areas. In the past, this was not allowed because of stringent “supplement not supplant” regulations.
3. President Trump recently issued an executive memorandum directing the U.S. Department of Education to better promote STEM and computer science by devoting at least \$200 million per year to this effort.

### **Mitigating the Cost of Adding Computer Science to the BOG**

As stated above, WDE knows neither the immediate nor long-term fiscal impact of adding computer science to the BOG. However, the creation of the computer science task force and private-public partnerships will help significantly with the implementation of this change. We also suggest the items below for your consideration as ways to offset the fiscal impact of this change. These items will account for federal testing requirements, align the common core of knowledge to the content and performance standards (except government and civics), create efficiencies, remove outdated statutory references, and refine the common core of knowledge to be more transparently and accurately assessed. All of the following recommendations are consistent with federal law and aligned with our ESSA State Plan and the Wyoming Accountability in Education Act.

- (1) Allow computer science/coding to count as a required K-2 foreign language, W.S. § 21-9-101(g)

The foreign language requirement found in W.S. § 21-9-101(g) was a frequently identified area of potential savings during the APA stakeholder feedback sessions. While we do not believe in removing this requirement entirely, allowing computer science/coding to serve as an alternative in meeting this requirement will help keep costs of implementation down in grades K-2.

- (2) Allow computer science/coding to count as a required Hathaway foreign language, W.S. § 21-16-1307

To keep the continuum of foreign language aligned, if the K-2 requirement is changed to allow computer science/coding, then the secondary level foreign language requirements should allow the same. This recommendation would be in addition to computer science as an allowed science requirement, as is currently in place. This can help reduce the financial impact of implementation since districts feel compelled to provide the Hathaway curriculum to the fullest extent possible.

- (3) Allow computer science/coding to count as a required foreign language for purposes of University of Wyoming admissions, Florida Senate Bill Draft SB180<sup>5</sup>

The Florida Legislature is considering a bill that requires all Florida state universities to accept coding as a foreign language entrance requirement. This would complete the continuum of foreign language requirements, allowing for computer science/coding K-20, and reduce the fiscal impact of implementation of the recommended change to the BOG.

- (4) Substitute computer science for subsection (M) “applied technology” in the BOG

Applied technology, as currently specified in the common core of knowledge, represents the use of technology rather than creation of technology. Applied technology teaches a student to utilize *existing* technological tools to solve a problem, rather than creating new technology, through *computer science*. Technology has developed in such a way over the past twenty years that the 21<sup>st</sup> century workforce must think computationally. Computational thinking is achieved not through applied technology, but rather through computer science.

Applied Technology is not required by federal law and does not currently maintain standalone content and performance standards, but is incorporated into standards for CTE, science, and social studies. With the advancement of technology, it is inherent in a student’s education today, with computer science more highly valued as a core area of knowledge.

The 2017 basket of goods landscape survey conducted by the Central Regional Education Laboratory at our request indicates that forty or more states have ELA/Reading, Mathematics, Science, Social Studies, Fine Arts, Physical Education, Health Safety and Wellness, and Foreign Cultures/Languages. Applied technology is only required to some degree in less than thirty. This is not to say the subject matter is not being taught in those states, because it most certainly is, but it is not explicitly required as a discrete content area in law.

- (5) Combine subsections (F) Physical Education and (G) Health and Safety

Health and Safety currently maintains content and performance standards exclusive from physical education. However, the two core areas could easily be combined as many educators teach the two as one subject and have requested future standards reviews be completed jointly. Doing so would likely reduce costs related to standards reviews and instruction.

- (6) Delete subsection (H) Humanities

Humanities does not maintain standalone content and performance standards but is adequately addressed in those for social studies. Further, languages and literature fall under the official definition of humanities making humanities inherent in those particular knowledge areas.

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<sup>5</sup> [https://www.flsenate.gov/Session/Bill/2018/180/BillText/\\_\\_\\_/PDF](https://www.flsenate.gov/Session/Bill/2018/180/BillText/___/PDF)

(7) Delete the common core of skills, W.S. § 21-9-101(b)(iii)

Everything listed in the common core of skills should be happening every day in every school in our state. There is no need to explicitly list these items in statute as mastering the common core of knowledge requires the common core of skills. The requirements around the common core of skills are very vague, resulting in an absence of any fidelity from district to district in how they are being delivered. The skills inherent to attaining the common core of knowledge are ever-evolving and therefore should be left to the standards process and not codified in statute. We are already including many more 21<sup>st</sup> century skills into our standards than the limited list currently in statute.

Many other states have required educational skills but they vary widely from state to state as to what is required and how they are incorporated into law. Some states have them as statutory baskets of skills, others have them as graduation requirements, and others have them imbedded in state content and performance standards. The latter is one way to ensure these skills are addressed in addition to them organically being a part of everyday instruction in our schools.

Again, we do not purport to know the fiscal impact of any or all of these possible amendments, simply that from a programmatic perspective they are worthy of discussion. During discussions of education funding, we must first refine the basket of goods and define what is a proper education of students in the 21<sup>st</sup> century.

Thank you for your time and consideration.

## Appendix A

*\*WDE Commentary is italicized below*

### **21-9-101. Educational programs for schools; standards; core of knowledge and skills; special needs programs; class size requirements; cocurricular activities.**

(b) Each school district within the state shall provide educational programs sufficient to meet uniform student content and performance standards at the level established by the state board of education in the following areas of knowledge and skills:

(i) Common core of knowledge:

(A) Reading/language arts;

*-Federally required to be assessed, fundamental knowledge, and has its own content and performance standards.*

(B) Social studies;

*-Specific social studies content required elsewhere in Wyoming statute, fundamental knowledge, encompasses humanities, and has its own content and performance standards.*

(C) Mathematics;

*-Federally required to be assessed, fundamental knowledge, and has its own content and performance standards.*

(D) Science;

*-Federally required to be assessed, fundamental knowledge, and has its own content and performance standards.*

(E) Fine arts and performing arts;

*-Part of a "well-rounded education" required by federal law, and has its own content and performance standards.*

(F) Physical education;

*-Part of a "well-rounded education" required by federal law, can easily encompass health and safety, and has its own content and performance standards.*

(G) Health and safety;

*-Recommend this be combined into Physical Education for efficiency.*

(H) Humanities;

*-Recommend this be combined into Social studies for efficiency.*

(J) Career/vocational education;

*-Part of state and federal accountability models as fifth indicator under ESSA, and has its own content and performance standards. Wyoming needs to improve in this area, as indicated by APA Consulting stakeholder feedback.*

(K) Foreign cultures and languages;

*-Part of a "well-rounded education" required by federal law, required elsewhere in Wyoming statute, and has its own content and performance standards.*

(M) Applied technology;

*-Recommend this be replaced by computer science.*

(N) Government and civics including state and federal constitutions pursuant to W.S. 21-9-102.

*-Explicit requirements elsewhere in statute, near universal stakeholder support for prioritizing this knowledge, and incorporated into social studies content and performance standards.*

(ii) For grades one (1) through eight (8), reading, writing and mathematics shall be emphasized under the common core of knowledge specified under paragraph (b)(i) of this section;

(iii) Common core of skills:

(A) Problem solving;

(B) Interpersonal communications;

(C) Keyboarding and computer applications;

(D) Critical thinking;

(E) Creativity;

(F) Life skills, including personal financial management skills.

*-Recommended that this entire subsection (iii) Common core of skills be deleted.*