Complying with California Education Code 51225.3(b) through Integrated Curriculum taught by CTE Credentialed Teachers

Jacob J. Walker, 5/10/2015 (Updated on 1/25/2018)

Abstract
There are California high schools are out of compliance with Education Code 51225.3(b), which requires districts to have alternative means that students can earn their high school diploma. This paper will discuss the benefits of implementing an integrated curriculum program, such as Linked Learning, to comply with Ed. Code 51225.3, and how such a program can be implemented by utilizing one or more teachers who hold Designated Subjects Career Technical Education credentials (or Vocational Education credentials).

An Introduction to Integrated Curricula and Linked Learning
There is widespread agreement among parents that the acquisition of real-world marketable skills is one of the most important outcomes of the education process (Youngblood, 2015). As such, when the Common Core Standards were developed, the purpose was to “prepare students for college and career”.

And for over a decade, California has required that public high schools have an alternative means of earning a high school diploma to integrate real-world marketable skills and academics, which is codified in Education Code 51225.3(b):

The governing board, with the active involvement of parents, administrators, teachers, and pupils, shall adopt alternative means for pupils to complete the prescribed course of study that may include practical demonstration of skills and competencies, supervised work experience or other outside school experience, career technical education classes offered in high schools, courses offered by regional occupational centers or programs, interdisciplinary study, independent study, and credit earned at a postsecondary educational institution. Requirements for graduation and specified alternative modes for completing the prescribed course of study shall be made available to pupils, parents, and the public.

Yet while parents want real-world curricula, and educational content standards support them, and it is even mandated by the State to have a method of earning a high school diploma that integrates career skills with academics; the most prevalent teaching methods in K-12 schools are still those that focus on teaching academic content in isolation from the context that it will ultimately be applied to.

This may be partly due to some who worry that integrating academics and career technical education (CTE) might not be as rigorous. But there is clear evidence that well-built programs which integrate academics and career technical education can improve academic test scores (Stone III, Alfeld, Pearson, Lewis, & Jensen, 2006), improve graduation rates (Clark, Dayton, Stern, Tidyman, & Weisberg, 2007), as well as increase the number of students who go on to attend college (Forbes, 2011).
The lack of compliance with Education Code 51225.3(b) may also stem from the specialized nature of modern careers, in which most school administrators and teachers do not have a background, and thus a school district may not even know where to start in developing such an integrated program, also known as “applied academics”. There may also be concern that the cost of such a program may be prohibitive.

But change is afoot within California with the introduction of Linked Learning programs, which are defined in Education Code 52372.5(a) as follows:

(1) A multiyear, comprehensive high school program of integrated academic and technical study that is organized around a broad theme, interest area, or industry sector, including, but not necessarily limited to, the industry sectors identified in the model standards adopted by the state board pursuant to Section 51226.

(2) A program that ensures that all pupils have curriculum choices that will prepare them for career entry and a full range of postsecondary options, including two- and four-year college, apprenticeship, and formal employment training.

(3) A program that is comprised, at a minimum, of the following components:

   (A) An integrated core curriculum that meets the eligibility requirements for admission to the University of California and the California State University and is delivered through project-based learning and other engaging instructional strategies that intentionally bring real-world context and relevance to the curriculum where broad themes, interest areas, and career technical education are emphasized.

   (B) An integrated technical core of a sequence of at least four related courses, that may reflect career technical education standards-based courses, that provide pupils with career skills, that are aligned to and underscore academic principles, and to the extent possible fulfill the academic core requirements listed in subparagraph (A).

   (C) A series of work-based learning opportunities that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, or virtual apprenticeships.

   (D) Support services, including supplemental instruction in reading and mathematics, that help pupils master the advanced academic and technical content that is necessary for success in college and career.

Although it should be noted that Linked Learning is not the only manner in which a school can come into compliance with 51225.3(b); even having a single integrated curriculum / applied academic course is likely to be sufficient to meet the Education Code requirements. And from this as a starting point, a school can build towards having one or more full Linked Learning programs.
Example of Integrated Curricula Courses

The following is a table of California recognized Industry Sectors, and some examples of integrated curricula that could be part of a program that should meet the requirements of Education Code 51225.3:

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Example Applied Academic Course</th>
<th>Graduation Req</th>
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</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
<td>Agricultural Science</td>
<td>Biological Science</td>
</tr>
<tr>
<td>Arts, Media, and Entertainment</td>
<td>Historical Context for U.S. Journalism</td>
<td>U.S. History</td>
</tr>
<tr>
<td>Building and Construction Trades</td>
<td>Math for Carpenters</td>
<td>Math (Pre-Algebra)</td>
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<tr>
<td>Business and Finance</td>
<td>Word Processing with Business English</td>
<td>English</td>
</tr>
<tr>
<td>Education, Child Development, and Family Services</td>
<td>Career and Family Economics</td>
<td>Economics</td>
</tr>
<tr>
<td>Energy, Environment, and Utilities</td>
<td>The Sciences of Ecology and Energy</td>
<td>Biological Science &amp; Physical Science</td>
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<tr>
<td>Engineering and Architecture</td>
<td>Mechanical Engineering</td>
<td>Physical Science</td>
</tr>
<tr>
<td>Fashion and Interior Design</td>
<td>Math and Design</td>
<td>Math (Pre-Algebra)</td>
</tr>
<tr>
<td>Health Science and Medical Technology</td>
<td>Anatomy and Physiology</td>
<td>Biological Science</td>
</tr>
<tr>
<td>Hospitality, Tourism, and Recreation</td>
<td>Touring the World and its History</td>
<td>World History</td>
</tr>
<tr>
<td>Information and Communication Technologies</td>
<td>Algebra-Level Computer Science</td>
<td>Math (Algebra I)</td>
</tr>
<tr>
<td>Manufacturing and Product Development</td>
<td>3D Printing and CAD Geometry</td>
<td>Math (Algebra I)</td>
</tr>
<tr>
<td>Marketing Sales and Service</td>
<td>Desktop Publishing with Communications</td>
<td>English</td>
</tr>
<tr>
<td>Public Services</td>
<td>Government and Public Services</td>
<td>U.S. Government</td>
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<tr>
<td>Transportation</td>
<td>The Math and Physics of Machines</td>
<td>Math (Algebra I) and Physical Science</td>
</tr>
</tbody>
</table>

Hiring the Right Teacher(s)

Research and experience clearly shows that teachers have the greatest impact on student achievement. This is even more the case when it comes to teachers of CTE and integrated curricula, because most often it is the teacher(s) who develops the curriculum (or in some cases is able find pre-made curriculum), and also determines what equipment and supplies need to be acquired. Thus, while in traditional academic programs, hiring teachers may be one of the last steps; when developing integrated curricula, it should be one of the first steps.

There are three strategies that can generally be used in hiring applied academic teachers:

- Hire a teacher (or use an existing teacher) that has the appropriate single subject credential(s), and have them learn the technical and career skills.

- Hire two teachers, one that has a single subject credential, and another with a CTE credential.

- Hire a teacher with a CTE credential, and have them teach a career technical education course that includes the appropriate academics.
The first two strategies are common, but both have some major disadvantages. If you hire a teacher that has only a single subject credential, they are likely to not have the industry experience that is critical to pass on to the students to give them a “leg up” in their college program and the job market. And, hiring two teachers makes starting the program much more expensive. Thus, hiring a CTE teacher who has both industry experience and strong academic skills is often the best practice.

Yet, many administrators don’t realize this is an option, as on the surface a Designated Subjects Career Technical Education credential does not appear to be something that includes academics, but the Commission on Teacher Credentialing (CTC) and the California Department of Education (CDE) clarifies that it can be used in this fashion.

In Coded Correspondence 91-9108 from the Commission on Teacher Credentialing, it addresses the issue of the range of authorization for Designated Subjects Vocational and CTE credentials, and specifically whether these credentials authorize their holders to teach the subject or trade named on the credential in "non-vocational" classes in grades twelve and below, and concludes that as long as the course is designated as a trade, technical or vocational course (i.e. CTE course) that it could be used as part of a vocational or non-vocational education program (Fitch, 1991). This is clarified further, in the “California Department of Education Guideline Pertaining to Career Technical Education Teachers Meeting the Highly Qualified Teacher Provision of NCLB” (Nichols & McCabe, 2007), which states:

   District officials may ask about credential authorization for such a CTE class. Please be advised that the California Commission on Teacher Credentialing has ruled repeatedly that if a class is a CTE based class and the school district has a policy that allows granting graduation credits to the class per EC Section 51225.3(b), then it may be taught by the holder of a credential authorizing the teaching of CTE.

Further, as noted in the Teacher Requirements Resource Guide from the CDE, that a properly authorized teacher with a Designated Subject credential (such as a CTE credential) who is teaching a career technical education (CTE) course that is being used as an alternative way to meet graduation requirements, per Ed Code Section 51225.3(b), that this teacher would meet the "highly qualified teacher" provision, as long as they also have a four-year college degree (Professional Learning Support Division, 2011).

Conclusion

Every high school in California should endeavor to be in compliance with the law, and Education Code says that districts shall adopt alternative means for students to earn a high school diploma, and one such way of doing this is through offering a course or program of integrated curricula / applied academics, such as Linked Learning. Further, it is clear that these courses and programs can be taught by holders of Designated Subject Career Technical Education credentials or older Designated Subjects Vocational credentials. As these credentials are primarily based on real-life work experience, this can bring teachers into the classroom from the field, where they can inspire our next generation of professionals, and help them learn the “tricks of the trade” along with how to apply their “book learning” academics in a real world context.
Works Cited


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