



# Improving Engagement in CTE Classrooms



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# Visible Learning<sup>plus</sup> 250+ Influences on Student Achievement

STUDENT	ES
<b>Prior knowledge and background</b>	
Field independence	0.68
Non-standard dialect use	-0.29
Piagetian programs	1.28
Prior ability	0.94
Prior achievement	0.55
Relating creativity to achievement	0.40
Relations of high school to university achievement	0.60
Relations of high school achievement to career performance	0.38
Self-reported grades	1.33
Working memory strength	0.57
<b>Beliefs, attitudes and dispositions</b>	
Attitude to content domains	0.35
Concentration/persistence/ engagement	0.56
Grit/incremental vs. entity thinking	0.25
Mindfulness	0.29
Morning vs. evening	0.12
Perceived task value	0.46
Positive ethnic self-identity	0.12
Positive self-concept	0.41
Self-efficacy	0.92
Stereotype threat	0.33
Student personality attributes	0.26
<b>Motivational approach, orientation</b>	
Achieving motivation and approach	0.44
Boredom	-0.49
Deep motivation and approach	0.69
Depression	-0.36
Lack of stress	0.17
Mastery goals	0.06
Motivation	0.42
Performance goals	-0.01
Reducing anxiety	0.42
Surface motivation and approach	-0.11
<b>Physical influences</b>	
ADHD	-0.90
ADHD – treatment with drugs	0.32
Breastfeeding	0.04
Deafness	-0.61
Exercise/relaxation	0.26
Gender on achievement	0.08
Lack of illness	0.26
Lack of sleep	-0.05
Full compared to pre-term/low birth weight	0.57
Relative age within a class	0.45

CURRICULA	ES
<b>Reading, writing and the arts</b>	
Comprehensive instructional programs for teachers	0.72
Comprehension programs	0.47
Drama/arts programs	0.38
Exposure to reading	0.43
Music programs	0.37
Phonics instruction	0.70
Repeated reading programs	0.75
Second/third chance programs	0.53
Sentence combining programs	0.15
Spelling programs	0.58
Visual-perception programs	0.55
Vocabulary programs	0.62
Whole language approach	0.06
Writing programs	0.45
<b>Math and sciences</b>	
Manipulative materials on math	0.30
Mathematics programs	0.59
Science programs	0.48
Use of calculators	0.27
<b>Other curricula programs</b>	
Bilingual programs	0.36
Career interventions	0.38
Chess instruction	0.34
Conceptual change programs	0.99
Creativity programs	0.62
Diversity courses	0.09
Extra-curricula programs	0.20
Integrated curricula programs	0.47
Juvenile delinquent programs	0.12
Motivation/character programs	0.34
Outdoor/adventure programs	0.43
Perceptual-motor programs	0.08
Play programs	0.50
Social skills programs	0.39
Tactile stimulation programs	0.58

HOME	ES
<b>Family structure</b>	
Adopted vs non-adopted care	0.25
Engaged vs disengaged fathers	0.20
Intact (two-parent) families	0.23
Other family structure	0.16
<b>Home environment</b>	
Corporal punishment in the home	-0.33
Early years' interventions	0.44
Home visiting	0.29
Moving between schools	-0.34
Parental autonomy support	0.15
Parental involvement	0.50
Parental military deployment	-0.16
Positive family/home dynamics	0.52
Television	-0.18
<b>Family resources</b>	
Family on welfare/state aid	-0.12
Non-immigrant background	0.01
Parental employment	0.03
Socio-economic status	0.52

SCHOOL	ES
<b>Leadership</b>	
Collective teacher efficacy	1.57
Principals/school leaders	0.32
School climate	0.32
<b>School resourcing</b>	
External accountability systems	0.31
Finances	0.21
<b>Types of school</b>	
Charter schools	0.09
Religious schools	0.24
Single-sex schools	0.08
Summer school	0.23
Summer vacation effect	-0.02
<b>School compositional effects</b>	
College halls of residence	0.05
Desegregation	0.28
Diverse student body	0.10
Middle schools' interventions	0.08
Out-of-school curricula experiences	0.26
School choice programs	0.12
School size (600-900 students at secondary)	0.43
<b>Other school factors</b>	
Counseling effects	0.35
Generalized school effects	0.48
Modifying school calendars/timetables	0.09
Pre-school programs	0.28
Suspension/expelling students	-0.20

The Visible Learning research synthesises findings from **1,400** meta-analyses of **80,000** studies involving **300** million students, into what works best in education.

## Key for rating

- Potential to considerably accelerate student achievement
- Potential to accelerate student achievement
- Likely to have positive impact on student achievement
- Likely to have small positive impact on student achievement
- Likely to have a negative impact on student achievement

ES Effect size calculated using Cohen's *d*



# Visible Learning<sup>plus</sup> 250+ Influences on Student Achievement

CLASSROOM	ES
<b>Classroom composition effects</b>	
Detracking	0.09
Mainstreaming/inclusion	0.27
Multi-grade/age classes	0.04
Open vs. traditional classrooms	0.01
Reducing class size	0.21
Retention (holding students back)	-0.32
Small group learning	0.47
Tracking/streaming	0.12
Within class grouping	0.18
<b>School curricula for gifted students</b>	
Ability grouping for gifted students	0.30
Acceleration programs	0.68
Enrichment programs	0.53
<b>Classroom influences</b>	
Background music	0.10
Behavioral intervention programs	0.62
Classroom management	0.35
Cognitive behavioral programs	0.29
Decreasing disruptive behavior	0.34
Mentoring	0.12
Positive peer influences	0.53
Strong classroom cohesion	0.44
Students feeling disliked	-0.19

TEACHER	ES
<b>Teacher attributes</b>	
Average teacher effects	0.32
Teacher clarity	0.75
Teacher credibility	0.90
Teacher estimates of achievement	1.29
Teacher expectations	0.43
Teacher personality attributes	0.23
Teacher performance pay	0.05
Teacher verbal ability	0.22
<b>Teacher-student interactions</b>	
Student rating of quality of teaching	0.50
Teachers not labeling students	0.61
Teacher-student relationships	0.52
<b>Teacher education</b>	
Initial teacher training programs	0.12
Micro-teaching/video review of lessons	0.88
Professional development programs	0.41
Teacher subject matter knowledge	0.11

TEACHING: Focus on student learning strategies	ES
<b>Strategies emphasizing student meta-cognitive/self-regulated learning</b>	
Elaboration and organization	0.75
Elaborative interrogation	0.42
Evaluation and reflection	0.75
Meta-cognitive strategies	0.60
Help seeking	0.72
Self-regulation strategies	0.52
Self-verbalization and self-questioning	0.55
Strategy monitoring	0.58
Transfer strategies	0.86
<b>Student-focused interventions</b>	
Aptitude/treatment interactions	0.19
Individualized instruction	0.23
Matching style of learning	0.31
Student-centered teaching	0.36
Student control over learning	0.02
<b>Strategies emphasizing student perspectives in learning</b>	
Peer tutoring	0.53
Volunteer tutors	0.26
<b>Learning strategies</b>	
Deliberate practice	0.79
Effort	0.77
Imagery	0.45
Interleaved practice	0.21
Mnemonics	0.76
Note taking	0.50
Outlining and transforming	0.66
Practice testing	0.54
Record keeping	0.52
Rehearsal and memorization	0.73
Spaced vs. mass practice	0.60
Strategy to integrate with prior knowledge	0.93
Study skills	0.46
Summarization	0.79
Teaching test taking and coaching	0.30
Time on task	0.49
Underlining and highlighting	0.50

TEACHING: Focus on teaching/instructional strategies	ES
<b>Strategies emphasizing learning intentions</b>	
Appropriately challenging goals	0.59
Behavioral organizers	0.42
Clear goal intentions	0.48
Cognitive task analysis	1.29
Concept mapping	0.64
Goal commitment	0.40
Learning goals vs. no goals	0.68
Learning hierarchies-based approach	0.19
Planning and prediction	0.76
Setting standards for self-judgement	0.62
<b>Strategies emphasizing success criteria</b>	
Mastery learning	0.57
Worked examples	0.37
<b>Strategies emphasizing feedback</b>	
Classroom discussion	0.82
Different types of testing	0.12
Feedback	0.70
Providing formative evaluation	0.48
Questioning	0.48
Response to intervention	1.29
<b>Teaching/instructional strategies</b>	
Adjunct aids	0.32
Collaborative learning	0.34
Competitive vs. individualistic learning	0.24
Cooperative learning	0.40
Cooperative vs. competitive learning	0.53
Cooperative vs. individualistic learning	0.55
Direct instruction	0.60
Discovery-based teaching	0.21
Explicit teaching strategies	0.57
Humor	0.04
Inductive teaching	0.44
Inquiry-based teaching	0.40
Jigsaw method	1.20
Philosophy in schools	0.43
Problem-based learning	0.26
Problem-solving teaching	0.68
Reciprocal teaching	0.74
Scaffolding	0.82
Teaching communication skills and strategies	0.43

TEACHING: Focus on implementation method	ES
<b>Implementations using technologies</b>	
Clickers	0.22
Gaming/simulations	0.35
Information communications technology (ICT)	0.47
Intelligent tutoring systems	0.48
Interactive video methods	0.54
Mobile phones	0.37
One-on-one laptops	0.16
Online and digital tools	0.29
Programmed instruction	0.23
Technology in distance education	0.01
Technology in mathematics	0.33
Technology in other subjects	0.55
Technology in reading/literacy	0.29
Technology in science	0.23
Technology in small groups	0.21
Technology in writing	0.42
Technology with college students	0.42
Technology with elementary students	0.44
Technology with high school students	0.30
Technology with learning needs students	0.57
Use of PowerPoint	0.26
Visual/audio-visual methods	0.22
Web-based learning	0.18
<b>Implementations using out-of-school learning</b>	
After-school programs	0.40
Distance education	0.13
Home-school programs	0.16
Homework	0.29
Service learning	0.58
<b>Implementations that emphasize school-wide teaching strategies</b>	
Co- or team teaching	0.19
Interventions for students with learning needs	0.77
Student support programs – college	0.21
Teaching creative thinking	0.34
Whole-school improvement programs	0.28

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# Powerful Career and Technical Education Instructional Practices

## Teacher Behaviors

## Student Behaviors

## Artifacts

### 1. The learning environment sets high expectations and uses the protocols of business and industry to promote and sustain student motivation, persistence and effort (*Culture of Learning*).

#### The teacher:

- Values, emphasizes and celebrates student effort to achieve rigorous technical, academic and workplace standards
- Creates a high-performance classroom culture and uses protocols and procedures that emulate the workplace
- Uses job titles and team structures commonly found in the workplace
- Models and conveys respect and professionalism by respecting students' unique needs, skills and interests and by valuing each student's diverse background
- Helps students persist through learning challenges by providing extra support — such as small group instruction, one-on-one meetings and instructional technology aids — and communicating expectations that students will re-do work that does not meet standards

#### The students:

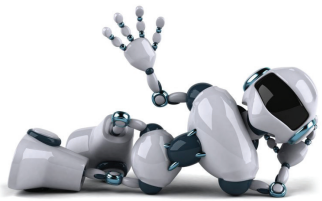
- Help develop classroom expectations and use workplace protocols that enhance their productivity, efficiency and accountability
- Communicate workplace expectations and use the language of the career field
- Can articulate job and/or team assignment roles that emulate the workplace
- Interact with others in a professional manner and take care to address and avoid personal or regional biases
- Develop an understanding of their personal strengths, talents and interests
- Can articulate opportunities to:
  - enhance or expand their learning
  - improve the quality of their work
  - request and receive support for meeting classroom and industry expectations

#### Workplace-related artifacts:

- Reflect shared and co-developed class missions, visions and norms
- Communicate and reference industry protocols
- Include posted job duties, project management tools and leadership designations that replicate those in the workplace
- Include analyses of data that communicate and celebrate students' progress toward earning industry credentials (e.g., badging, certificates, etc.)
- Reflect a learning environment that replicates the workplace (e.g., through station set-ups)

#### Learning artifacts:

- Include anchor charts or rubrics that model and support professional, respectful interactions (e.g., question or feedback starters, collaboration tips, etc.)
- Spotlight exemplars of quality work that shows how students progress in their learning (e.g., drafts, revisions, etc.)
- Showcase profiles of students' talent and aptitudes
- Include syllabi that detail opportunities for students to receive support



# Powerful Career and Technical Education Instructional Practices

## Teacher Behaviors

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## Artifacts

### 2. Planned, authentic units of study and summative tasks align with workforce expectations and allow students to demonstrate their mastery of technical, academic and employability skills (*Plan with the End in Mind*).

#### The teacher:

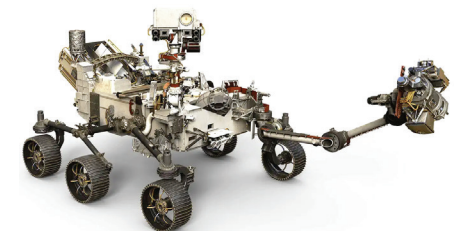
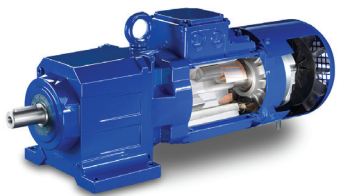
- Plans intellectually demanding units in which students assume authentic, industry-based roles to solve complex problems, think critically and master standards-based content-area and industry-recognized skills
- Plans a sequence of learning activities that allow students to connect prior knowledge, build and refine their conceptual understanding, practice developing skills and extend their learning to new situations
- Plans to facilitate learning by guiding students' inquiry process, assessing their understanding and providing personalized supports
- Plans and provides opportunities for students to engage in discourse about the concepts and processes they are exploring and learning
- Plans to continuously assess students' technical, academic and employability knowledge and skills to evaluate their progress and inform instruction
- Creates learning experiences that allow students to interact often with subject matter experts and build their conceptual knowledge

#### The students:

- Develop a product, create a method or test a theory using industry-recognized decision-making processes
- Conduct activities and experiments to make predictions, hypotheses and generalizations through observations, research and the use of technical tools and materials
- Engage in learning by problem-solving, seeking clarification and developing effective teamwork skills
- Engage in structured discussions that require them to use the technical language of the field
- Connect daily learning activities or goals to unit summative tasks as a means of communicating their progress
- Apply knowledge shared by subject matter experts to enhance the quality of their products and understanding of academic or technical content

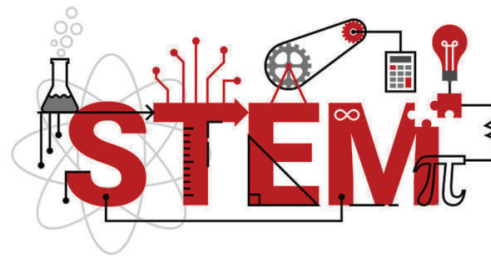
#### The teacher's plans:

- Identify standards or industry competencies
- Prioritize industry-valued resources for learning, including equipment, protocols and an industry-related problem-solving process
- Detail learning activities that build student knowledge and skills
- Include student resources that guide understanding (e.g., rubrics, organizers, process tools)
- Connect expected learning benchmarks with formative and summative assessments
- Describe expected student artifacts, designating potential portfolio components
- Connect key concepts or skills for subject-matter experts to address for achievement of unit goals or tasks



# Powerful Career and Technical Education Instructional Practices

Teacher Behaviors	Student Behaviors	Artifacts
<p><b>3. Intentional collaborations with teachers, families and business, industry, postsecondary and community partners enhance the relevancy of lessons and assignments and promote students' retention of the concepts, skills and competencies that are valued in the workplace (<i>Collaboration</i>).</b></p>		
<p><b>The teacher:</b></p> <ul style="list-style-type: none"> <li>• Creates authentic workplace scenarios with input from community partners that require students to work collaboratively and use problem-solving protocols to build an understanding of interpersonal and group dynamics</li> <li>• Strategically places students into working teams or groups and uses structures like job duties to support interactions</li> <li>• Establishes clear expectations for student collaboration and intentionally teaches collaborative skills by modeling and/or using descriptive rubrics to guide student behavior</li> <li>• Models and creates authentic opportunities for students to use technology to present their ideas and collaborate on project management</li> <li>• Provides students with opportunities to reflect and receive structured feedback on both their individual and group contributions</li> <li>• Uses students' strengths in ways that support collaboration and offer opportunities to refine and strengthen their knowledge and skills</li> </ul>	<p><b>The students:</b></p> <ul style="list-style-type: none"> <li>• Describe how they are expected to collaborate in the workplace using unit scenarios and protocols</li> <li>• Understand their roles and responsibilities within a team and show a personal willingness to contribute or make compromises in order to achieve shared goals</li> <li>• Demonstrate an understanding of interpersonal and group dynamics in their interactions with peers, teachers and business, industry, postsecondary and community partners</li> <li>• Use technology as a tool for collaboration (e.g., virtual collaborative meetings, project management software, digital shared resources, etc.)</li> <li>• Assume shared responsibility for collaborative work and respect and value the individual contributions made by each team member regardless of the role they hold within the team</li> </ul>	<p><b>Classroom documents:</b></p> <ul style="list-style-type: none"> <li>• Show evidence of students' collaborative efforts both in school and in the workplace</li> <li>• Spotlight team or group assignments and related job duties</li> <li>• Include rubrics or anchor charts that communicate expectations for student collaboration</li> <li>• Showcase artifacts from peer or group evaluations</li> <li>• Reflect students' use of collaborative or project management tools and technologies</li> </ul>



# Powerful Career and Technical Education Instructional Practices

## Teacher Behaviors

## Student Behaviors

## Artifacts

### 4. Integration of relevant literacy, math and science concepts and skills helps students deepen their understanding and transfer skills across academic and technical disciplines and career fields (*Academic Integration*).

#### The teacher:

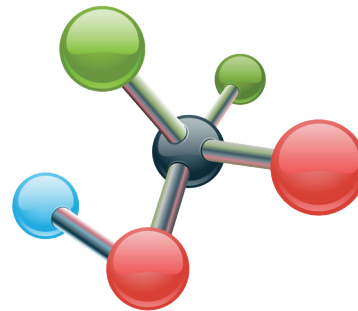
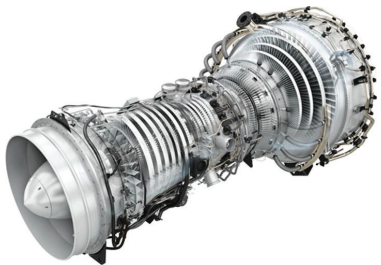
- Plans and implements ongoing opportunities for students to apply academic knowledge in literacy, math or science to gain a deeper understanding of CTE content
- Plans and implements classroom scenarios that use literacy, math and science skills in authentic situations found in the workplace
- Uses questioning strategies to engage students in guided inquiry lessons that make connections to learning experiences in literacy, math or science
- Identifies students' understanding of academic and technical content using formative (i.e., ongoing, dynamic) and summative (i.e., end-of-lesson final tests or products) assessments
- Collaborates with other teachers, including academic teachers or instructional coaches, to use common content-area language, resources and strategies to emphasize the academic skills used in the workplace

#### The students:

- Describe connections between academic and CTE knowledge and skills
- Apply appropriate literacy skills, including the reading, writing, speaking and listening skills related to the career field
- Apply mathematical reasoning to solve problems and communicate how math is used in the career field
- Use scientific, engineering or other design processes to guide their analysis and development of solutions to authentic workplace problems
- Demonstrate mastery of technical, academic and workforce standards in completed projects or assessments

#### The teacher's plans:

- Identify opportunities to integrate academic content and/or the use of:
  - scaffolded texts to support reading technical materials
  - common math and science resources, including the vocabulary and processes used in the career field
  - mini-lessons or skill-building activities that address how academic skills are used in the career field
  - opportunities to co-deliver academic core content with other teachers
- Include formative and summative assessments of academic content
- Identify literacy, math and science artifacts that students can include in portfolios that document their mastery of academic knowledge and skills



# Powerful Career and Technical Education Instructional Practices

## Teacher Behaviors

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## Artifacts

### 5. Opportunities to engage in experiential learning\* using industry-standard technology and equipment empower students to apply what they learn in the classroom or lab to solve authentic workplace problems (*Experiential Learning*).

#### The teacher:

- Uses workplace expectations to demonstrate the knowledge and skills students will need to master in their CTE program
- Draws upon available resources (e.g., equipment, supplies, instructional tools, etc.) and project management tools related to the CTE program area
- Showcases how academic and technical concepts and skills are used in student work-based learning opportunities and/or teacher externship experiences
- Uses an industry-recognized problem-solving process that emphasizes continuous improvement
- Creates opportunities, either in person or through conferencing tools, for students to seek feedback on proposed solutions or products from content area experts
- Uses co-curricular career-technical student organizations, competitions and protocols to help students develop academic, technical, workplace and leadership skills

#### The students:

- Understand and can apply essential employability skills like time management, teamwork, reliability and personal initiative in authentic situations
- Use relevant technology and equipment and demonstrate effective, industry-standard workplace practices
- Can describe the connections between the classroom, lab and workplace
- Conduct research, develop a product, create a solution or prove a theory using an industry-recognized problem-solving process
- Demonstrate resourcefulness by seeking feedback on their projects or products from business, industry, postsecondary and community partners
- Understand and can describe the connections between co-curricular learning opportunities and classroom skill attainment

#### Classroom artifacts:

- Spotlight resources students can use to learn key concepts
- Include reports from project management tools
- Showcase videos, pictures or how-to guides for using equipment appropriately
- Highlight students' reflections on how learned skills can be used in the workplace
- Include feedback forms or examples of questions and responses from industry and content-area experts
- Include student products that document the use of industry-standard problem-solving processes

\* *Experiential learning* is here defined as opportunities for students to apply concepts and skills learned in the classroom to solve authentic problems in the laboratory or other applied settings and ultimately to solve problems in the workplace.



# Powerful Career and Technical Education Instructional Practices

## Teacher Behaviors

## Student Behaviors

## Artifacts

### 6. Rigorous assessments and learning activities allow students to receive feedback from teachers, peers and authentic audiences, engage in personal reflection and apply their understanding of academic, technical and workplace knowledge and skills to solve authentic problems (*Assessment and Feedback*).

#### The teacher:

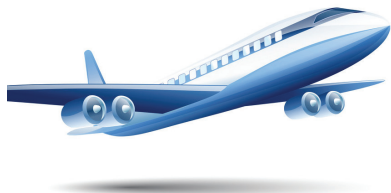
- Provides a sequence of formative assessments — both written and hands-on performance tasks — to monitor student learning and provide feedback
- Models the professional skills needed for workplace success and offers ongoing assessments that help students demonstrate their mastery of these skills
- Provides targeted feedback that helps students advance their learning
- Facilitates opportunities for students to reflect on their learning with themselves, their peers, their teachers and business, industry, postsecondary and community partners
- Engages with business, industry, postsecondary and community partners to ensure that ongoing formative and summative assessments align with workforce expectations

#### The students:

- Demonstrate their learning through performance-based assignments and assessments
- Self-assess and share their progress toward the attainment of technical skills
- Use feedback to refine and improve the quality of their projects or products
- Offer, receive and reflect on feedback from teachers, peers and business, industry, postsecondary and community partners
- Identify goals and next steps for improvement based on formative and summative assessments and feedback from teachers, peers and business, industry, postsecondary and community partners

#### Artifacts:

- Highlight the progression of learning, including:
  - Analysis of tasks or prompts
  - Annotated research samples
  - Initial design or prototype notes
  - Teacher and peer feedback with strengths and opportunities for improvement
  - Prototype iterations with collected data
  - Feedback from guests or industry experts
  - Final products with notes designating improvements made
- Showcase samples of student work related to performance tasks and summative and formative assessments
- Includes examples of student feedback forms and protocols
- Communicate the progression of learning within a unit as it relates to the course and program
- Spotlight students' reflections on the progress they have made toward attaining their career and academic goals



## **Bounce Card**

### ***Bounce:***

Take what your classmate(s) said and bounce an idea off of it. For example, you can start your sentences with:

- “That reminds me of...”**
- “I agree, because...”**
- “True, another example is when...”**
- “That’s a great point...”**

### ***Sum it up:***

Rephrase what was just said in a shorter version. For example, you can start your sentences with:

- “I hear you saying that...”**
- “So, if I understand you correctly...”**
- “I like how you said...”**

### ***Inquire:***

Understand what your classmates mean by asking questions. For example, you can start your questions with:

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- “I see your point, but what about...?”**
- “Have you thought about...?”**

Himmele, P. & Himmele, W. (2011) *Total Participation Techniques: Making every student an active learner*. Alexandria, VA: ASCD

Figure 6.3 Bounce Card

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Figure 6.3 Bounce Card

# Trade A Thought

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**My thought:**

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**Classmate's thought:**

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---

**Classmate's thought:**

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# Instructional Resource:

## RAFT

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

### Overview:

RAFT (Role-Audience-Format-Topic) literacy technique allows students to read and demonstrate the ability to see the topic from various viewpoints. RAFT is an effective way to assess a student's ability to write to a specific audience with a specific purpose.

### When to Use:

Before  
Reading

During  
Reading

After  
Reading

### How to use:

1. Show students a completed RAFT.
2. Give students an article to read and explain they will be writing about the topic they are studying from a different viewpoint after reading the article.
3. Describe each of the four areas of RAFT:
  - a. **Role of the Writer**-Who are you? (For example-a consumer, a buyer, a student, etc.)
  - b. **Audience**-To whom are you writing?
  - c. **Format**-What is the format of your writing? (For example-speech, letter, memo, etc.)
  - d. **Topic**: What is the subject of your writing and why are you writing?

# Instructional Resource: RAFT

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

4. Model the process of writing to prompts from different viewpoints and discuss the purpose of seeing a topic from various viewpoints.

## Considerations:

If students are unfamiliar with RAFT, you may want to have them work in groups to complete the first one.

## Differentiation:

1. Students can pair-read the text and complete the graphic organizer with a partner.
2. Teachers can differentiate the text or the text complexity of the text based on the students' reading levels.
3. Different groups of students can have different articles about the same topic or different articles about opposing views of a topic.
4. Teachers can allow students to choose their role, audience, or format instead of assigning these.

# RAFT

Name \_\_\_\_\_

Date \_\_\_\_\_

Text \_\_\_\_\_

Author \_\_\_\_\_

**Directions:** Read the text closely. Then write a response, giving special consideration to your role, audience, format and topic.

<b>Role:</b>	<b>Audience:</b>
<b>Format:</b>	<b>Topic:</b>
<b>Writing:</b>	

# Instructional Resource:

## MY VOCABULARY PROGRESS

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

### Overview:

My Vocabulary Progress (MVP) is a journaling strategy that helps students track the vocabulary they learn. The goal is for students to focus on words unfamiliar to them and not study words they already know.

### When to Use:

Before  
Reading

During  
Reading

After  
Reading

### How to use:

1. This strategy should be used regularly as part of a journal entry. Provide students with a text and a copy of the graphic organizer.
2. Ask students to record the focus words they would like to study. These words should be the ones they find most difficult or the ones the teacher deems as most important.
3. Allow students time to write what they think the word means in their own words.
4. While reading the text, students should record where the word is located so they can refer to the location in the future.
5. After reading, students should draw a picture, write a synonym, and/or use the word in a sentence to help them connect the term with their life.
6. When students feel they have mastered the term, they should indicate that on the graphic organizer.

# Instructional Resource: MY VOCABULARY PROGRESS

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

## Considerations:

Teachers may want to provide students with a list of Tier II and Tier III focus words/phrases from the text. Students could then choose words from that list to use in their MVP journal.

## Differentiation:

1. Students can pair-read the text and complete the graphic organizer with a partner before sharing it with a larger group.
2. Teachers can differentiate the text or the text complexity of the text based on the students' reading levels.
3. Different groups of students can be given different vocabulary words to study. Then time could be given for groups of students to share the words they studied.
4. This graphic organizer can also be used to record vocabulary students learn from watching an educational video.

# My Vocabulary Progress

Name \_\_\_\_\_

Date \_\_\_\_\_

**Directions:** Record the words you intend to study on the chart below. Write the definition in your own words. Then, find the word in the text and record its location. Show an example of the word with a picture, by writing a synonym or using the word in a sentence. When you feel you have mastered the meaning of the word, check the appropriate box.

Focus Word	What I Think It Means	Location	Example	Mastered
1				
2				
3				
4				
5				
6				

# Instructional Resource:

## JIGSAW

DESIGNED  
FOR:  
ALL GRADE  
LEVELS,  
ALL  
CONTENT  
AREAS

### Overview:

Jigsaw is a cooperative learning comprehension strategy which allows students an opportunity to become “experts” in a certain part of a text. The graphic organizer can be utilized as a means of helping students organize their thoughts as they read and work in their groups.

### When to use:

During and after reading a text

### How to use:

1. Place students in groups of 3-4. It is ideal if the students reflect a varying range of reading abilities.
2. Provide students with a text and a copy of the graphic organizer. Determine which sections of the text each student will read.
3. To help focus their attention on what’s important, provide each group with some key questions. These questions should be focused around the key ideas of the text. While reading the text, students should record only the most important information from their assigned section of the text.
4. Allow students time to silently read and record their thoughts.
5. When all group members are finished reading the text, each should take a turn sharing the most important information from the portion of the text they read.
6. Each group should collaborative write a summary paragraph of the text.

# Instructional Resource: ANTICIPATION GUIDE

DESIGNED  
FOR:  
ALL GRADE  
LEVELS,  
ALL  
CONTENT  
AREAS

## Considerations:

If students are unfamiliar with working in a group, you may need to set some group work guidelines prior to using this strategy.

## Differentiation:

1. Students can pair-read the text and complete the graphic organizer with a partner before sharing it with a larger group.
2. Teachers can differentiate the text or the text complexity of the text based on the students' reading levels.
3. Different groups of students can have different articles about the same topic or different articles about opposing views of a topic.
4. Teachers can allow students to meet with other students who read the same section as them prior to sharing with their original group. For example, all students who read the first section may meet and review what they wrote to ensure they all view the same information as important prior. After these groups have had a chance to meet/discuss, students would then move back to their original groups to share out.

# Jigsaw

Name \_\_\_\_\_ Date \_\_\_\_\_ Text \_\_\_\_\_

Group Members \_\_\_\_\_

**Directions:** As you carefully read the text, write down important facts about your topic and the page where the fact was found. Once all group members are finished reading, each will share what they learned with the rest of the group.

Important Facts		Page
1		
2		
3		
4		
5		
Important Facts from Group Members		Page
1		
2		
3		
<b>Summary of Article:</b>		

# Instructional Resource:

## I KNOW, YOU KNOW

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

### Overview:

I Know, You Know is a literacy technique that allows students to recall what they know about a topic and build on that knowledge through collaborative conversations with classmates. This strategy will enhance comprehension of a text while reinforcing teamwork skills.

### When to Use:

Before  
Reading

During  
Reading

After  
Reading

### How to use:

1. Place students in groups of 3-4. It is ideal if the students reflect a varying range of reading abilities.
2. Provide students with a text and a copy of the graphic organizer.
3. Ask students to skim the text and silently record what they know about the topic before reading it.
4. Allow students time to discuss what they know with their group and then record any added information on their individual graphic organizer.
5. Ask students to read the text, annotating newly learned information.
6. Each group should then decide on the most important information and include that in the "What We Learned" section.
7. Students should also record any questions they have regarding the topic.

# Instructional Resource: I KNOW, YOU KNOW

DESIGNED  
FOR:  
ALL GRADE  
LEVELS, ALL  
CONTENT  
AREAS

## Considerations:

If students are unfamiliar with working in a group, you may need to set some group work guidelines prior to using this strategy.

## Differentiation:

1. Students can pair-read the text and complete the graphic organizer with a partner before sharing it with a larger group.
2. Teachers can differentiate the text or the text complexity of the text based on the students' reading levels.
3. Different groups of students can have different articles about the same topic or different articles about opposing views of a topic.
4. This graphic organizer can also be used to record what students learn from watching an educational video.

# I Know, You Know

Name \_\_\_\_\_

Date \_\_\_\_\_

Text \_\_\_\_\_

Author \_\_\_\_\_

**Directions:** Before reading the text, record what you and your group knows about the topic. After reading the text, record what your group learned from the text. Then, record any questions you still have.

What I Know	What My Classmates Know	What We Learned	Questions I Have
1			
2			
3			
4			
5			
6			

# Instructional Resource:

## ANTICIPATION GUIDE

DESIGNED  
FOR:  
ALL GRADE  
LEVELS,  
ALL  
CONTENT  
AREAS

### Overview:

Anticipation Guides have been utilized in classrooms for many years to spark students' interest in upcoming topics. This graphic organizer can be utilized as a pre-assessment and as a way to connect new information to previously learned material.

### When to use:

Before, during and after reading a text

### How to use:

1. Write four to six statements about key ideas from the text. These should be constructed to focus students' attention on the top text-dependent information you want students to remember. It is **key** that these statements are text-dependent and not opinion-based.
2. Before students read the text, they should read each statement and mark if they agree or disagree, giving their explanation for their answer. You may also want them to share their thoughts with a partner or with the whole class during class discussion.
3. While reading the text, students should mark the page/paragraph where they found the answer and then indicate whether they were correct in their pre-assessment statement. If possible, you may want to allow students to highlight the text where the answer is found.
4. After completing the reading and graphic organizer, revisit each statement with the students to ensure student understanding is solidified.

# Instructional Resource: ANTICIPATION GUIDE

DESIGNED  
FOR:  
ALL GRADE  
LEVELS,  
ALL  
CONTENT  
AREAS

## Considerations:

If the students are able to correctly complete the first two columns of the guide prior to reading the text and demonstrate they already know the key ideas, the teacher may want to reflect on whether it's valuable to use class time to read the text.

## Differentiation:

1. Anticipation Guides can be used orally with students.
2. Teachers can differentiate the statements or the text complexity of the statements for groups of students based on the students' reading levels.
3. This guide could be completed with a partner to encourage collaboration.
4. Anticipation Guides can also be used with videos. Instead of writing the page/paragraph where the answer is found, students would write the direct quote from the video that justifies the correct answer.

## Anticipation Guide

Name \_\_\_\_\_

Date \_\_\_\_\_

Text \_\_\_\_\_

Author \_\_\_\_\_

**Directions:** Before reading the text, read the following statements. Mark if you agree or disagree and explain your answer. Then as you read the text, fill in the page where you found the answer. Mark if you were right or not.

Read the statement.	Do you agree or disagree? Explain your answer.	Where was the answer?	Were you right?
1			
2			
3			
4			
5			
6			

# P R O J E C T B A S E D T E A C H I N G R U B R I C

	Beginning PBL Teacher	Developing PBL Teacher	Gold Standard PBL Teacher
<b>Project Based Teaching Practice</b>			
<b>Design &amp; Plan</b>	<ul style="list-style-type: none"> <li>▶ Project includes some Essential Project Design Elements, but not at the highest level of the Project Design Rubric.</li> <li>▶ Plans for scaffolding and assessing student learning lack some detail; project calendar needs more detail, or is not followed.</li> <li>▶ Some resources for the project have not been anticipated or arranged in advance.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Project includes all Essential Project Design Elements, but some are not at the highest level of the Project Design Rubric.</li> <li>▶ Plans for scaffolding and assessing student learning lack some details; project calendar allows too much or too little time, or is followed too rigidly to respond to student needs.</li> <li>▶ Most resources for the project have been anticipated and arranged in advance.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Project includes all Essential Project Design Elements as described on the Project Design Rubric.</li> <li>▶ Plans are detailed and include scaffolding and assessing student learning and a project calendar, which remains flexible to meet student needs.</li> <li>▶ Resources for the project have been anticipated to the fullest extent possible and arranged well in advance.</li> </ul>
<b>Align to Standards</b>	<ul style="list-style-type: none"> <li>▶ Criteria for products are given but are not specifically derived from standards.</li> <li>▶ Scaffolding of student learning, critique and revision protocols, assessments and rubrics do not refer to or support student achievement of specific standards.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Criteria for some products are not specified clearly enough to provide evidence that students have met all targeted standards.</li> <li>▶ Scaffolding of student learning, critique and revision protocols, assessments and rubrics do not always refer to or support student achievement of specific standards.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Criteria for products are clearly and specifically derived from standards and allows demonstration of mastery.</li> <li>▶ Scaffolding of student learning, critique and revision protocols, assessments and rubrics consistently refer to and support student achievement of specific standards.</li> </ul>
<b>Build the Culture</b>	<ul style="list-style-type: none"> <li>▶ Norms are created to guide project work, but they may still feel like “rules” imposed and monitored by the teacher.</li> <li>▶ Students are asked for their ideas and given some choices to make, but opportunities for student voice and choice are infrequent or are only related to minor matters.</li> <li>▶ Students occasionally work independently, but often look to the teacher for guidance.</li> <li>▶ Student teams are often unproductive or require frequent intervention by the teacher.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Norms to guide the classroom are co-crafted with students, and students are beginning to internalize these norms.</li> <li>▶ Student voice and choice is encouraged through intentionally designed opportunities, e.g., when choosing teams, finding resources, using critique protocols, or creating products.</li> <li>▶ Students work independently to some extent, but look to the teacher for direction more often than necessary.</li> <li>▶ Student teams are generally productive and are learning what it means to move from cooperation to effective collaboration; the teacher occasionally has to intervene or manage their work.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Norms to guide the classroom are co-crafted with and self-monitored by students.</li> <li>▶ Student voice and choice is regularly leveraged and ongoing, including identification of real-world issues and problems students want to address in projects.</li> <li>▶ Students usually know what they need to do with minimal direction from the teacher.</li> <li>▶ Students work collaboratively in healthy, high-functioning teams, much like an authentic work environment; the teacher rarely needs to be involved in managing teams.</li> </ul>

Project Based Teaching Practice	Beginning PBL Teacher	Developing PBL Teacher	Gold Standard PBL Teacher
<p><b>Build the Culture</b> <i>continued</i></p>	<ul style="list-style-type: none"> <li>▶ Students feel like there is a “right answer” they are supposed to give, rather than asking their own questions and arriving at their own answers; they are fearful of making mistakes.</li> <li>▶ Value is placed on “getting it done” and time is not allowed for revision of work; “coverage” is emphasized over quality and depth.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Students understand there is more than one way to answer a driving question and complete the project, but are still cautious about proposing and testing ideas in case they are perceived to be “wrong.”</li> <li>▶ The values of critique and revision, persistence, rigorous thinking, and pride in doing high-quality work are promoted by the teacher but not yet owned by students.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Students understand there is no single “right answer” or preferred way to do the project, and that it is OK to take risks, make mistakes, and learn from them.</li> <li>▶ The values of critique and revision, persistence, rigorous thinking, and pride in doing high-quality work are shared, and students hold each other accountable to them.</li> </ul>
<p><b>Manage Activities</b></p>	<ul style="list-style-type: none"> <li>▶ The classroom features some individual and team work time and small group instruction, but too much time is given to whole group instruction.</li> <li>▶ Classroom routines and norms for project work time are not clearly established; time is not used productively.</li> <li>▶ Schedules, checkpoints, and deadlines are set, but they are loosely followed or unrealistic; bottlenecks impede workflow.</li> <li>▶ Teams are formed using either a random process (e.g., counting off) or students are allowed to form their own teams with no formal criteria or process.</li> </ul>	<ul style="list-style-type: none"> <li>▶ The classroom features individual and team work time, whole group and small group instruction, but these structures are not well-balanced throughout the project.</li> <li>▶ Classroom routines and norms are established for project work time, but are not consistently followed; productivity is variable.</li> <li>▶ Realistic schedules, checkpoints, and deadlines are set, but more flexibility is needed; bottlenecks sometimes occur.</li> <li>▶ Generally well-balanced teams are formed, but without considering the specific nature of the project; students have too much voice and choice in the process, or not enough.</li> </ul>	<ul style="list-style-type: none"> <li>▶ The classroom features an appropriate mixture of individual and team work time, whole group and small group instruction.</li> <li>▶ Classroom routines and norms are consistently followed during project work time to maximize productivity.</li> <li>▶ Project management tools (group calendar, contract, learning log, etc.) are used to support student self-management and independence.</li> <li>▶ Realistic schedules, checkpoints, and deadlines are set but flexible; no bottlenecks impede workflow.</li> <li>▶ Well-balanced teams are formed according to the nature of the project and student needs, with appropriate student voice and choice.</li> </ul>
<p><b>Scaffold Student Learning</b></p>	<ul style="list-style-type: none"> <li>▶ Students receive some instructional supports to access both content and resources, but many individual needs are not met.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Most students receive instructional supports to access both content and resources, but some individual needs are not met.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Each student receives necessary instructional supports to access content, skills, and resources; these supports are removed when no longer needed.</li> </ul>

Project Based Teaching Practice	Beginning PBL Teacher	Developing PBL Teacher	Gold Standard PBL Teacher
<p><b>Scaffold Student Learning</b> <i>continued</i></p>	<ul style="list-style-type: none"> <li>▶ Teacher may “front-load” content knowledge before the project launch, instead of waiting for “need to know” points during the project.</li> <li>▶ Students gain key success skills as a side effect of the project, but they are not taught intentionally.</li> <li>▶ Students are asked to do research or gather data, but without adequate guidance; deeper questions are not generated based on information gathered.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Scaffolding is guided to some extent by students’ questions and “need to knows” but some of it may still be “front-loaded.”</li> <li>▶ Key success skills are taught, but students need more opportunities to practice success skills before applying them.</li> <li>▶ Student inquiry is facilitated and scaffolded, but more is needed; or, teacher may over-direct the process and limit independent thinking by students.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Scaffolding is guided as much as possible by students’ questions and needs; teacher does not “front-load” too much information at the start of the project, but waits until it is needed or requested by students.</li> <li>▶ Key success skills are taught using a variety of tools and strategies; students are provided with opportunities to practice and apply them, and reflect on progress.</li> <li>▶ Student inquiry is facilitated and scaffolded, while allowing students to act and think as independently as possible.</li> </ul>
<p><b>Assess Student Learning</b></p>	<ul style="list-style-type: none"> <li>▶ Student learning of subject-area standards is assessed mainly through traditional means, such as a test, rather than products; success skills are not assessed.</li> <li>▶ Team-created products are used to assess student learning, making it difficult to assess whether individual students have met standards.</li> <li>▶ Formative assessment is used occasionally, but not regularly or with a variety of tools and processes.</li> <li>▶ Protocols for critique and revision are not used, or they are informal; feedback is superficial, or not used to improve work.</li> <li>▶ Students assess their own work informally, but the teacher does not provide regular, structured opportunities to do so.</li> <li>▶ Rubrics are used to assess final products, but not as a formative tool; or, rubrics are not derived from standards.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Project products and other sources of evidence are used to assess subject-area standards; success skills are assessed to some extent.</li> <li>▶ Individual student learning is assessed to some extent, not just team-created products, but teacher lacks adequate evidence of individual student mastery.</li> <li>▶ Formative assessment is used on several occasions, using a few different tools and processes.</li> <li>▶ Structured protocols for critique and revision and other formative assessments are used occasionally; students are learning how to give and use feedback.</li> <li>▶ Opportunities are provided for students to self-assess their progress, but they are too unstructured or infrequent.</li> <li>▶ Standards-aligned rubrics are used by the teacher to guide both formative and summative assessment.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Project products and other sources of evidence are used to thoroughly assess subject-area standards as well as success skills.</li> <li>▶ Individual student learning is adequately assessed, not just team-created products.</li> <li>▶ Formative assessment is used regularly and frequently, with a variety of tools and processes.</li> <li>▶ Structured protocols for critique and revision are used regularly at checkpoints; students give and receive effective feedback to inform instructional decisions and students’ actions.</li> <li>▶ Regular, structured opportunities are provided for students to self-assess their progress and, when appropriate, assess peers on their performance.</li> <li>▶ Standards-aligned rubrics are used by students and the teacher throughout the project to guide both formative and summative assessment.</li> </ul>

Project Based Teaching Practice	Beginning PBL Teacher	Developing PBL Teacher	Gold Standard PBL Teacher
<p><b>Engage &amp; Coach</b></p> <ul style="list-style-type: none"> <li>▶ The teacher has some knowledge of students' strengths, interests, backgrounds, and lives, but it does not significantly affect instructional decision-making.</li> <li>▶ Project goals are developed without seeking student input.</li> <li>▶ Students are willing to do the project as if it were another assignment, but the teacher does not create a sense of ownership or fuel motivation.</li> <li>▶ The driving question is presented at the project launch and student questions are generated, but they are not used to guide inquiry or product development.</li> <li>▶ Expectations for the performance of all students are not clear, too low, or too high.</li> <li>▶ There is limited relationship-building in the classroom, resulting in student needs that are not identified or addressed.</li> <li>▶ Students and the teacher informally reflect on what and how students are learning (content and process); reflection occurs mainly at the end of the project.</li> </ul>	<ul style="list-style-type: none"> <li>▶ The teacher has general knowledge of students' strengths, interests, backgrounds, and lives and considers it when teaching the project.</li> <li>▶ Project goals and benchmarks are set with some input from students.</li> <li>▶ Students are excited by the project and motivated to work hard by the teacher's enthusiasm and commitment to their success.</li> <li>▶ Students' questions guide inquiry to some extent, but some are answered too quickly by the teacher; students occasionally reflect on the driving question.</li> <li>▶ Appropriately high expectations for the performance of all students are set and communicated by the teacher.</li> <li>▶ Student needs for further instruction or practice, additional resources, redirection, troubleshooting, praise, encouragement, and celebration are identified through relationship-building and close observation and interaction.</li> <li>▶ Students and the teacher occasionally reflect on what and how students are learning (content and process).</li> </ul>	<ul style="list-style-type: none"> <li>▶ The teacher's knowledge of individual student strengths, interests, backgrounds, and lives is used to engage them in the project and inform instructional decision-making.</li> <li>▶ Students and the teacher use standards to co-define goals and benchmarks for the project (e.g., by co-constructing a rubric) in developmentally appropriate ways.</li> <li>▶ Students' enthusiasm and sense of ownership of the project is maintained by the shared nature of the work between teachers and students.</li> <li>▶ Student questions play the central role in driving the inquiry and product development process; the driving question is actively used to sustain inquiry.</li> <li>▶ Appropriately high expectations for the performance of all students are clearly established, shared, and reinforced by teachers and students.</li> <li>▶ Individual student needs are identified through close relationships built with the teacher; needs are met not only by the teacher but by students themselves or other students, acting independently.</li> <li>▶ Students and the teacher reflect regularly and formally throughout the project on what and how students are learning (content and process); they specifically note and celebrate gains and accomplishments.</li> </ul>	