TIPS FOR INTEGRATING CTE AND ACADEMIC CURRICULUM

WORKING TOGETHER TO TEACH CRITICAL THINKING SKILLS AND ANALYSIS FOR BETTER PROBLEM SOLVING
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OBJECTIVES:

• Develop an understanding of the purpose and benefits of integrating CTE and academic curriculum
• Develop a clear understanding of the mandate to do so
• Identify specific background rationale, strategies and tools for integrating CTE and academic curriculum
• Consider implementation of CTE courses that can count towards graduation academic credit in the process
• Discuss components of an effective local plan
• Allow opportunity for questions and discussion of best practices in the integrating of CTE and academic curriculum in varied settings - large, medium and small districts, as part of required curriculum, and as part of elective curriculum
THE 5 W’S OF ACADEMIC INTEGRATION

• **Who?** CTE leadership at each campus has the responsibility of making this effort happen in a meaningful way for their students and teachers.

• **What?** Academic integration combines faculty efforts in varied disciplines to assist students in mastery of critical reasoning skills (“real world applications”).

• **Where?** Each school district

• **When?** Annually, each school year

• **Why?** Perkins cites and requires the mandate to integrate career and technical education courses with academics in order to best serve students (as per ER3010 Perkins Program Effectiveness Report, part 2, #4).
TEXAS CAREER AND COLLEGE READINESS STANDARDS

• **Foundations of Learning and Knowing**

• **College and Career Readiness Standards (CCRS)** are organized into four distinct disciplinary areas:
  1. English/language arts
  2. Mathematics
  3. Science
  4. Social studies

• **Cross-disciplinary Standards** for knowledge and skills that underlie and connect the four disciplinary areas:
  1. Key cognitive skills – reasoning & problem-solving
  2. Foundational skills – reading, writing, data analysis, research
TEXAS CCRS
CROSS-DISCIPLINARY STANDARDS

• Understanding and Using Cross-Disciplinary Standards

• Key Cognitive Skills
  • Intellectual curiosity
  • Reasoning
  • Problem-solving
  • Academic behaviors
  • Work habits
  • Academic integrity

• Foundational Skills
  • Reading across the curriculum
  • Writing across the curriculum
  • Research across the curriculum
  • Use of data
  • Technology
KEY COGNITIVE SKILLS

A. Intellectual curiosity
   • Engage in scholarly inquiry and dialogue.
   • Accept constructive criticism and revise personal views when valid evidence warrants.

B. Reasoning
   • Consider arguments and conclusions of self and others.
   • Construct well-reasoned arguments to explain positions.

C. Problem solving
   • Analyze a situation to identify a problem to be solved.
   • Develop and apply multiple strategies to solve a problem.
   • Collect evidence and data systematically and directly relate to solving a problem.
KEY COGNITIVE SKILLS (CONTINUED)

D. Academic behaviors
• Self-monitor learning needs and seek assistance when needed.
• Use study habits necessary to manage academic pursuits and requirements.
• Strive for accuracy and precision.
• Persevere to complete and master tasks.

E. Work habits
• Work independently.
• Work collaboratively.

F. Academic integrity
• Attribute ideas and information to source materials and people.
• Evaluate sources for quality of content, validity, credibility, and relevance.
• Include the ideas of others and the complexities of the debate, issue, or problem.
• Understand and adhere to ethical codes of conduct.
FOUNDATIONAL SKILLS

A. Reading across the curriculum
   • Use effective pre-reading strategies.
   • Use a variety of strategies to understand the meanings of new words.
   • Identify the intended purpose and audience of the text.
   • Identify the key information and supporting.
   • Analyze textual information critically.
   • Annotate, summarize, paraphrase, and outline texts when appropriate.
   • Adapt reading strategies according to structure of texts.
   • Connect reading to historical and current events and personal interest.

B. Writing across the curriculum
   • Write clearly and coherently using standard writing conventions.
   • Write in a variety of forms for various audiences and purposes.
   • Compose and revise drafts.
C. Research across the curriculum

• Understand which topics or questions are to be investigated.
• Explore a research topic.
• Research and devise a timeline for completing work.
• Evaluate the validity and reliability of sources.
• Synthesize and organize information effectively.
• Design and present an effective product.
• Integrate source material.

D. Use of data

• Identify patterns or departures from patterns among data.
• Use statistical and probabilistic skills necessary for planning an investigation and collecting, analyzing, and interpreting data.
• Present analyzed data and communicate findings in a variety of formats.
E. Technology

- Use technology to gather information.
- Use technology to organize, manage, and analyze information.
- Use technology to communicate and display
- Use technology appropriately.
CAREER CLUSTER CROSSWALKS

• AchieveTexas College and Career Initiative has developed validated crosswalks for College and Career Readiness Standards (CCRS) and CTE TEKS.

• Career Cluster Crosswalks Available at http://www.achievetexas.org
CTE COURSES COUNTING FOR ACADEMIC GRADUATION CREDITS

Academic Credits Currently Available For

- English Language Arts
- Mathematics
- Science
- Speech
- Fine Arts

*Please note:* List of courses is changing based on recent legislation. For most current information see Texas Education Code.

§74.12. Foundation High School Program.

http://ritter.tea.state.tx.us/rules/tac/chapter074/ch074b.html
KEY CONSIDERATION FOR OFFERING ADVANCED CTE COURSES

Faculty Credentials

- Meet the teacher assignment rules!
  - Math teachers eligible to teach selected CTE courses
  - Science teachers eligible to teach selected CTE courses
- Take online professional development in Project Share
  - All teachers must take course-specific professional development to teach new CTE math and CTE science courses
  - Math and science teachers must also take CTE 101 course

Align CTE and Academic Departments

- Teacher assignments and reporting structures
- Consider team curriculum projects
DEVELOPING A LOCAL PLAN FOR ACADEMIC INTEGRATION

- Consider the mandates, cross disciplinary college and career readiness standards, and the local community and local district’s educational objectives.
- Based on above, prioritize an area of focus. Determine whether the focus will involve all faculty in a common staff development experience and culminating product like Project Based Learning, 21st Century Technology, College and Career Readiness Standards training, OR
- Whether cross curricular teams will be built and trained in-district to serve students through cross curricular projects designed to enhance student learning and problem-solving skills.
GETTING IT DONE

- Determine primary focus of project.
- Break out the timeline and critical components.
  - Who will be involved?
  - What resources are needed?
  - What is the budget?
  - What are the key action steps?
- Communicate with key players about needed steps.
  - In the district and the community.
  - Get dates for key action steps on the district calendar.
- Identify any follow-up needs in the timeline and process.
- Identify measurable outcomes for the project.
- Build projects into long term goals that make sense for local students served.
DID IT WORK?

- When completing the academic integration focus for the school year, get feedback from students, staff and the community re: its impact.
- Analyze the strengths and weaknesses of the initiative.
- Determine any areas needed for improvement and take note for future planning and execution.
- Work the planning process and the execution of the goals into the regular district administrative calendar. It may also appear in district goals.
DISCUSSION

Identify a personal past experience as a student, when you were challenged and required to engage in critical thinking.

What was the best part of the process? The worst?

How does reflecting on your past experience as a student inform you of what you might consider doing (or not doing) for your students now?

Are there local district goals that would benefit from academic integration of CTE and academic curriculum? i.e. Project Based Learning? 21st Century technology? College and Career Readiness Standards training for curriculum development?

Who are the key players of the local district that must be involved to make the most impact on students with this focus?
GETTING STARTED

• What support do you need to develop a local plan and execute it?

• When does it need to begin?

• Who are the key players?

• How will you implement it?

• How will you determine its impact and effect?
CONTACT INFORMATION

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