CTE'S ROLE IN RDOLESCENT LITERICI

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iteracy, fundamentally described as the ability to read, write and communicate, is a prerequisite to learning in all other subjects, especially as students are exposed to increasingly diverse and intricate texts from which they need to glean knowledge. Unfortunately, too many adolescents lack the literacy skills necessary to navigate the reading and writing requirements of high school and the future world in which they will work and live. The reading levels of U.S. adolescents have actually declined during the past two decades. Only 35 percent of 12th-graders are considered proficient in reading and can demonstrate overall understanding of texts, make inferences, draw conclusions and make connections to previous experiences.1 Results on writing exams are only slightly more encouraging. While scores have improved, only 24 percent of high school seniors scored at the "proficient level" or higher on the National Assessment of Educational Progress.²

The decline in the literacy skills of U.S. adolescents is coupled with a rise in the

literacy skills needed in the world around them. This is especially evident in the workplace because the employment opportunities that will be available to these youth will require higher levels of literacy than ever before—even higher than those required for postsecondary education. For example, typical print materials in entrylevel agriculture and natural resources fields have a readability level of 1270-1510 on the Lexile scale (which has a range of 0-2000), while average 11th-graders only have a reading ability level of 940-1210 Lexiles.³

The consequences of the mismatch between adolescent literacy levels and job requirements are large. Adults with low literacy skills have lower participation in the labor force, lower weekly and annual earnings, and less access to critical lifelong learning. These individuals are also less likely to vote, participate in volunteer work or be engaged in their children's education, and are more likely to participate in public assistance programs⁴ or be incarcerated.5

Efforts to address low adolescent

literacy levels meet numerous challenges, chief among them the fact that formal literacy instruction ends for most students after the elementary grades. As students progress into middle and high school, they often receive no additional instruction in how to master increasingly complex subject-matter texts and assignments. There is also a disconnect between the literacy instruction that is provided at the secondary level, often focused on preparation for college, and real-world literacy requirements. Many high school English courses emphasize literature, which is certainly critical to literacy development, but much of the reading and writing students will encounter in their careers is more informational and technical in nature.

CTE Provides Solutions

While educators around the country are seeking ways to address these concerns, CTE programs are stepping up to offer students a rigorous and relevant education rich in literacy content and strategies. CTE courses, often overlooked in academic discussions, can have a tremendous





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impact on students' literacy engagement and achievement, and must be considered as part of the adolescent literacy solution. High-quality CTE teachers expose students to rigorous and relevant information-rich content that motivates them to develop their literacy skills, integrate content-area reading and writing strategies to aid students' learning, and provide numerous enrichment activities to help students apply higher-level literacy skills to their interests and future goals.

Exposing Students to Rigorous and Relevant Content

Research has shown that one of the best ways to help students gain literacy skills is to motivate them with content related to their interests. Helping students make connections between reading and writing and the real world can engage reluctant readers and, at the same time, improve literacy skills.⁶ Students are often more willing to engage in reading and writing within the context of their CTE program. Another key way to increase students' literacy skills is to increase the amount of time they spend in these activities.⁷ In addition to industry-based textbooks, reading and writing opportunities can be found throughout CTE courses. For example, relevant literature is integrated into the CTE teaching and learning environment to help students make connections across coursework. Trade publications are also used in CTE to help students stay abreast of the latest developments in a particular industry and expose them to the technical reading they will encounter in the workplace.

Professional and technical writing are also prominent across the CTE curriculum. Students learn to write effective memos, document laboratory processes, complete work logs, prepare case studies, use vocabulary in context, proofread documents, summarize project results and develop resumes, among many other tasks.

Integrating Content-area Literacy Strategies

Many of the texts used in CTE classrooms are at a very high reading level and often have the most difficult content of any high school textbooks, even above those traditionally seen as more demanding, such as physics or history.8 All too often, CTE teachers find that their students, even those who are strong fiction readers, lack the technical literacy skills to be successful with CTE reading and writing tasks. To address this problem, a growing number of CTE teachers have turned to content-area literacy strategies to help students not only better understand the technical material necessary for career success, but also gain literacy skills that will be useful across their educational experience.

There are literally hundreds of varied literacy strategies in use in CTE class-

rooms across the country—graphic organizers, anticipation guides, note-taking prompts, quick writes, journaling and many more. The strategies are focused on helping students master critical skills like previewing text, activating background knowledge, setting purposes, asking questions, organizing information and summarizing.9 Within these content-area literacy efforts, vocabulary development is a key area of CTE focus. Word walls of key technical terms; triple-entry vocabulary journals that include definitions, examples and a visual cue; and word sorts that require students to think critically to categorize and organize vocabulary all help students gain knowledge of technical language that they may encounter in classroom activities.

In-depth Application and Enrichment

CTE programs provide students opportunities to extend their literacy skills through exercises involving the in-depth integration of both reading and writing, along with critical thinking and employability skills like oral communication, leadership and teamwork. This higherlevel literacy will be essential for students in postsecondary education and the 21st century workplace. In many courses, CTE students apply reading and writing skills to research projects on emerging technologies or content-specific topics. Construction students might research and report on methods for trim and finishing, while information technology students might focus on problems with software and how they might be solved. Internships, work-based learning experiences, and Career and Technical Student Organization (CTSO) activities provide even more opportunities to enhance literacy skills in an authentic environment.

Looking Ahead

The future of the U.S. economy depends on a well-educated and skilled workforce, and literacy forms the critical foundation of this education and training. Without a

dramatic increase in literacy skill levels, today's adolescents will be unprepared to meet their future career and life goals. CTE programs have a valuable role to play in improving adolescent literacy. Due to their unique combination of rigor and relevance, CTE courses can motivate students who are otherwise unengaged in the education process to read, write and apply critical thinking skills in authentic situations. Through professional development and classroom practice, CTE teachers can help students master not only new vocabulary and technical content, but active strategies to aid their reading comprehension and writing skills.

Endnotes

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Maine Statewide Initiative to Bolster Literacy

In Maine, a statewide CTE strategic planning process identified literacy as a key issue for CTE programs. The state's 27 secondary CTE centers wanted to better integrate core and CTE content, enhance coordination with partner sending high schools, and strengthen the ability of CTE students to complete the reading and writing required in rigorous CTE courses. A statewide literacy initiative was launched during the 2005-2006 school year to accomplish these goals. As part of a broader "Promising Practices Initiative," the Maine Department of Education, Maine Administrators of Career and Technical Education, and CTE centers throughout Maine contracted with the Public Consulting Group's Center for Resource Management to develop professional development activities to address the literacy challenge.

During the initial year of the project, literacy mentors were recruited from among CTE teachers in the state to engage in intensive professional development on content-area reading strategies that could be incorporated into CTE courses. These teachers experimented with the strategies, discussed results in follow-up sessions and refined activities over the course of the year. Mentors committed to sharing strategies with others in their schools, then facilitated a three-day peer-to-peer

literacy training event the following summer. The activity has been repeated in some form each year, growing the pool of literacy mentors that have the capacity to train other CTE teachers. Topics covered have included before-during-after reading strategies, vocabulary strategies and writing to learn.

Other activities that have occurred as part of the initiative include a literacy component to the statewide professional development conference each fall, site-based technical assistance to help CTE directors and teachers further their integration efforts, and a wide variety of dissemination efforts related to promising practices. A range of tools have also been developed to aid teachers, including technical assistance packets on how to analyze the literacy demands of CTE industry certification tests and prepare students to meet them, and videos of strategies in action in CTE classrooms and labs. Support for the CTE literacy initiative is visible across the state. Twenty-four of the CTE centers have participated directly. Some of the centers have hired literacy specialists to provide additional support to teachers. CTE teachers in Maine now have a common language and common strategies they can use to ensure their students meet the literacy requirements of highly technical careers.

This article summarizes the Association for Career and Technical Education's (ACTE) latest Issue Brief, titled "CTE's Role in Adolescent Literacy." It was released in the fall of 2009 to capitalize on increased attention being paid to this issue at the federal level and the upcoming reauthorization of the Elementary and Secondary Education Act. ACTE Issue Briefs are designed to highlight the role of career and technical education (CTE) in a broader issue of national interest. Each brief is designed to strengthen the voice of CTE related to the specific issue and to draw more attention to CTE activities and best practices around the country. The Briefs provide background information, highlight research, profile CTE programs and include numerous examples of how CTE is tied to the broader issue. Issue Briefs are designed in a concise, easy-to-read format that is ideal for use in advocacy and public awareness efforts with a variety of audiences. Read the complete text of this Brief, including research, case studies and examples, at www. acteonline.org/issuebriefs.aspx.

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