

EXECUTIVE SUMMARY

Ensure that all students are prepared for higher education and the workforce.

These words express the primary goal of our state’s education system. Yet, they beg the question: “Are we adequately serving those students who are *not* bound for college immediately after graduation?”

Given that our current high school structure and curricula are based largely on recommendations of the Committee of 10¹, dating back to 1894, it is time for New Jersey to review what we are teaching and when. Without an alignment to the needs of business, industry and post-secondary educational organizations, the pre-kindergarten-through-12th grade public school system will not be able to fully prepare *all* students for their futures.

It is time for New Jersey to review what we are teaching in our schools and when.

We owe it to our students to redesign our high schools to respond to societal changes and employment needs.

America has experienced radical changes in employment. Many well-paying jobs that do not require a college degree are going unfilled as companies search for employees with the skills they need. Business groups report that New Jersey has 44,000 vacant “middle-skills” jobs, which the Harvard Business School describes as “those that require more education and training than a high school diploma but less than a four-year college degree.”² There is a disconnect between the skills that are being taught in schools, and the skills required in many entry-level positions. Technological advances require skill sets very different from those required for 20th century employment.

We owe it to our students to respond to societal change and employment needs.

In September 2017, the New Jersey School Boards Association, under the leadership of President Daniel T. Sinclair, created the Task Force on Educational Opportunities for the Non-College Bound Learner. The 20-member study group was asked to think “outside the box” and to challenge the perception that the path to success invariably requires attendance at a four-year college. The project’s ultimate goal: Identify strategies to better equip students with the skills required in a job market that is rapidly changing due to advances in artificial intelligence, automation, robotics, and other factors. These strategies, reflected in the Task Force’s 69 recommendations, encompass best practices by local school districts, changes in state and federal policy, and action by the New Jersey School Boards Association and other stakeholders.

The Task Force concluded its work with a clarion call for a reevaluation of the philosophy that guides our educational system, a redefinition of the roles of comprehensive high schools, county vocational-technical school districts and county colleges, and a formal plan for the future of our preK-12 education system.

¹ *Report of the Committee of Ten on Secondary School Studies; with the Reports of the Conferences Arranged by the Committee*, National Education Association, (N.Y.: Amer. Bk., 1894). Accessed June 22, 2018, <https://books.google.com/books?id=PfcBAAAAYAAJ&pg=PA3&lpg=PA3#v=onepage&q&f=false>.

² "Middle Skills," U.S. Competitiveness Project, Harvard Business School, accessed July 26, 2018, <https://www.hbs.edu/competitiveness/research/Pages/middle-skills.aspx>.

FINDINGS

During its deliberations, the NJSBA Task Force on Educational Opportunities for the Non-College-Bound Learner made the following observations on the delivery, funding and breadth of programming for the career-focused student:

- New Jersey needs to identify the best methods to deliver appropriate training to students, to increase the pool of career technology education (CTE) teachers, to align curriculum with necessary skill acquisition, and to test students to assure they have both the hard and the “soft” skills³ that will serve them in their careers. The effort must include a redefinition of the roles of comprehensive high schools, county vocational-technical school districts, and county colleges.
- K-12 and regional high school districts have difficulty building CTE programs because they lack the financial resources and are unable to attract properly certificated staff due to a shortage of teachers in technical fields.
- The belief that, to be successful, one must earn a four-year college degree is simply not true, and the entire education community should work to dispel the notion that pursuing a technical-vocational career pathway is inferior to obtaining a bachelor’s degree. Even the term “non-college-bound learner” is stigmatizing and negative; “career-focused learner” is more accurate and appropriate. (While this report continues to use the term “non-college-bound learner” because it is reflected in the original charge, the Task Force recommends that, going forward, all references be to the “career-focused learner.”)
- Artificial intelligence will increasingly replace workers in many areas of employment, and experts say that new skills will be necessary to compete in the future job market. Communication between the education and business communities is critical for educators to appreciate employers’ current and emerging needs and to prepare students with the skills and content essential for entry-level positions in various industries.
- Schools must raise student awareness of all careers and the broad variety of career pathways through meaningful experiences and exposure. Consideration should be given to models such as Colorado’s CareerWise⁴ youth apprenticeship program and dual-enrollment strategies.
- Existing curricula are inadequate to prepare students with practical, job-ready skills. Current assessment tools are not designed to reflect whether students have acquired the skills necessary to obtain industry certifications and state licenses or to succeed in current and emerging jobs that do not require a college education.
- County vocational-technical schools traditionally focused on the trades or “middle skills,” but many have become increasingly selective and geared toward the college-bound student. For example, the growth of selective county vo-tech “academies” has reduced opportunities

³ “Soft” skills include punctuality, teamwork, and communication with management and co-workers.

⁴ John W. Hickenlooper, Jr., “Colorado’s Swiss Apprenticeship Model: A Letter from Governor Hickenlooper,” Colorado Official State Web Portal, accessed June 25, 2018, https://www.colorado.gov/pacific/sites/default/files/CO_Swiss_Apprenticeship_Model.pdf.

for career-focused students interested in learning a trade. This shift in focus has altered relationships between local school districts and county vocational-technical schools, often making them tense and competitive, rather than collaborative.

- The number of seats available in the county vocational-technical schools is insufficient to serve all New Jersey students who wish to pursue career and technical education, leaving a significant number underserved. In 2013, almost 17,000 students who applied to county vocational-technical high schools could not be accommodated⁵, according to the New Jersey Employer Coalition for Technical Education, created by the New Jersey Council of County Vocational-Technical Schools and the New Jersey Business and Industry Association.
- Dialogue, information-sharing and collaboration among school districts that operate comprehensive high schools, the county CTE districts and the community colleges are necessary components to providing a full range of opportunities to the college-bound and the career-focused learner. The New Jersey Department of Education should take a leadership role in encouraging such communication.

RECOMMENDATIONS

The Task Force on Educational Opportunities for the Non-College-Bound Learner makes 69 recommendations for the consideration of New Jersey’s local boards of education, school administrators, the labor and workforce community, the New Jersey Department of Education, the Legislature and the Governor. Recommendations are grouped into the six categories. Each category is listed below, followed by examples of specific recommendations. (*A complete list of the Task Force’s recommendations starts on page 78 of this report.*)

Chapter 1 (page 32)

Ascertain the skills required to meet the needs of business and industry, and change the attitude toward jobs that do not require a college education.

- The New Jersey Department of Education should explore the use of new assessment tools to measure the skills necessary to succeed in available jobs.
- NJDOE should develop measures of school and student success that focus on “career readiness.”
- The New Jersey Departments of Education and Labor & Workforce Development should establish a formal, standing structure to facilitate collaboration with representatives of industry, trade unions, and other entities to ensure that students recognize the array of careers available to them and the multiple pathways to those careers. These pathways include earning job-specific professional certification and two-year degrees, as well as experience in apprenticeships and internships and CTE programs at the secondary and post-secondary levels.
- NJDOE should ensure the availability of a staff liaison to engage in dialogue with schools about meaningful career preparation.

⁵ "NJ Employer Coalition for Technical Education," Career Tech NJ, New Jersey Council of County Vocational-Technical Schools, accessed July 26, 2018, <https://www.careertechnj.org/nj-employer-coalition-for-technical-education/>.

Chapter 2 (page 34)

Strengthen communication, collaboration and support among local school districts, county vocational-technical schools, community colleges, state government and its various agencies, business and industry, and other prospective partners.

- The state should support and fund the expansion of CTE programs in all school districts, including those that operate comprehensive high schools. (There is no state funding category specifically aimed at CTE programs in comprehensive high schools. A state bond issue that will appear on the November 2018 ballot would set aside \$350 million for both school security enhancements and expansion of high school CTE programs. Funds for CTE program expansion, however, would apply only to county vocational-technical school districts.⁶)
- The state Department of Education should take a more active role in assisting local school districts in developing CTE programs. The assistance should facilitate the sharing of CTE programs among neighboring districts, thereby providing additional educational opportunities in a cost-efficient manner.
- The New Jersey Department of Education and local school districts should study the Colorado CareerWise program⁷, a public-private partnership that provides three-year apprenticeships to high school students starting in junior year and leads to industry credentials and associate degrees.
- The New Jersey School Boards Association should advocate for changes in federal law and U.S. Department of Labor regulations that limit the ability of Workforce Development Boards and Workforce Investment Boards to use federal Workforce Innovation and Opportunity Act funds for the training of currently enrolled high school students. Upon such changes, the N.J. Department of Labor & Workforce Development should ensure that state procedures enable the use of such funds for the training of in-school youth.
- The state Department of Labor & Workforce Development should provide preK-12 and regional school districts with a level of assistance comparable to its support of county CTE schools.
- NJDOE should establish regional liaisons to help K-12 school districts respond to area employment needs. It should consider the use of the county roundtable structure for assistant superintendents and curriculum directors to encourage dialogue among schools and businesses about regional employment needs and the status of education programs.
- County vocational-technical schools should structure their admissions processes to create more options for students across the achievement spectrum.
- Representatives of local school districts and county vocational-technical school districts should create opportunities to engage in respectful dialogue about the issues they face, and work constructively toward the advancement of student achievement.

⁶ “Legislative Update: Governor Signs Vo-Tech, School Security Bond Measure; Voters to Decide its Fate,” *School Board Notes*, September 5, 2018, New Jersey School Boards Association, accessed September 13, 2018, <https://www.njsba.org/news-publications/school-board-notes/september-5-2018-vol-xlii-no-6/legislative-update-governor-signs-vo-tech-school-security-bond-measure-voters-to-decide-its-fate/>.

⁷ “Colorado’s Swiss Apprenticeship Model,” accessed June 25, 2018, https://www.colorado.gov/pacific/sites/default/files/CO_Swiss_Apprenticeship_Model.pdf.

Chapter 3 (page 50)

Revisit curricula and programs so that they reflect economic realities, expose all students to the full array of post-secondary opportunities and prepare them for careers.

- As they consider a replacement for PARCC as the state’s assessment program, the New Jersey Department of Education and State Board of Education should explore a variety of alternative methods to determine student progress toward state learning standards. These alternatives may include the SAT, the ACT, the Armed Services Vocational Aptitude Battery, licensing/certification tests, and admission to apprenticeship programs.
- School districts should provide exposure to various post-secondary opportunities through community-based instruction, job shadowing, internships, college visits, and apprenticeships. These efforts should focus on the career opportunities that will exist when students graduate, which will be affected by artificial intelligence, robotics and automation.
- School districts should ensure that the curriculum provides all students with instruction in the “soft skills,” such as punctuality and teamwork, that are necessary for workplace success, as well as experience with asynchronous web-based courses.
- School districts should educate parents and students about the cost and return on investment for all post-secondary opportunities, as well as methods to reduce the expense.
- Students should be able to benefit from a dual-enrollment system that would allow them to graduate from high school with (a) certification that qualifies them for entry-level employment in certain fields and/or (b) a two-year associate’s degree or significant credit toward that degree.
- School districts should evaluate the choice of courses offered to students and the sequence in which they are provided. For example, the “biology-chemistry-physics” sequence is based on alphabetical order of the subject areas, not a pedagogical rationale. A reevaluation is especially critical in subjects related to engineering and science, areas that have experienced substantial growth.

Chapter 4 (page 55)

Revise preparation and certification requirements to resolve a shortage of teachers in the STEM/STEAM and Makerspace areas.

- NJDOE and the State Board of Education should clarify CTE teacher certification and preparation requirements that contain conflicting and ambiguous provisions involving required levels of education and the substitution of work experience for a college degree.
- NJDOE and the State Board of Education should consider revisions to alternate-route-to-certification qualifications to encourage more skilled individuals to become licensed to teach CTE programs.
- The state Department of Education should relax teacher certification standards in vocational instructional areas to allow credit for years of working experience.

- NJDOE and the State Board of Education should create a new certification category, or amend existing requirements, to enable non-CTE teachers to instruct in the STEM/STEAM (science, technology, engineering, the arts and mathematics) and Makerspace⁸ learning areas. There is a shortage of teachers in these content areas, which stress problem-solving and practical application.

Chapter 5 (page 64)

Develop an assessment system that better reflects student growth and learning. Revise student assessment and graduation requirements in collaboration with the business community.

- NJDOE and the State Board of Education should revise graduation regulations to allow credit for internships, apprenticeships and cooperative learning opportunities.
- NJDOE should consider the use of multimodal testing platforms to more accurately measure student growth and learning, and assessments to enable students to demonstrate competency in vocational applications of mathematics and technology.
- NJDOE should align statewide testing to standards for entry-level employees based on NOCTI (National Occupational Competency Testing Institute) or comparable industry benchmarks.⁹

Chapter 6 (page 68)

Assess financial needs and concerns, and explore alternative funding sources.

- NJSBA and other state education organizations should work with local school districts to advocate for more state and federal funding for CTE programs to benefit students in all settings, including comprehensive high schools.
- NJSBA, other state education organizations and local school districts should create partnerships with business and industry and labor unions to generate internships and apprenticeships.
- Boards of education and state education leaders should collaborate on the cost-effective inter-district delivery of career training for the non-college-bound student.
- Wherever possible, school districts should identify resources within the annual budget to support the career-focused student.
- Boards of education should establish public-private partnership committees that include school officials, local business leaders, municipal officials and members of the municipal economic or industrial board.

⁸ For information on Makerspaces in education, see: "The 'Maker Mindset' and How It Can Transform Schools" by Marc Natanagara, *New Jersey School Leader*, March 30, 2017, 15, New Jersey School Boards Association, accessed July 30, 2018, <https://www.njsba.org/news-publications/school-leader/march-april-2017-volume-47-5/maker-mindset-can-transform-schools/>.

⁹ NOCTI is a not-for-profit consortium focusing on improvement of the American workforce. (See: <https://www.nocti.org/aboutnocti.cfm>.) NOCTI's Job Ready tests are one of two assessment batteries used by the Pennsylvania Department of Education to measure the occupational competency of career and technical education students. (See: <https://www.education.pa.gov/K-12/Career%20and%20Technical%20Education/Pages/Assessment-Information.aspx>.)

Chapter 7 (page 75)

The Next Steps

- The New Jersey business and education communities should engage in a formal study to determine the best methods to deliver CTE training to our students and to define the roles of local school districts, county vocational-technical high schools and community colleges in the effort. The study should be initiated by the state. It should involve representatives of the following: The New Jersey School Boards Association; other stakeholders in K-12 education, including county vocational-technical school districts; community colleges; other institutions of higher education, the New Jersey Department of Education; the New Jersey Department of Labor and Workforce Development; state-level business organizations, and government workforce development agencies.

MOVING FORWARD

The NJSBA Task Force on Educational Opportunities for the Non-College-Bound Learner hopes that its work will prompt educational, governmental, labor and community leaders to reevaluate existing educational structures, assumptions and practices. The report represents a springboard for additional discussion and future research.

Reform must take place, with a fresh eye and the willingness to anticipate a future in which workforce opportunities will be radically different than those of yesterday and today.