

# STATE DIRECTORS

National Association of State Directors  
of Career Technical Education Consortium

***A Look Inside: A Synopsis of CTE Trends***  
***A Four-Part Series Analyzing State CTE Data and Initiatives***  
***Focus: Teacher and Faculty Shortage***  
**November 2010**

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## **CTE Teacher and Faculty Shortage**

Part II of this series discusses the shortage of career technical education (CTE) teachers and faculty members, as reported by State Directors in the 2010 National Association of State Directors of Career Technical Education Consortium (NASDCTEc) state profile survey. As the economy recovers from the recession, the shortage of CTE teachers, along with the limited number of recruitment and retention programs, is growing. In order to address all of the needs within our workforce it is imperative that we provide qualified teachers and instructors who will prepare students to be college and career ready. Providing CTE programs with these qualified teachers and faculty requires recruitment and retention initiatives which, according to the data from the 2010 survey, seem to pose a challenge for some states.

### **Key Findings**

- 1) Science, Technology, Engineering and Mathematics (STEM) is one of the biggest and fastest growing Career Clusters, but there is an increasing shortage of STEM teachers and faculty. Recent data surrounding the issue suggests that, “the U.S. share of the world’s scientists and engineers is projected to fall from 40 percent in 1975 to 15 percent in 2010.”<sup>1</sup> The mismatch created by the teacher shortage and economic demand identifies a need to incentivize professionals to leave industry for the classroom to prepare the next generation of scientists, engineers and mathematicians.
- 2) The same three Career Clusters -- STEM, Manufacturing and Health Science -- that experienced the highest teacher shortage in 2008 are still experiencing the highest teacher shortage in 2010. In order to address this issue, more recruitment and retention programs, and CTE preparation programs need to be instituted to increase the number of teachers within these Career Clusters.

The lists and graph below provide a breakdown of the Career Clusters experiencing the greatest CTE teacher and faculty shortages, as well as barriers states face in instituting recruitment and retention initiatives.

### **Secondary**

The top Career Clusters currently experiencing a shortage of secondary CTE teachers:

1. Science, Technology, Engineering & Mathematics – 19 states
2. Health Science – 17 states
3. Manufacturing – 16 states
4. Agriculture, Food & Natural Resources – 11 states

5. Architecture & Construction – 11 states

The top Career Clusters projecting a shortage of secondary CTE teachers within five years:

1. Health Science – 8 states
2. Hospitality & Tourism – 8 states
3. Human Services – 8 states
4. Science, Technology, Engineering & Mathematics – 8 states
5. Transportation, Distribution & Logistics – 8 states

Career Clusters not currently experiencing a shortage of secondary CTE teachers:

1. Finance – 21 states
2. Information Technology – 21 states
3. Marketing – 21 states
4. Business Management & Administration – 20 states
5. Agriculture, Food & Natural Resources – 19 states

## **Postsecondary**

The top Career Clusters currently experiencing a shortage of postsecondary CTE faculty:

1. Health Science – 14 states
2. Science, Technology, Engineering & Mathematics – 10 states
3. Manufacturing – 8 states
4. Arts, A/V Technology & Communication – 4 states
5. Transportation, Distribution & Logistics – 4 states

The top Career Clusters projecting a shortage of postsecondary CTE faculty within five years:

1. Information Technology – 5 states
2. Architecture & Construction – 4 states
3. Human Services – 4 states
4. Agriculture, Food & Natural Resources – 3 states
5. Health Science – 3 states
6. Law, Public Safety, Corrections, & Security – 3 states
7. Science, Technology, Engineering & Mathematics – 3 states
8. Transportation, Distribution & Logistics – 3 states

Career Clusters not currently experiencing a shortage of postsecondary CTE faculty:

1. Marketing – 19 states
2. Business Management & Administration – 18 states
3. Agriculture, Food & Natural Resources – 17 states
4. Finance – 17 states
5. Hospitality & Tourism – 17 states

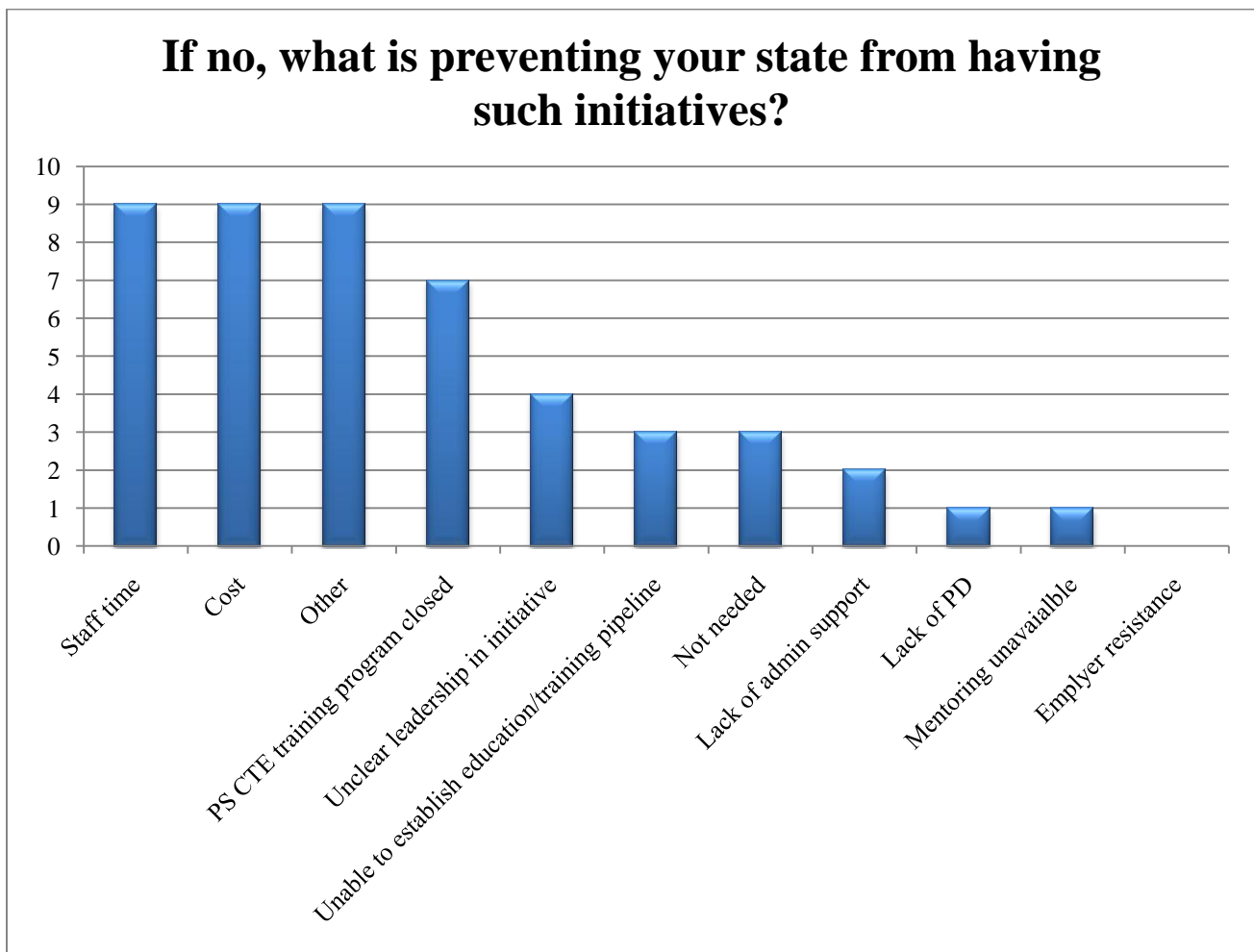
## Teacher Recruitment and Retention

When asked about the initiatives they have implemented to recruit and retain CTE teachers and instructors, 34 states responded that initiatives are in place on the secondary level and 21 states responded that initiatives are in place on the postsecondary level. Some of the top recruitment initiatives include:

- Annual conferences/teacher institutes that work to recruit new teachers and prepare them for careers in CTE.
- Mentoring programs that partner new CTE teachers with experienced CTE teachers within the same content area.
- CTE certifications/licenses and professional development courses/programs that enhance teachers' qualifications and help teachers to develop their skills so that they may better prepare students for college and careers.

Below, Figure 1 displays the reasons preventing states from administering recruitment and retention initiatives for states that indicated that they had no initiatives in place.

Figure 1



According to state responses, the top two reasons preventing states from putting recruitment and retention initiatives into place are staff time and costs. Respondents who answered “other” cited reasons

such as limited demand, not enough programs, and that it is a local issue. As we highlight in the funding brief in this series, states project declining funds at both the state and local levels for the foreseeable future. Unfortunately this means that the teacher/faculty shortage is likely to persist.

## Model Programs

There are various examples of programs that have made progress towards increasing the number of CTE teachers and faculty. One such example, the **Chicago Teaching Fellows** program, trains business and industry professionals to become teachers in critically-needed subject areas in the Chicago Public School system. With help and guidance from the Illinois State Board of Education, the Chicago Teaching Fellows program is able to provide professionals with an alternative route to certification that will allow them to teach while taking classes in their specific subject area.<sup>ii</sup> Through the Chicago Teaching Fellows program, students in Chicago Public Schools will be able to learn the most up to date and relevant industry techniques and practices through the guidance of industry professionals.

Another program that has made efforts to increase the number of CTE teachers is **Idaho's dual certification program**. To address the No Child Left Behind Act's highly qualified teacher requirements, the Idaho State Department of Education (SDE) worked with the Professional-Technical Education Teacher Certification Department to create a dual certification program<sup>iii</sup> to better prepare CTE teachers. There are two pathways in which teachers can obtain teacher certification. The Standard Secondary Certificate and appropriate endorsement are obtained through a degree-based education program. This is the same secondary certificate that SDE issues for academic endorsements. The endorsements are comprehensive and allow teachers to teach all courses in a specific program area. The second pathway to obtain teacher certification is through the Occupational Specialist Certificate which is an industry-based certificate that requires teachers to meet established work experience and industry certifications. Both of these pathways allow teachers to upgrade their skills and better prepare their students for college and careers.

## Conclusion

The United States is experiencing a shortage of CTE teachers and faculty. Without teachers and faculty, programs are closing. And without CTE programs, the United States lacks the infrastructure to prepare students with the skills necessary to meet the demands of a highly competitive global economy. As highlighted in NASDCTEC's vision for CTE – *Reflect, Transform, Lead: A Vision for the Future of Career Technical Education*<sup>iv</sup> – education systems need to encourage dual academic and certification programs, and employers and industry need to provide work-based professional development opportunities to prepare and place more qualified teachers and faculty members into classrooms.

CTE is charged with leading the way to improve teacher and faculty shortages through innovative recruitment and retention programs. As stated before, one of the biggest obstacles facing states is the lack of funding which prevents states from solving many of the problems they face. Part III of this series provides an overview of secondary and postsecondary CTE funding over the last several years on the federal, state and local levels and looks at the alarming trend of decreased CTE funding.

*For more information on this series, please contact Nancy Conneely, Public Policy Manager at the National Association of State Directors of Career Technical Education Consortium.*

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<sup>i</sup> Council on Competitiveness, *The Skills Imperative*, 2008.

<http://www.compete.org/images/uploads/File/PDF%20Files/Thrive.%20The%20Skills%20Imperative%20-%20FINAL%20PDF.PDF>

<sup>ii</sup> Chicago Teaching Fellowship Web site. <http://www.chicagoteachingfellows.org/overview.html>

<sup>iii</sup> Idaho Professional-Technical Education, Certification/Credential.

[http://www.pte.idaho.gov/Certification/Certification\\_Home.html](http://www.pte.idaho.gov/Certification/Certification_Home.html)

<sup>iv</sup> NASDCTEc, *Reflect, Transform, Lead: A New Vision for Career Technical Education*, March 2010.

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