

## **California Industrial & Technology Education Association (CITEA)**

### **CITEA Position Paper on the Career Technical Education Teacher Shortage Issue**

#### **CITEA's Position:**

The California Industrial & Technology Education Association (CITEA) is an organization of current and past Career Technical Education (CTE) instructors, advisors and industry representatives who share a unified concern regarding the issues affecting CTE programs and courses in the State of California. CITEA focuses on programs and courses in the following industry sectors; ***Building and Construction Trades, Energy/Environment and Utilities, Engineering and Architecture, Manufacturing and Product Development, and Transportation.***

There is and continues to be a critical shortage of qualified and experienced CTE teacher candidates available to fill the vacant or soon to be vacant teaching positions in middle schools, high schools as well as community college and university levels of education. This lack of qualified instructors leads to less qualified individuals being placed into these job positions and thus providing students with a substandard CTE education as well as potential of student safety concerns. The lack of qualified instructors may ultimately result in the shutdown of valuable programs due to there being no qualified applicant for that teaching position.

The Position of the CITEA Board of Directors is that this critical teacher candidate shortage needs to be addressed by all stakeholders within this issue: Local and County School Districts, California Department of Education, California Community Colleges, the University of California (UC) and California State University System (CSU), Industry within the previously mentioned CTE Sectors. Probably the most difficult but important audience to reach is the general population of California. Without the public's awareness regarding the value of CTE programs, leaders within the educational hierarchies previously mentioned are more likely to set these issues aside which historically has been done over and over for past 40-50 years.

CITEA strongly recommends that leadership from all levels of education and industry meet to recognize the scope of the problem created by CTE teacher retirements or teachers leaving to enter industry occupations and then take a serious look at the causes and effects of shortages of qualified teacher candidates in other words, the "***Teacher Pipeline***", which historically has delivered adequate numbers of qualified CTE teachers, has virtually dried up.

If substantive work is not done in the very near future, many schools across California will shut down valuable CTE programs due to the inability to find a qualified instructor. This impending result is an absolute tragedy for the students who participate in these classes and thusly miss out on this valuable education and training and their future success. A concomitant negative impact will then be upon the many industries that rely upon these students to fill their employment vacancies which ultimately impacts our nation's ability to produce and distribute manufactured goods throughout the world. As it is currently structured, the California K-12 educational establishment is failing the majority of its students.

#### **Benefits of CTE Programs:**

The benefits of well conducted and supported CTE programs are numerous. Knowledgeable, technically skilled, and dedicated CTE instructors reach a wide range of students from the college bound, workforce bound and even special or non-traditional populations. These students are provided amazing opportunities to learn valuable knowledge and practical hands-on skills all of which are coupled with the 21<sup>st</sup> Century Skills that are in high demand in the workplace of today. Benefits of Strong CTE programs include:

- Working alongside and supporting core academic programs by making theoretical education become practical education especially in the Mathematics, Sciences, and English Language Arts subject areas. Presumably these skills are taught with the intent of giving students this knowledge so it can be applied when needed. CTE instruction provides students with just such opportunities. In this realm, a CTE instructor is very likely to hear the phrase “Oh, now I get it!” in reference to a topic from a core class which they had been taught the theory but not taught the practical application.
- Virtually every CTE instructor will have first-hand knowledge of their success in reaching some or many of those students who have struggled for years in the traditional “Four Year College for All” educational mentality, but these students have flourished as they have discovered their niche working in a shop, lab or other classroom setting where not all grades attained revolve around homework and test scores. These students find success in the shops or labs and develop personal satisfaction and self-confidence. Being enrolled in a “shop class” used to have a negative stigma attached to it but today’s CTE students now wear this phrase as a badge of honor with a sense of pride.
- Students in CTE programs also have multiple opportunities in their CTE careers to learn a wide array of knowledge, practical and life skills as well as behaviors founded upon development of strong work ethics which are so valued in the workplace. These areas of knowledge, skills and work ethics help foster a sense of strength, pride and empowerment in the students which they might not find in the traditional academic tracks found in most schools/institutions. The self confidence and pride they develop helps to jump start the student’s pathway to success as they prepare to matriculate on to further education and/ or success in the workplace.

## **Causes and Effects:**

As was previously stated, it is the position of the CITEA Board of Directors that there is a serious shortage of CTE teacher candidates in the State of California. At this point, a short discussion regarding the causes as well as the effects of this teacher shortage is appropriate.

## **Causes of the CTE Teacher Shortage:**

**1. Retirement.** Retirements of CTE instructors is the greatest factor in this teacher shortage. Research conducted by the Small Manufacturers Institute (SMI) in conjunction with the University of Southern California (USC) illustrated that over 70% of high school CTE teachers were age 50 or older and of that group, 34% planned on retiring within the next three years. (This research will soon be available for reference at CITEA’s website [citea.org](http://citea.org))

**2. Return to Industry.** The employment needs of industry are strong and the need for individuals with the knowledge and skills typical of CTE instructors can lead to employment opportunities enticing these teachers away from education and into industry. In the majority of cases, schools can not come close to competing on issues such as salaries, benefits and vacation. Although teachers do not teach all 12 months in a year, the mental and emotional toll that goes into operating a successful CTE program requires efforts

that go far beyond that of an individual employed in industry. Preparation of lesson plans, grading, operation and maintenance of shop/lab facilities, monitoring and insuring student safety as well as the highs and lows of dealing with students in general all combine to make this career endeavor one not for the faint of heart. To many people, working more months in a year at a higher salary without having the worries of a teacher appears quite attractive.

**3. Recruiting from Industry.** It is a challenge to attract and recruit individuals to leave industry employment and move into the CTE teaching world for the reasons listed above. While many individuals relish the concept of sharing their knowledge and experience with young people, the reality of this challenge appears to be overwhelming in many cases. The average teaching life expectancy of these individuals leaving industry for teaching seems to be three years before the teacher returns to industry. It is no secret that working with young people is a challenge but successful CTE teachers have a huge heart for working with students of all ability levels and are willing to look beyond these challenges.

**4. School District-CTE Philosophies.** School district-CTE philosophies develop challenges on two fronts; **Economics of CTE programs**, the **“Four Year College for All” mentality** which de-emphasizes the need for CTE programs. Both of these situations lead to **teacher frustration** over not being understood or appreciated by the local district/administration.

**4a. CTE Economics:** There are districts within California that do not fully support CTE teachers and programs by offering substandard employment situations. Districts may keep CTE instructors in non-tenured teaching positions and by doing so, provide less than equitable placement on the salary schedule. As a teacher, it proves difficult to maintain enthusiasm toward working in a district which does not seem to value or appreciate the CTE instructor. This situation can contribute to individuals leaving teaching to return to industry. Efforts to correct this situation have resulted in attempts to get these districts to credit teachers for their years of industry experience to serve for advancement on the salary schedule as well as permanent teacher status. To date, this situation has not been fully addressed or solved.

**4b. “College for All” mentality:** The administrations of some California school districts and schools have been so indoctrinated with the “Four Year College for All” mentality that this mindset ignores the reality that not all students will in fact attend and complete a college education resulting in a bachelors degree. The push to get students onto a college bound path is a noble endeavor however this path is littered with students who do not succeed in this academic only direction. Administrators and counselors who either do not understand or choose not to understand the value of strong CTE programs are devastating to the emotional well being of the CTE teachers (and their students) involved in these situations. Over time, the negative effects of this mentality lead many teachers to abandon their teaching position.

**4c. Engineering vs Technician:** Today, many schools have embraced the field of Engineering with curriculums designed to foster an environment which will guide students into a college track in one of the many fields of engineering. While many of these programs do have hands-on content within the course curriculum, there is a skills gap which occurs between the engineer and the technician. The engineer will have the primary focus of developing the design of a project while the technician is often the individual doing the actual implementation of the product design. Much if not all of the public’s focus is placed upon the engineer not realizing that in the background skilled technicians are the people carrying out the steps

necessary to realize the manufacturing the product. Universities in California seem to focus upon the theoretical engineering concept while community colleges focus more upon the training of knowledgeable and skilled technicians. This perception pendulum needs to swing to the side where the technician is a valued and necessary team member. This will help solidify the need for CTE programs to educate and train this segment of our workforce.

**4d. Teacher Frustration:** The economics of CTE coupled with less supportive administrations place a heavy burden upon the CTE teacher(s). Lack of financial support for programs, salary/placement for the teacher and lack of support for CTE in general, does in fact lead teachers to leave teaching creating more difficult to fill teaching vacancies. This situation all too often leads to the abandonment of the CTE programs altogether.

**5. Fewer CTE Courses/Programs.** Over the past few decades, CTE programs have either been scaled down or eliminated completely for various reasons. It is not a secret that the average CTE programs are more expensive to operate. Therefore, classes and programs have been reduced or eliminated due to funding issues. As of today, the funding pendulum has swung in a positive direction so there is currently adequate funding to support CTE programs. However, this does not replace the number of programs all ready eliminated. With the loss of these programs, the number of students who attend schools where these programs have been cut will never experience the opportunities that these programs once offered. How many students struggled through their education when they might have flourished if they had had the CTE course where they might have truly connected to education.

**6. Failure to Recruit:** CTE teachers must shoulder part of the blame for insufficient numbers of CTE teacher candidates if they as a whole are failing to be the first line of recruiters by talking to their students about the opportunities of becoming CTE teachers. Within the confines of their course instruction, CTE teachers should be doing more to promote teaching CTE as a viable employment opportunity to their students.

### **Effects of the CTE Teacher Shortage:**

**Closing of CTE Programs:** The most devastating result of the CTE teacher shortage is the closing of any CTE program. Once a program has been closed the absence of a qualified teacher creates a situation where the chances of the program being re-established are very low. Once the program has been closed, the future students who would have benefited from this education will never have the opportunities for personal and professional growth.

**Less Than Qualified Instructors:** In an effort to fill vacant CTE teaching positions, some administrators and districts choose to allow teachers credentialed in other areas to obtain CTE credentials in order to keep these classes/programs operating. The difficulty with this scenario is a lack of hands-on experience. CTE credentialing required a significant number of hours of industry experience coupled with successful coursework and teacher preparation to qualify for a CTE credential. Now, some teachers are moving into the CTE world because they have “some experience” which typically equates to “hobbyist” levels of experience. While this teacher may have classroom teaching experience, teaching a CTE program and more particularly a shop-based program with students operating potentially hazardous equipment can in fact put the students (and their teacher) at a higher risk of injury or death due to a less than adequately experienced and trained instructor. It is fair to say that student safety is the number one concern of any

conscientious CTE instructor. California owes its students the opportunity to participate in CTE classes operated in the safest environment possible and therefore, the CTE teacher needs to be prepared to the highest degree possible.

It needs to be understood that the teacher management of an “academic class” is dramatically different from a CTE managing a shop class. The shop teacher needs to have a firm background in the subject matter so that the focus is teaching and student management rather than on trying to learn the material and stay one step ahead due to inadequate knowledge and experience.

***Overcrowded CTE Classes/Programs:*** Due to the high enrollment demand for strong CTE programs, many classes may be overcrowded. If there were an adequate number of teachers, perhaps more classes might be offered to relieve crowded conditions. Overcrowded classrooms lead to greater amounts of student disruption, less student availability/access to equipment and higher rates of unsafe student behavior.

***Impact upon Industry:*** It is fair to imagine that the industries within our state and country would be thrilled if schools were producing well trained individuals who were prepared to enter the workplace as effective and productive employees. The reality is that since most students do not receive this type of education due to the lack of CTE programs, industry must then recruit and then invest in the training of their employees which affects the economy as a whole. The COVID 19 Pandemic should serve as a strong reminder of the impact of industry. In the first stages of the pandemic, immediate shortages of medical ventilators, face masks, face shields, hand sanitizers just to name a few caused many members of the United States manufacturing industries to rapidly adapt and change their production designs and processes to fulfill these immediate needs. Employment openings in these industries created huge needs for trained people and schools should look at this example as a reminder of what CTE programs should be focusing upon, preparing young people for the workforce.

## **Solutions & Conclusions:**

***Value:*** Career Technical Education programs provide immensely valuable educational opportunities for the students in California. While these programs are more expensive to run, the outcomes and benefits of educated, skilled, and self-confident graduates entering higher education or the workforce more than compensate for the expense of employing qualified instructors and supplying the equipment and materials required to operate these classes.

***Collaboration to Address and Solve the Teacher Shortage Issue:*** CITEA recognizes that teachers in all subject areas are in short supply and high demand and CTE is no exception. However, work needs to be done to address and find solutions to the CTE teacher shortage at some point in the very near future. To prevent the closure of any more programs and to continue offering students this valuable educational opportunity, there will need to be a collaboration of:

- School Districts
- California Legislature
- California Department of Education
- California Commission on Teacher Credentialing
- California Community Colleges
- California State Universities (CSUs)

- Universities of California (UCs)
- Industry Representatives from industry areas represented by CTE
- California Teachers Association (CTA)

CITEA stands ready to continue working to bring all of these stakeholders together to make building a “CTE Teacher Pipeline” a reality in California by recruiting and training qualified teachers.

**“Out of the Box Thinking”:** The University of California and the California State University systems have abandoned the once thriving CTE teacher preparation programs. After numerous periods of discussion and debate, CITEA promotes the concept that Community Colleges are best suited to provide the greatest degree of CTE content knowledge and skills development in CTE teacher candidates. The CTE teacher candidate training program should prioritize CTE content and skills development and experience as compared to a theory and basic exposure concept more typically seen in universities. Four-year (Bachelor Degree) level CTE teacher preparation programs could be offered at community colleges willing to put forth the effort to develop such a program. Community colleges could provide this type of program as a stand-alone program or if there were a UC/CSU in close proximity there could be a collaborative, dual enrollment type of program enabling the student to get in depth content matter instruction and training at the community college while receiving the appropriate teacher training coursework at the university. Note: Cerritos College has a teacher preparation program.

### **CITEA Stands Ready:**

CITEA’s motto is “Teachers Helping Teachers”. The CTE teacher shortage is the number one concern of CITEA. The quality and depth of the education that these CTE courses and programs bring to our students is immensely valuable. It is incumbent upon all of the stakeholders to meet and to discuss the issue, find potential solutions and then expeditiously implement these solutions so that not one more program is closed or another student misses out on an educational experience which will change their lives for the better. CITEA stands ready to facilitate and support this entire process.