

# **The Role of Career/Technical Education in the 21<sup>st</sup> Century**

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**SREB**

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## 1. Fulfill its dual mission

- **The preparation of students for work and continued learning**

## Why the dual mission for CT work and further study?

- **Connect the disconnected students to a goal or job**
- **Add meaning and purpose to high school studies**
- **Most good jobs require some preparation beyond high school or a certificate**
- **Improve high school graduation rates**
- **High remedial rate for postsecondary studies**

## 2. Offer a portfolio of quality options

- Career-based small learning communities
- Choice technical high schools
- Academic core, exploratory and courses in a concentration
- Shared time CT centers
- Dual credit postsecondary
- Magnet and charter schools around a career focus

## 3. Improve high school graduation rate

- Offer wide range of challenging exploratory experiences at grades 9 and 10
- Participate in efforts to assist students to plan a program of study for grades 9 through 14

## **3. Improve high school graduation rate**

- **Involve parents**
- **Connect students' high school studies to a future goal**
- **Join with others to reduce failure rates in grades 9 and 10**

## 4. Add value to academic achievement

- Create new CT courses that blend academic and technical content
- Work with academic teachers to plan integrated instruction
- Engage students in reading and writing to master technical content

# The Role of Career/Technical Education

HSTW

## Percentages of Workers Reporting Reading of Materials at Work Weekly (Mikulecky 2001)

Occupation	Memos	Reports	Manuals	Instruction	Diagrams
Technical	82%	73%	69%	39%	41%
Sales	70	50	50	28	23
Clerical	85	61	57	31	25
Crafts	61	38	56	34	55
Farming	37	27	28	24	17
Transportation Operative	54	32	28	25	22

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Percentage of Workers Reporting Writing of Materials at Work Weekly (Mikulecky 2001)

Occupation	Memos	Reports	Forms
Technical	35%	64%	43%
Sales	55	56	53
Clerical	58	71	63
Farming	31	25	24
Crafts	34	47	42
Transportation Operative	40	40	48

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**In 1965, a car mechanic needed to understand 5,000 pages of service manuals to fix any automobile on the road; today he must be able to decipher 465,000 pages of technical text, the equivalent of 250 big-city phone books. (Whitman, Shapior, Taylor, Saltzman and Ausrer 1989, p. 460)**

## 4. Add value to academic achievement

- Give assignments that require use of mathematics to complete
- Use project- and problem-based learning
- Assess for mastery of academic and technical content

5. **Align CT curriculum and instruction to college- and career-readiness standards in reading and mathematics**
  - **Align CT courses to college- and career-readiness standards**
  - **Align teacher assignments to college- and career-readiness standards**
  - **Align classroom assessment to college- and career-readiness standards**

5. Align CT curriculum and instruction to college- and career-readiness standards in reading and mathematics
  - Have students **pass** postsecondary placement exams or industry certification exams or both
  - Create **seamless** programs of high school and postsecondary studies

## 6. Provide students with **intellectually challenging CT curriculum and instruction**

- **Course goals reflect academic, technical, problem-solving and personal development**
- **Teacher assignments require application of academic and technical knowledge**

6. Provide students with **intellectually challenging CT curriculum and instruction**
  - **Teacher assessment goes beyond project completed to assess mastery of academic and technical content**
  - **Teachers set high classroom expectations and require all students to perform at the college- and career-readiness level**

## 7. Join with others to strengthen senior year/postsecondary and work transition

- Assess college- and career-readiness in grade 11
- Give ready senior students a jump start
- Get unprepared senior students ready
- Get work-bound students prepared
- Graduate seniors
- Work-site learning

- 8. CT and school leaders and CT teachers are expected to judge course goals, teacher assignments and classroom assessments that reflect a balance of basic, proficient and advanced levels of work**

**How much instructional time is devoted to having students:**

- **Master specific academic and technical information?**
- **Make interpretation, estimates or predictions when confronted with a scenario regarding the career field?**

**How much instructional time is devoted to having students:**

- **Complete challenging projects that require application of appropriate academic and technical knowledge and skills?**

**How much instructional time is devoted to having students:**

- **Make an analysis of a work-related problem and formulate a solution?**
- **Synthesize what they have learned into a new plan, procedure or product?**

**How much instructional time is devoted to having students:**

- **Make judgments about the value of a given technology, product, material, procedure, idea, etc. for completing a school or work-site assignment?**

**9. CT and school leaders and CT teachers are expected to offer CT studies appropriate for the 21<sup>st</sup> century**

### Which best describes CT instruction at your school?

- **Program purpose is to prepare students for entry-level jobs or to prepare students for further learning and a career pathway.**

### Which best describes CT instruction at your school?

- Program success is measured by number of students who entered a specific occupation right after high school **or** by number of students who make a successful transition to work, further study or both.

**Which best describes CT instruction at your school?**

- **CT educators “accommodate” many students by setting low standards or have challenging, clearly defined goals that all students are expected to achieve.**

**Which best describes CT instruction at your school?**

- **CTE is an elective or all students either complete an academic or career major.**

### Which best describes CT instruction at your school?

- Academic educators view CTE as a way to teach occupational skills to students who could not succeed in academic courses **or** academic and CT educators work together to help students learn high-level academic and technical concepts.

**Which best describes CT instruction at your school?**

- **Emphasis is on learning procedural skills and following directions **or** on helping students become independent learners who can think through problems and find solutions.**

### Which best describes CT instruction at your school?

- **Instruction focuses on procedural skills or on open-ended problems requiring the use of technical, academic, cognitive and personal skills.**

**Which best describes CT instruction at your school?**

- **CTE teacher handles the majority of the instruction or CTE and academic teachers work together.**

**Which best describes CT instruction at your school?**

- **Students follow a set of steps to complete assignments or are given open-ended assignments that require them to do research and to prepare their own steps for completing them.**

### Which best describes CT instruction at your school?

- **Content is determined by what the instructor likes to teach or all students meet a core set of essential standards aligned to college- and career-readiness goal.**

**Which best describes CT instruction at your school?**

- **Standards vary according to each student's perceived ability or all students are expected to meet the same high standards.**

**Which best describes CT instruction at your school?**

- **Assignments do not require students to use academic skills or require students to integrate and use multiple academic and technical knowledge and skills.**

**Which best describes CT instruction at your school?**

- **The teacher assesses student learning through informal observations or performance **plus** students demonstrate technical and academic content by a written exam.**

### Which best describes CT instruction at your school?

- **Students get one chance to learn the content before they are graded or students are given multiple opportunities to learn the content and are expected to use their own time to meet college- and career-readiness standards.**

**Which best describes CT instruction at your school?**

- **Students are not expected to work outside of class or students are expected to work on assigned projects outside of class.**

## The Employee Relationship

### New

**Self-reliance**

**Continuous skill dev.**

**Global economy**

**Global skill pool**

**Just-in-time skills**

**Project commitment**

### Old

**Paternal employer**

**Scheduled dev.**

**Domestic economy**

**Limited local pool**

**“Grow your own”**

**Life-long association**

## **10. Educating other educators on potential of CT and delivery on that potential**

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## The Role of Career/Technical Education

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**You must have high school leaders who understand the power of high-quality career/technical studies as a motivational tool for students – a way to make mathematics and science come alive. They must understand what quality programs look like. You must have school principals who view CTE not as a place where you send students for an easy credit, but as a place that adds relevance and meaning to the total high school curriculum and as a method to engage students in a different approach to learning.**

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