CTE, PBL, and Capstone Connections

Gustavo Perez
STEM Specialist
Connections

- CTE
- Project Based Learning
- Capstone Projects
TSTEM Network


- **METROPLEX**
  - 7 ECHS
  - 13 T-STEM Academies
  - 1 T-STEM/ECHS
  - 1 T-STEM Center

- **EAST TEXAS**
  - 6 ECHS
  - 2 T-STEM Academies
  - 1 T-STEM Center

- **WEST TEXAS/PANHANDLE**
  - 2 ECHS
  - 4 T-STEM Academies
  - 1 T-STEM/ECHS
  - 1 T-STEM Center

- **EL PASO**
  - 5 ECHS
  - 4 T-STEM Academies
  - 1 T-STEM/ECHS

- **CENTRAL TEXAS**
  - 6 ECHS
  - 14 T-STEM Academies
  - 1 T-STEM/ECHS
  - 1 T-STEM Center

- **HOUSTON/GULF COAST**
  - 15 ECHS
  - 13 T-STEM Academies
  - 2 T-STEM Centers

- **SOUTH TEXAS**
  - 18 ECHS
  - 9 T-STEM Academies
  - 2 T-STEM/ECHS
  - 1 T-STEM Center
TEACH. INSPIRE. HIRE.

More than 2,000 leaders and visionaries in business, education, and government from around the United States will convene in Austin, Texas, from June 17-19, 2013 at the Austin Convention Center, to advance the agenda for national change in STEM education, policy and workforce development. The National Conference will focus on targeted outcomes that create an impact to fill jobs now and advance the future of the STEM workforce.
Manor New Tech High, Carrolton TX
The T-STEM Design Blueprint is a guide to build and sustain STEM schools that incorporates the seven benchmarks of:

1. Mission Driven Leadership
2. T-STEM Culture
3. Student Outreach, Recruitment, and Retention
4. Teacher Selection, Development and Retention
5. Curriculum, Instruction, and Assessment
6. Strategic Alliances
7. Academy Advancement and Sustainability
## Project Framework Crosswalks

<table>
<thead>
<tr>
<th>Project Based Learning</th>
<th>High School Capstone</th>
<th>Undergrad Senior Design Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Idea</td>
<td>Choosing a Topic / Project Ideas</td>
<td>Executive Summary</td>
</tr>
<tr>
<td>Driving Question</td>
<td>Study Question</td>
<td>Statement of Problem &amp; Objectives</td>
</tr>
<tr>
<td>Content Targets</td>
<td>Study Method</td>
<td>Technical Approach</td>
</tr>
<tr>
<td>Product Selections</td>
<td>Research &amp; Product Development</td>
<td>Research &amp; Product Development</td>
</tr>
<tr>
<td>Product Activities</td>
<td>Setting Deadlines</td>
<td>Project Management</td>
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<tr>
<td>Presentation to Audience</td>
<td>Reporting Methods</td>
<td>Conclusion</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Evaluation</td>
<td>References / Appendix</td>
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</tbody>
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What is PBL?

What is project-based learning?

Project-based learning is a group or individual set of activities which take place over a period of time resulting in end products, presentations, and performances that answer a central driving question.
PBL Summer Institute

**Strand 1**
- Project Launch
- Driving Question
- Product Development
- Mini-Lessons
- Culminating Event & Presentation
- PBL Basics
- Modeling
- Unit Draft

**Strand 2**
- PBL Advanced
- Embedded STEM Tools
- Unit Submission
- Stipends & Kits
PBL Framework

**Content**
- Select Standards
- Generate *project overview* and *calendar*
- Identify teacher-led *mini lessons* and workshops,
- Identify and draft formative and summative assessment tools
- Generate Content Mastery Tools and Student Trackers

**Project Management**
- Establish *team groups* and *team contracts*
- Establish individual *student roles, tasks*, and *responsibilities*
- Establish daily *student management tools* (project update forms, student logs)
- Establish *pacing timeline* for student deliverables, product deadlines, and major events

**T-STEM Connection & Reflection**
- STEM Career Alignment Tools
- Teacher collaborative protocols (Critical Friends)
- Industry Partnerships (internships, capstone)
Content

Problem
- Presents the criteria, challenge, or constraints for the project

  Driving Question(s), Project Launch

Products
- These are a specific set of products that students will create to demonstrate their acquisition of knowledge & skills

  Rubrics(s), Cooperative Learning

Presentation
- Identify audience for student presentations (academic, kids, business)
- Schedule informal or formal public presentation of the products that serve as answers or solutions to the original problem.
- Establish reflection tools for post project discussions (whole group, wikis, blogs)

  Culminating Event
PBL Essentials

**PLANNING**
- Develop Project Idea
- Map Student Interest
- Embed Content Targets
- Identify Student Products
- Develop Product Rubrics
- Anchor Rubrics to Standards
- Engage in Critical Friends

**DELIVERY**
- Present Driving Question
- Present Entry Document
- Conduct Knows & Need to Knows
- Conduct Mini-Lessons
- Conduct Culminating Event
Why PBL and Capstone?

Benchmark 1: Mission-Driven Leadership
1.1 Annual Action Plan
1.2 Design Team, Leadership Team, Advisory Board

Benchmark 2: T-STEM Culture
2.1.A Small school
2.1.G IGP with Texas Higher Education Coordinating Board (THECB) College and Career Readiness Standards
2.3.A Distinguished Graduation Plan
2.3.C Dual Credit and/or AP and/or IB
2.3.E MOU

Benchmark 3: Student Outreach, Recruitment, and Retention
3.1.A Marketing plan
3.2.A Open access/lottery
3.3.B Distinguished Graduation Plan

Benchmark 4: Teacher Selection, Development, and Support
4.1.B Collaborative recruiting program
4.2.B Professional development
4.2.C Teacher externships
4.3.B Common planning time within the structure of the school day

Benchmark 5: Curriculum, Instruction, and Assessment
5.1 Develops integrated STEM curriculum, assessment and instruction for the Academy
5.2 Internship and/or capstone
5.3 Project-based and problem-based curriculum, instruction, and assessment

Benchmark 6: Strategic Alliances
6.1 Family/school partnership plan
6.2 Community/business advisory board
6.3 MOUs

Benchmark 7: Academy Advancement and Sustainability
7.1 Budget/business plan
7.1 Five year strategic plan
7.2 STEM professional development
Sinton, TX

**Research**
- Topic chosen by student and project approved by Capstone Faculty Advisor
- Research process guided by Capstone Faculty Advisor
- Begin Capstone Project
- Ongoing

**Project**
- Project must be approved by Capstone Faculty Advisor
- Project planning guided by Capstone Faculty Advisors and an external mentor
- It is not necessary to spend a large amount of money to conduct a senior project
- Continue Capstone Paper
- Ongoing

**Presentation**
- Oral presentation before a panel of judges
- Presentation contains Capstone Paper, an explanation of how learning was applied in developing the project as well as a reflection of the overall process; it must include one piece of technology and/or a visual aid for the judges
- Highest achieving presentations will advance to the STEM Extravaganza and be considered for a scholarship
- Second Semester

**Portfolio**
- Project Portfolio includes documentation of the Capstone Project process, Capstone Paper, references and research articles
- The portfolio will be viewed by the panel of judges
- Ongoing

Region One
Education Service Center
Capstone Projects

METSA’s Capstone Projects

• Capstone projects apply academic and technical knowledge and skills to complex problems in a career field by allowing students to engage in problem-solving, research, teamwork, interpersonal communication and connections with adults. The capstone project is the culminating experience, demonstrating what a student has learned in his or her career pathway.
Capstone Projects

METSA’s Students:
• Select problems related to their career pathway
• Conduct research related to the problem
• Identify teachers, business and postsecondary education partners with relevant expertise of the problem and its solution
• Maintain periodic reflective journals of the project’s progress
• Establish checkpoints with teacher for assessment to ensure the project timeline is on track and the standards of the project are being met
• Develop a multimedia presentation for adult learners detailing what they have learned
What Is the Connection to Career-Technical Education?

Capstone projects capitalize on the most promising aspects of career-focused education and research-based teaching such as:

- Cooperative and group learning
- Integration of academic content standards and technical competencies
- Self-directed learning
- Teacher in the role of facilitator
- Authentic instruction and assessment
How Does a Capstone Project Work?

The Senior...

- selects or is assigned a problem related to his or her career pathway.
- conducts research related to the problem.
- identifies teachers, business and postsecondary education partners with relevant expertise of the problem and its solution.
- analyzes and synthesizes information to solve the problem.
- maintains periodic reflective journals of the project’s progress.
- establishes with teacher checkpoints for assessment to ensure the project time line is on track and he or she is meeting the standards for the project.
- develops a multimedia presentation to adult partners detailing what he or she has learned.
Hallmarks of Career-Focused Capstone Projects
Hallmarks of Career-Focused Capstone Projects

Research
The student selects a problem related to his or her career pathway. Research is collected and analyzed to begin formulating a solution to the problem or question. The student uses various methods and sources to investigate the problem.
Hallmarks of Career-Focused Capstone Projects

Authenticity
Problems are meaningful to the student and related to the career field. Resources exist within the community and beyond to support this project. The capstone project represents a real problem encountered by individuals in this career field. Working to resolve the problem, the student demonstrates proficiency in technical and academic competencies.
Hallmarks of Career-Focused Capstone Projects

Academic Rigor
The project is cross-curricular and challenges the student to apply knowledge related to both academic and technical subject areas. The project is aligned with appropriate academic content and technical standards. The student develops high-order thinking skills through research and analysis.
Hallmarks of Career-Focused Capstone Projects

Professional Relationships
The student works closely with adults of content expertise. Adults collaborate with each other and with students on the development and evaluation of projects. Students prepare professional oral and written communications for adult audiences.
Hallmarks of Career-Focused Capstone Projects

Presentation

The student produces a multimedia presentation detailing problem identification, research and the student’s solution or recommendation. The presentation is the culminating experience in which the student demonstrates what has been learned.
Hallmarks of Career-Focused Capstone Projects

Assessment

Project criteria is communicated to the student and is used to gauge learning. Assessment is formative, with multiple checkpoints along the way, providing feedback to the student. Adults outside the classroom help the student develop a sense of real-world standards. The student’s project is documented in a Career Passport.
“Ideally, every senior should complete a capstone project, perform an internship, complete a research project, participate in community service or take college-level courses.”

— Raising Our Sights National Commission on the High School Senior Year

**Terms Defined**

A Career Pathway is a series of academic and technical coursework and other educational experiences with a career focus. The pathway prepares students for a goal-oriented future and puts purpose in learning.

An Individual Career Plan (ICP) is a planning document initiated by the learner, with input from parents/guardians, teachers and counselors, prior to the ninth grade and reviewed every year thereafter.

A Career Cluster Foundation is a course within a career cluster that provides core and cluster competencies as well as information on professional, technical and entry-level career pathway possibilities within the career cluster.

Specialization Competencies are what students should know and be able to do in specific occupations, as verified by business and industry. The attainment of these competencies could lead to entry-level positions, exit credentialing and/or continued education.

A Career Passport is a document designed to help students make the transition to the next step beyond high school. The career passport is similar to a portfolio and is usually developed with help from teachers and guidance counselors.
Capstone Project Examples

Health Services Cluster
- Research a problem related to ethics in human cloning. (Biotechnology Program)
- Develop a disaster response plan for a hospital emergency room located near a chemical manufacturing plant. (Therapeutic Systems Cluster Health Program)

Human Resources/Services Cluster
- Develop an instructional unit for teaching Ohio’s mathematics content standards to middle school students. (Career Paths for the Teaching Profession Program)
- Research a new fingerprinting technology to aid in criminal investigation. Provide training in the process to a local law enforcement agency. (Criminal Justice Program)

Environmental and Agricultural Systems Cluster
- Conduct an environmental impact study on the surrounding community of a proposed egg production farm. (Environmental Technology Program)
- Research a farmer’s cropping plan to help improve yields. (Agriculture Production Program)

Industrial and Engineering Systems Cluster
- A local food manufacturer is experiencing a high-rate of packaging failures of its condiment products. Troubleshoot the packaging failure and develop a more durable package. (Industrial Manufacturing Program)
- Design a residential heating/air conditioning system for a 1500 square foot house in Cleveland, Ohio. (Heating, Ventilation, Air Conditioning/Refrigeration Program)

Business and Management Cluster
- Develop a marketing plan for a newly developed hair care product that will be marketed and sold via the Internet. (E-commerce Marketing Program)
- Develop a computer-generated presentation, including animation, which promotes a Career-Technical program to prospective students and their parents. (Interactive Media Program)

Arts and Communication Cluster
- Develop a public service campaign to promote involvement in the arts for your city and surrounding community. (Radio and TV Broadcasting Program)
- Design and present a creative packaging concept for a new fruit-flavored cereal product that appeals to young children. (Commercial Art Program)
How do we start a Capstone Program?
Middletown High School
Capstone Project Manual

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East Windsor High School Senior Project Handbook

The focus of the Senior Project is to engage each student in a personalized learning experience. Each student will demonstrate the ability to be an independent thinker and possess the motivation and capacity for lifelong learning. The project allows students the opportunity to apply critical thinking skills while investigating a specialized area of interest. Each student will have the assistance of a Senior Project teacher to guide the student through this project, as well as the option of an adult mentor who has specific knowledge of the area to be explored. The Senior Project is a graduation requirement.

The Senior Project has four required components that will be used in evaluating the final project. The required components are as follows:

1. Project Proposal-included in this packet
2. Written Component-journal/literature review
3. Original Product
4. Presentation-an oral/visual presentation to some form of audience

Performance Expectations for Senior Project
The East Windsor High School graduate demonstrates an ability to think independently and critically in real-world situations.
The East Windsor High School graduate will be motivated and self-directed in real-world situations.
Capstone Forms and Rubrics

Capstone Project Proposal Worksheet

Capstone Project Proposal Worksheet  Name: ______________________

Date Due: ____________________ (This form is worth 10% of your Quarter 1 grade. To receive credit, this form must be complete and submitted on time.)

__________ This proposal is approved.

__________ This proposal needs revision.

Use this sheet to develop your capstone Project proposal. Make sure you address each of the components. Meet with your teacher and Capstone mentor to discuss the proposal. The final proposal must be signed by the mentor, parent or guardian, and student.

I. The first step in creating a Capstone is to identify a core question.

A Core Question is:
- Based on your interests
- Clearly stated as a question
- Open-ended and exploratory
- Directed towards a path to new knowledge
- Related to real-world issues whenever possible.

My core question is:

How

__________

_?

NOTE: If you change your core question substantially, you must resubmit this form for approval. Contact your teacher for any further information.)

II. Identify and describe the learning stretch or path to new knowledge for this Capstone Project you are proposing.
CAPSTONE PROJECT APPROVAL RUBRIC
- USED BY CAPSTONE FACULTY ADVISOR TO EVALUATE CAPSTONE PROJECT PROPOSAL FORM -

Upon review of the student's proposal, the project/product will be assessed by using the following rubric as a guideline. To ensure project success, it is imperative that the evaluations are honest. If the student scores particularly low, the student will be advised as to ways in which to increase his or her score.

<table>
<thead>
<tr>
<th>Project Relationship</th>
<th>5 Points</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The paper and the project are closely tied together.</td>
<td>There is a strong relationship between the paper and the project.</td>
<td>There is a relationship between the paper and the project.</td>
<td>There is a small relationship between the paper and the project.</td>
<td>No relationship between the paper and the project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Merit</th>
<th>5 Points</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The project extends beyond the scope of a school assignment. It is important on a broader scale.</td>
<td>The project is something that should be done and is worthwhile. It benefits more than the student.</td>
<td>The project itself shows some importance; however, the project mainly benefits the one completing it.</td>
<td>Benefiting only the student, the project itself shows a little bit of merit.</td>
<td>The purpose of the project is unclear, with little to no benefit to anyone.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Challenge</th>
<th>5 Points</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
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<tr>
<td></td>
<td>The student details the challenges of the project. Completion will take considerable time and dedication to complete.</td>
<td>The project shows an application of abilities learned. The project will be a challenge with some chance of failure.</td>
<td>The project is well within the abilities of the student to complete and demonstrates the educational abilities gained.</td>
<td>Project has merit but poses little challenge to the student. Learning stretch is minimal.</td>
<td>Project seems trivial in nature and shows little or no application of high school learning.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Logistics</th>
<th>5 Points</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student provides a complete and well thought out plan for project completion. Additionally, the student has identified a potential mentor.</td>
<td>The student has shown thought pertaining to project completion, and the plan presented will probably allow him/her to navigate through obstacles.</td>
<td>The student has a vision of the project but seems to be lacking a concrete plan. Some ideas are presented, but they are vague and lack direction.</td>
<td>The project is merely in the vision state. Student might have a general idea of what needs to be done, but has almost no plan to complete it.</td>
<td>The student lacks any idea or direction. There is a complete disconnect between the project choice and understanding of how the project will get done.</td>
</tr>
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<tr>
<th>Projected Time</th>
<th>5 Points</th>
<th>4 Points</th>
<th>3 Points</th>
<th>2 Points</th>
<th>1 Point</th>
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<tr>
<td></td>
<td>The student shows a clear and accurate understanding of the amount of time it will take to complete the project.</td>
<td>The student shows an understanding of time allotment; however, he or she ignores the time required to complete one part of the project.</td>
<td>For the most part, the student understands the amount of time required, but ignores or underestimates the time required for some parts.</td>
<td>The student figures out the amount of time required for the project, but it is mostly inaccurate due to many omissions and over estimations.</td>
<td>The student shows little or no realization of the time it would take to finish the project.</td>
</tr>
</tbody>
</table>

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<tr>
<th>Misc.-Optional</th>
<th>&lt;=5 pts to may be added if there is a reason beyond those previously listed. Please explain reasoning.</th>
</tr>
</thead>
</table>

Total Score  |

Please add total points awarded from above sections and place this total on the front page of the Capstone Project Proposal Form. 15 points or greater required for approval.
VI. Capstone Timeline

The Capstone Project at Middletown High School is intended to be completed during the junior year English class. The project is facilitated by the English teacher and the student is supported by their English teacher and Capstone Mentor. However, it is the responsibility of the student to meet the deadlines of the project and complete the project by the intended deadline given below. If the student does not complete the Capstone Project, the student will receive no grade (NG) in junior English class.

<table>
<thead>
<tr>
<th>Component</th>
<th>Due</th>
<th>Forum</th>
<th>% in English</th>
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<tbody>
<tr>
<td>Proposal Form</td>
<td>October 13, 2009</td>
<td>English Class</td>
<td>10% of the Quarter 1 grade</td>
</tr>
<tr>
<td>I-Search paper</td>
<td>January 4, 2010</td>
<td>English Class</td>
<td>Mid-year exam grade</td>
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<tr>
<td>Reflective Essay (must attach Fieldwork Log)</td>
<td>April 5, 2010</td>
<td>English Class</td>
<td>Test grade</td>
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<tr>
<td>Presentation</td>
<td>May 4, 2010</td>
<td>Community Evaluation</td>
<td>Rubric grade (P/F) (No grade in English.)</td>
</tr>
</tbody>
</table>

Notes:
- Late Penalty: The late penalty on all assignments is ten (10) points per day.
- Late Penalty on the I-Search: The late penalty is ten (10) points per day. Please note that no submissions will be accepted for a class grade after January 8th, 2010. After January 8th, a zero will be recorded as the grade. In order to proceed on the overall Capstone, however, a “meet standard” paper must be achieved.
- Early Submission of the I-Search: Submit your I-Search paper on or before December 23, 2009 and receive ten (10) extra points on the grade.
FIELDWORK LOG
CAPSTONE PROJECT

(Note: Once this is scanned into Tienet, please submit this form to your English teacher. In order to be scheduled to present, this form must be completed.)

Student’s Name

Mentor’s Name: ___________________________ Phone #: ___________________________

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Number of Hours</th>
<th>Work Accomplished</th>
<th>Difficulties/Solutions</th>
<th>Mentor Initials</th>
</tr>
</thead>
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</table>

TOTAL HOURS
I certify that I have viewed the completed project and that it represents quality work and meets standards in the field.

MENTOR’S SIGNATURE

(Note: A minimum of 12 hours of fieldwork must be completed and verified by the mentor. Please note that work associated with the I-search paper does not count as fieldwork.)
## I-Search Paper Research Rubric

|----------|------------------|----------------|-----------------------|----------------|
| **Resources Cited** (in paper or presentation) | - Quality and types of sources enhance topic  
- An extensive variety of sources relevant, accurate and reliable to the thesis expand ideas and give credibility to the research | - Includes a minimum of five sources for researching topic, one of which is an interview with the mentor or expert in the field. (No more than two Internet-Based sources may be used)  
- Sources cited in body of paper are relevant, accurate, and reliable to main idea/thesis (Sections III and V)  
- Lists and cites sources using standard format (Sections III and V) | - Number and/or types of sources are nearly sufficient for researching topic  
- Few sources cited in body of paper or presentation are relevant, or accurate, or reliable to main idea/thesis  
- Lists and cites sources with many errors in standard format | - Significantly insufficient number and/or types of sources used for researching topic  
- Most sources cited in body of paper or presentation are missing and/or irrelevant and/or inaccurate, and/or unreliable to main idea/thesis  
- Lists and cites sources with major errors in standard format |
| **Analysis & Synthesis of Information** | - Analysis/interpretation of information presented, is compelling while relevant/valid/credible to the purpose, thesis, and audience.  
- Includes facts and details that specifically address readers concerns with significant depth of information to support conclusions with evidence  
- Conclusion(s) drawn show(s) evidence of synthesis of information from multiple sources, including primary research interfere with meaning | - Analysis/interpretation of information presented are accurate, complete and relevant to purpose, thesis, and audience.  
- Includes sufficient details or facts for appropriate depth of information to support conclusions with evidence  
- Conclusion(s) drawn show(s) evidence of synthesis of information from multiple sources | - Analysis/interpretation of information is not entirely accurate, complete, and/or relevant to purpose, thesis, and audience  
- Includes some facts/details to support ideas presented  
- Conclusion(s) drawn show(s) little or no evidence of synthesis of information | - Analysis/interpretation of information is mostly inaccurate, incomplete, and/or irrelevant to purpose, thesis, and audience  
- Includes little or no facts/details to support ideas presented  
- Conclusion(s) drawn show(s) no connection made between purpose/thesis or lacks a conclusion  
- Numerous errors interfere with meaning |
| **Structures of Language** | - Applies novel use(s) of text structure (sentences, sentence patterns, text) to enhance meaning for particular contexts, viewpoints, or interpretations  
- Maintains consistent organizational structure within paragraphs and throughout text | - Text structure is appropriate to purpose, audience, and context  
- Uses varied sentence length and structure to enhance meaning (e.g., including phrases and clauses) Maintains organizational structure within paragraphs and throughout text | - Text structure is not always appropriate to purpose, audience, and context  
- Uses some variation of sentence length and structure  
- Exhibits some organizational structure within paragraphs and throughout text | - Text structure interferes with meaning and intent  
- Uses little or no variation of sentence structures  
- Exhibits little organizational structure within paragraphs and throughout text |
## Capstone Oral Presentation Rubric

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Exceeds Standard</th>
<th>Meets Standard</th>
<th>Nearly Meets Standard</th>
<th>Below Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicates ideas effectively</td>
<td>• Effectively uses eye contact</td>
<td>• Maintains good eye contact</td>
<td>• Uses minimal eye contact</td>
<td>• Uses eye contact ineffectively</td>
</tr>
<tr>
<td></td>
<td>• Speaks clearly, effectively, and confidently using suitable volume and pace</td>
<td>• Speaks clearly and uses suitable volume and pace</td>
<td>• Demonstrates some difficulties</td>
<td>• Fails to speak clearly and audibly and uses unsuitable volume and pace</td>
</tr>
<tr>
<td></td>
<td>• Fully engages the audience by using a variety of accepted techniques (i.e. - ask a question, relate an anecdote, feature the project, present a statistic, engage in a short activity)</td>
<td>• Engages the audience using at least 1 accepted technique (i.e. - ask a question, relate an anecdote, feature the project, present a statistic, engage in a short activity)</td>
<td>• Takes steps to engage the audience</td>
<td>• Does not engage the audience</td>
</tr>
<tr>
<td></td>
<td>• Selects rich and varied words appropriate for context and audience, and uses correct grammar</td>
<td>• Selects words appropriate for context and audience and uses correct grammar</td>
<td>• Occasionally selects words appropriate for context and audience; uses some incorrect grammar.</td>
<td>• Selects words inappropriate for context and audience; uses incorrect grammar</td>
</tr>
<tr>
<td></td>
<td>• Dresses appropriately for the occasion</td>
<td>• Dresses appropriately</td>
<td>• Dresses somewhat appropriately</td>
<td>• Dresses inappropriately</td>
</tr>
<tr>
<td></td>
<td>• Delivers presentation within stated time limits</td>
<td>• Delivers presentation within stated time limits</td>
<td>• Presentation is mostly within stated time limits</td>
<td>• Presentation is not within stated time limits</td>
</tr>
<tr>
<td>Content Requirements</td>
<td>• Exhibits logical organization (i.e. - presentation includes all elements outlined in the Capstone Presentation Guide) with detailed connection to the core question</td>
<td>• Exhibits logical organization (i.e. - presentation includes all elements outlined in the Capstone Presentation Guide) connected to the core question</td>
<td>• Attempts to organize information; concept and/or ideas are loosely connected to core question</td>
<td>• Little logical order is apparent</td>
</tr>
<tr>
<td>OC-2.1</td>
<td>• Exhibits flowing, succinct transitions between key points</td>
<td>• Includes smooth transitions between key points</td>
<td>• Includes transitions between most key points, but is sometimes choppy or confusing</td>
<td>• Exhibits few, transitions between key points; or no transitions little; flow from one idea to the next</td>
</tr>
<tr>
<td></td>
<td>• Provides a clear and compelling conclusion which restates the premise of the core question</td>
<td>• Provides a coherent, logically supported conclusion related to the core question</td>
<td>• Attempts to provide a conclusion</td>
<td>• Little or no attempt to provide a conclusion</td>
</tr>
<tr>
<td></td>
<td>• Delivers presentation without the use of notes or memory aides</td>
<td>• Delivers presentation with minimal the use of notes or memory aids</td>
<td>• Delivers presentation with repeated use of notes or memory aids</td>
<td>• Delivers presentation by reading from notes or memory aids</td>
</tr>
<tr>
<td>Exhibits logical organization</td>
<td>• Selects and uses well-crafted technology and/or other media to enhance communication and enhance audience understanding</td>
<td>• Selects and uses technology and/or other media to communicate desired information and broaden audience understanding</td>
<td>• The selected technology and/or other media supports do not adequately communicate desired information or develop audience understanding</td>
<td>• Does not select technology and/or other media supports to communicate desired information or improve audience understanding</td>
</tr>
<tr>
<td>OC-2.1, 2.2, 2.3</td>
<td>• Responds effectively to audience questions and feedback to provide new insights</td>
<td>• Responds effectively to audience questions and feedback</td>
<td>• Responds somewhat effectively to audience questions and feedback</td>
<td>• Responds ineffectively to audience questions and feedback</td>
</tr>
<tr>
<td>Uses technology and/or other media to enhance the presentation</td>
<td>• Responds effectively to audience questions and feedback</td>
<td>• Responds effectively to audience questions and feedback</td>
<td>• Responds somewhat effectively to audience questions and feedback</td>
<td>• Responds ineffectively to audience questions and feedback</td>
</tr>
<tr>
<td>OC-2.4</td>
<td>• Responds effectively to audience questions and feedback</td>
<td>• Responds effectively to audience questions and feedback</td>
<td>• Responds somewhat effectively to audience questions and feedback</td>
<td>• Responds ineffectively to audience questions and feedback</td>
</tr>
</tbody>
</table>

The student must “meet or exceed” standard by a preponderance of evidence on all expectations.
Discussion

• CTE
• Project Based Learning
• Capstone Projects
Summer 2013 Institute: Workshop 39907, July 29 – Aug 2

STRAND 1
Project Based Learning
Foundational

Summer Institute: Strand 1 Details:

Resources

Participants will receive 1 copy of the following based on their grade level.

Audience: All Educators, All Subjects
CPE Credit: 30.0 Hours

For More Information Contact
STEM Center of South Texas at 956.984.6147 or www.esc1.net/t-stem.
Thank You

- Discussion and Q/A

Gustavo Perez
STEM Specialist

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956.984.6042