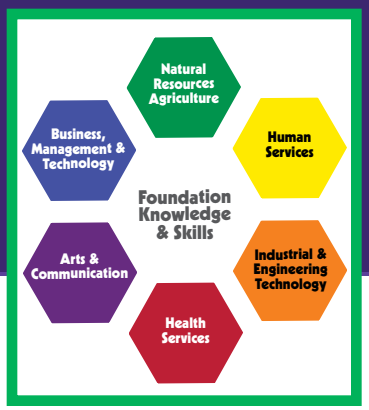
Leader's Guide

Infusing Rigor, Relevance, and Relationships in Academic & Career Education

Missouri Career Education

ESSENTIAL SKILLS FOR ALL STUDENTS

Welcome!



The **Program of Study Implementation Toolkit** offers four, self-paced modules that provide information about the essential elements for beginning the process required under the Carl D. Perkins Act. Each module is designed to provide awareness of the specific topic while reinforcing the interrelation of all four topics and their connection to successful development of programs of study.

Module topics include:

- Understanding the Career Clusters Framework
- Facilitating Successful Student Transitions
- Infusing Rigor, Relevance, and Relationships in Academic and Career Education
- Integrating Career and Academic Education

What's in Your Toolkit

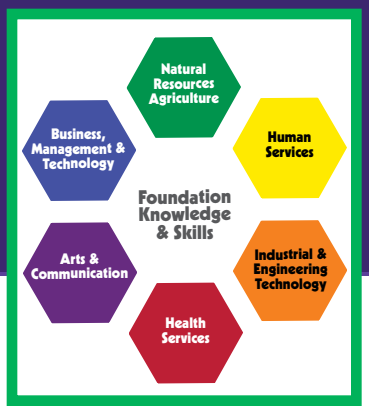
Downloadable and reproducible materials include the Leader's Guide and Participant Workbook. It is important to access these materials in preparation for a workshop presentation.

The **Leaders' Guide** materials include a copy of the script for each of the PowerPoint slides in the module. The script provides information that goes beyond the text printed on the slide. Close study of the script (reading and rereading multiple times to become familiar with the content) will allow extemporaneous delivery, which is more effective than reading to a workshop audience. At specific points in the presentation, participants may be asked to complete an exercise designed to reinforce the content of the topic. These exercises offer an excellent opportunity for small-group interaction and discussion—both vital elements to powerful learning. Each of the exercises can be completed by participants individually or in teams.

In planning for a workshop presentation, it is important to consider the length of time to allow for completing these exercises. For example, when using a team exercise approach, allow time for groups to present their results and group discussion of those results to occur.

The **Participant Workbook** materials supplement the PowerPoint slides for each module. This downloadable resource may be reprinted to produce paper copies for participants in a workshop setting. Participants will need to refer to their workbooks throughout the module. The workbook includes note pages for the PowerPoint slides and the exercises to be completed as well as handouts related to the exercises and for further reading. Plan to photocopy a workbook for each person attending the workshop.

Welcome, Continued



Please ask workshop participants to complete the **Participant Evaluation** that is included. In addition, please complete the **Leader Evaluation**, which consists of two parts:

- Your evaluation of the module materials (quality, usability)
- A summary of the participant evaluations and comments

You can download a pdf version of the participant evaluation along with the workbook to print and distribute at the end of the workshop. Additionally, you can complete the leader evaluation online at www.mcce.org. Your feedback assists the Missouri Center for Career Education in future development of materials for educators.

Appendices included in the workbook provide an overall **glossary** of terms used in all four modules as well as a list of **resource links** with brief explanations as to what information each offers.

Where to Find Additional Assistance

For additional assistance, contact MCCE at 660-543-8768 or www.mcce.org. MCCE Career Education Coordinators and/or Missouri Tech Prep Coordinators may be available (as their schedules permit) to present Career Clusters Framework Toolkit modules.

Other professional development services, ranging from two-hour presentations to full-day workshops to year-long residency programs, are available through MCCE for an affordable fee.

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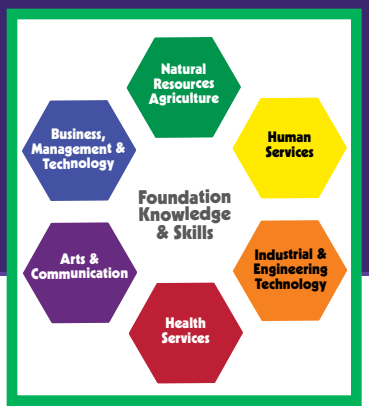
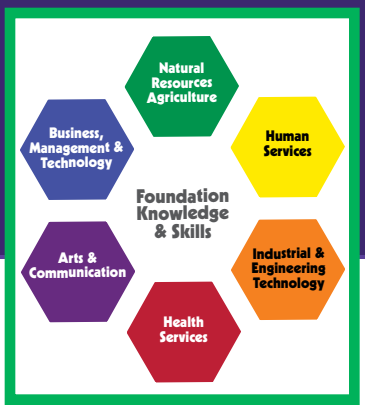


Leader's Guide

Module Script

Missouri Career Education
ESSENTIAL SKILLS FOR ALL STUDENTS

Module Script



Slide 1

Welcome to this module on infusing rigor, relevance, and relationships in academic and career education. This module is one of several modules found within MCCE's Programs of Study Implementation Toolkit.

We hope this module will help you understand how rigor, relevance, and relationships are key components of learning that prepare students for tomorrow's workforce.

Slide 2

The information provided in the module, along with the exercises and materials in your handbook, will help you obtain the knowledge and skills to meet these objectives.

Slide 3

This module includes three sections. First, we will discuss how rigor, relevance, and relationships facilitate student success. Second, we'll look at the impact these three elements have on learning. Last, we analyze how these three elements operate within the Career Clusters Framework.

Slide 4

This section covers:

- Meaningful, challenging instruction and feeling connected
- Understanding challenging concepts in application
- The support of relationships for learning
- Opportunities for high-level thinking and challenging content

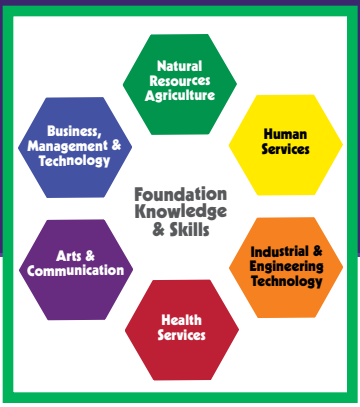
to better consider the impact of rigor, relevance, and relationships in our schools, let's examine each element in the context of Devin's story. The text is located in pages 25 to 26 in your Participant's Workbook.

Slide 5

From Devin's perspective, school is boring. He doesn't see the need for the subjects he's failing: math, science, and language arts. His reaction is to disengage from those subjects and focus on the Business and Graphics Technology course which appeals to his interests in computers and precision machining.

What important element is Devin seeking?

Module Script



Slide 6

Devin's father cannot understand why Devin is failing math and science when he is able to excel in his studies in Technical Education Exploration. He knows that success in technical fields requires applications of high-level math anc science concepts. If the math and science is too challenging for Devin – as his failing grades might suggest – then it doesn't make sense that he is doing so well at Tech.

What important element allows Devin to be successful in the rigorous coursework he has mastered at Tech?

Slide 7

Reading for information is a skill that is necessary for school success. It is a skill that must be addressed in all classrooms – not jsut the language arts classroom. And, the information that is vital for Devin to understand may be presented in a variety of ways, including use of leveled-texts and audio-texts.

What important element is necessary for helping Devin overcome his challenges in reading?

Slide 8

There is no such thing as an inherently "low level" subject matter. Every course has the opportunity for "higher level thinking" and challenging content.

All students deserve relevant and rewarding coursework. Students engage – are connected to their learning – when the content is challenging and has a personal connection to real life applications. this kind of learning is where thought meets action.

Powerful learning is both "head work" and "hand work."

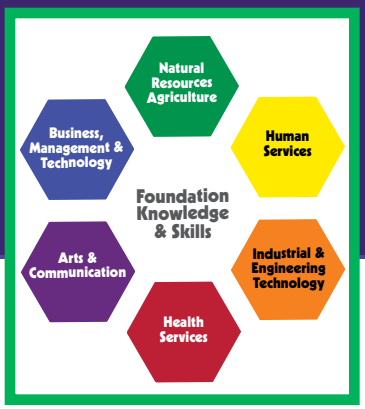
Slide 9

Relationships are the "ties that bind us together." We fondly remember our favorite teachers, the ones we liked and who cared for us. And chances are, we remember the content of the lessons they taught. Conversely, we grimace at the thought of the teachers we did not like.

Rigor refers to learning in which students demonstrate a thorough, in-depth mastery of challenging tasks to develop cognitive skills through reflective thought, analysis, problem solving, evaluation, or creativity. Rigorous learning can occur at any grade and in any subject. Rigorous content represents a continuum form simple to complex knowledge as the "naïve" learner gains insight and sophistication.

Relevance provides context for abstract concepts. Relevance refers to learning in which students apply core knowledge, concepts, or skills to solve real-world problems. Relevant learning is interdisciplinary and contextual.

Module Script



Slide 10

Without relationships, students drop out of our educational system, both literally and figuratively. The more "connected" a student feels, the better that student will perform in school. Students who feel they "belong" or are a part of the school will have fewer absences and will persist to graduation. Judy Hart Angelo and Gary Portnoy said it well in the *Cheers* theme song:

Making your way
In the world today
Takes everything you've got ....

Sometimes you wanna go
Where everybody knows your name
And they're always glad you came.
You wanna be where you can see
The troubles are all the same.
You wanna go where everybody knows your name.

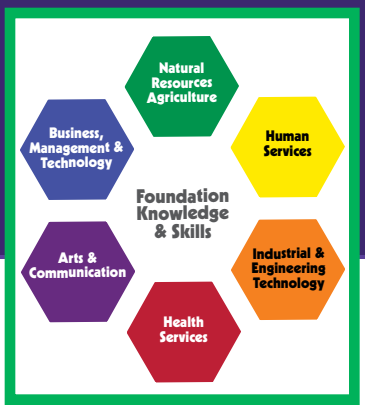
Learning is a social activity. True, the "ah-ha" belongs to the individual—but learning is what happens when the "ah-ha" is shared with another person. Archimedes made his discovery of the buoyancy force when he was alone in his bathtub—and was so excited that he ran naked into the street and yelled, "Eureka! Eureka!" (I have found it.) We want to share what we learn—so relationships are important to learning.

Matriculation from elementary school to middle school to high school to postsecondary education (or quality employment) causes both anticipation and anxiety. Relationships serve as "bridges" connecting one institution to the next. Strong bridges are built on communication and collaboration among the partner institutions and stakeholders. Relationships provide continuity in Pre-K through Grade 12 education and beyond.

Slide 11

Without rigor, students cannot meet expected achievement standards. Rigor demands that students receive classroom instruction that will allow them to perform at proficient and advanced levels on high-stakes assessments. Rigor represents alignment to grade-level and course-level expectations. Rigor is found in the quality of the written curriculum, in classroom instruction, and in assessments.

Module Script



Rigor is achieved through appropriate challenge. Asking students to complete *one hundred* math problems is *difficult*—but not necessarily *rigorous*! Rigor could be *one* math problem carefully designed to require students to *think deeply*—to interpret, infer, classify, compare, summarize, explain, analyze, construct.

Students need instruction that is within their "zone of proximal development." They need to work through independent learning tasks that require them to extend beyond their previous accomplishments—but not experience the kind of frustration that makes them want to quit.

Rigorous instruction engages students in complex cognition. The focus shifts from learning activities that simply require students to remember facts, concepts, and procedures. The emphasis becomes application, analysis, evaluation, and creation. Students are asked to "think about their thinking."

Slide 12

Without relevance, students don't understand why they need to learn "school lessons." 76 percent of high school dropouts leave school because they see no connection to the "real world."

We use concrete examples and manipulatives to teach basic concepts to young children. But over time, as students are gradually given more responsibility for their own learning, and "learning to read" is replaced by the "reading to learn" mode of instruction, classrooms become more focused on content and abstract concepts and less on the concrete processes and real-world applications.

Relevance extends beyond providing students with "examples" of how they will use the knowledge and skills they are presently learning for "later" or when they "get a job." Relevance is about the present as well as the future. It extends passive learning into active learning focused on current applications for how they will use what they've learned—now, in their own lives.

Relevance links present learning to students' past learning. It creates and reinforces neural brain-wave pathways — literally strengthening students' "brain power" and ability to think.

Slide 13

Evaluate learning activities for rigor, relevance, and relationships. Consider the learning activity, "Comparing the literary style of two different authors."

Module Script

This example learning activity reflects:

1. HIGH RIGOR — Students must analyze the style of each author, then compare. This task requires complex thinking.
2. LOW RELEVANCE — Aside from analysis and comparison, the task does not ask for a "real world" application. There is no apparent reason for the task, no "now" element.
3. LOW RELATIONSHIPS — As written, the task is to be completed by an individual, in isolation. The student is not asked to relate to peers or to a "community."

Slide 14

In this exercise, you will practice determining the level of rigor for various activities. **[PAUSE until exercise could be completed]** Answers are as follows:

Those activities demonstrating:

- HIGH RIGOR are 3, 4, 5, 7, 9, 10
- HIGH RELEVANCE are 3, 4, 5, 7, 8, 9, 10
- HIGH RELATIONSHIPS are 3, 5, 7, 9, 10
- LOW RIGOR are 1, 2, 6, 8
- LOW RELEVANCE are 1, 2, 6
- LOW RELATIONSHIPS are 1, 2, 4, 6, 8

Slide 15

In this section, you will come to a better understanding of how rigor, relevance, and relationships fit within the Career Clusters Framework.

Slide 16

Note these definitions and the interplay between rigor and relevance.

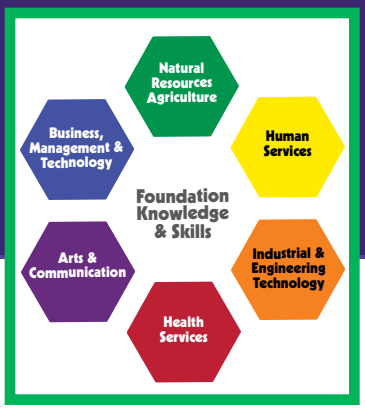
How are the four critical relationship areas developed in your district?

Slide 17

Each element of the Career Clusters Framework supports rigor, relevance, and relationships — as indicated by this chart. You will see that:

- Rigor is strongly linked to programs of study
- Career clusters and personal plans of study have a close link to relevance
- Transitions and integration are forged through relationships

It is essential to create a system for seamless transition from middle school to high school and from high school to postsecondary institutions. The **Career Clusters Framework** is a structure that offers students core academics as well as extra-curricular activities that match



their skills and interests. By providing coursework and work experiences around specific occupational groups, school becomes more relevant. The Career Clusters Framework strongly supports relevance.

A **program of study** is a sequence of courses adopted and offered by local educational agencies and post-secondary institutions as an option for students when planning for and completing coursework. A program of study incorporates secondary and post-secondary education elements, including coherent, rigorous, and relevant content aligned with challenging academic standards in a coordinated, non-duplicative progression of courses that align secondary education with post-secondary education to adequately prepare students to succeed in post-secondary education. A Program of study may include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire post-secondary education credits; and lead to an industry-recognized credential or certificate at the post-secondary level or an associate or baccalaureate degree. Programs of study are clearly linked to rigor.

When multiple institutions collaborate in the development of a program of study based on the Career Clusters Framework, student **transitions**—linked to relationship structures—are enhanced. An **articulation agreement** is a formal written document that specifies the process by which a high school student may earn college credit through successful completion of certain high school courses when student achieve learning outcomes comparable to those in a college course. The process allows high school students to move smoothly into post-secondary education without experiencing delay or duplication of courses.

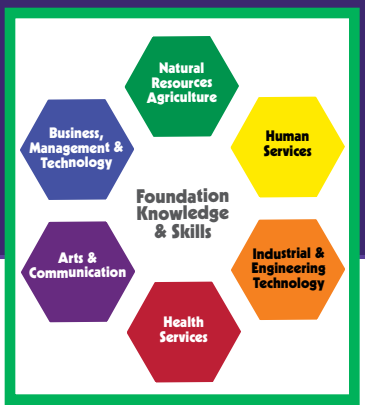
Similarly, **integrated courses** designed to meet both academic and career-technical education goals, demonstrate a strong link to relationships. Students utilize academic knowledge in hands-on applications to earn both academic and career-technical education credits.

The **personal plan of study** developed by an individual student emphasizes the strong link to relevance. Determining one's own course of study within a career pathway is a motivating and personally relevant decision. A student develops a personal plan of study in collaboration with parents, educators, and counselors. It is a "living document" that is reviewed and adjusted as needed to adapt to the changes in the student's career plans.

Slide 18

Schools provide various means for providing rigor, including those listed here. When referring to advanced courses and capstone experiences, keep in mind that:

- Dual credit courses are college-level courses that are taught on the high school campus, by qualified instructors.



- Dual enrollment courses are college courses taken by high school students who must travel to the college campus for instruction.
- Advanced placement and International Baccalaureate (IB) courses provide academic rigor and prepare students for the challenges of postsecondary education. In addition, students may attain test scores that earn college credit.
- A capstone experience is a learning task in which students must integrate special studies with a major area of emphasis and extend, critique, and apply knowledge gained in the major.

The foundation of the personal plan of study is the school's implementation of a program of study based on the Career Clusters Framework. The p**ersonal plan of study**, which is a student's scope and sequence of coursework and co-curricular experiences, is:

- Based on chosen educational and career goals.
- Incorporates high school graduation requirements and relevant work-based learning experiences.
- Reflects student movement toward a chosen career within a career pathway and/or career cluster.
- Involves enrollment in academic courses (aligned to standards, GLEs/CLEs, and knowledge & skill statements) that provide the "right" preparation needed for continued study. Not just "4 years of English," but the appropriate courses. Not just "3 years of math," but the appropriate math.
- Developed cooperatively with the student, parents, counselors, and educators and reviewed and adjusted as necessary to reflect changes in a student's career plan.

Slide 19

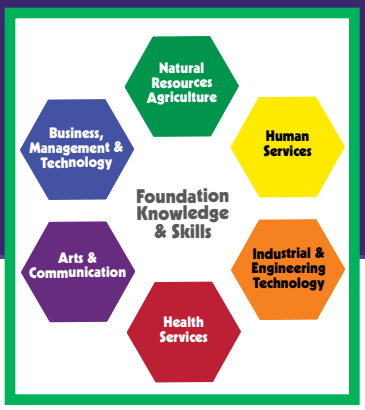
Tools for unfusing relevance include:

CAREER CLUSTERS: These assist educators in tailoring coursework and work experiences around specific occupational groups that offer students core academic as well as extracurricular activities that match their skills and interests in the six career paths.

PERSONAL PLANS OF STUDY: These are developed by the individual student and revised as necessary to meet the requirements of a selected career pathway.

The foundation of the personal plan of study is the school's implementation of a program of study based on the Career Clusters Framework. The p**ersonal plan of study**, which is a student's scope and sequence of coursework and co-curricular experiences, is:

Module Script



- Based on chosen educational and career goals.
- Incorporates high school graduation requirements and relevant work-based learning experiences.
- Reflects student movement toward a chosen career within a career pathway and/or career cluster.
- Involves enrollment in academic courses (aligned to standards, GLEs/CLEs, and knowledge & skill statements) that provide the "right" preparation needed for continued study. Not just "4 years of English," but the appropriate courses. Not just "3 years of math," but the appropriate math.
- Developed cooperatively with the student, parents, counselors, and educators and reviewed and adjusted as necessary to reflect changes in a student's career plan.

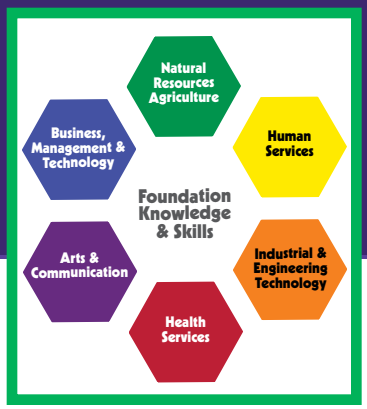
INTEGRATION OF ACADEMIC AND CAREER-TECHNICAL EDUCATION: When the "book learning" of academics is integrated with the "hands-on" applications in career-technical education, students experience the relevance of both types of learning.

TECH PREP: These programs offer a curriculum that, in a two-year commitment, integrates academic and career-technical education instruction that is articulated through an agreement with a two- or four-year, post-secondary education program. Tech prep utilizes appropriate work-based and work-site learning experiences and is one means of infusing relevance into the curriculum.

ACTIVE LEARNING: These instructional strategies engage the learner, so that classroom learning becomes *active* rather than *passive* and therefore, more relevant to the learner. Traditional teaching methods rely on the teacher providing the "ah-ha" moments, as "the sage on the stage." Active learning instructional strategies allow the students to become involved in the content and journey to their own "ah-ha" moments. The teacher *facilitates* relevant learning tasks that challenge the students to discover content in-depth, to apply facts, concepts, and procedures while analyzing, evaluating, and creating.

PROJECT- AND PROBLEM-BASED LEARNING: These experiences offer students a means of becoming actively engaged in "real-world" projects or to solve "real-world" problems. Both strategies offer a means of achieving relevance in classroom instruction.

CAREER-BASED LEARNING: This approach offers a structured learning experience that integrates grade-appropriate, career-based activities with classroom instruction. Through career-based learning, students gain employability and occupational skills while applying and



advancing their knowledge in academic areas. Examples include: service learning, mentoring, job shadowing, volunteer service, internships, cooperative education, and apprenticeships. Because students choose their areas of interest, career-based learning is personally relevant.

Slide 20

There are **four dimensions of relationships** important in schools:

1. **Individuals, or Person-to-Person Actions.** Learning relationships with students are essential for support in the learning process. These are formed from a combination of relationships with parents, peers, and teachers.
2. **Programs, or Programmatic Efforts.** Site-based programs influence both school decisions and problem-solving and the teaching and support functions of the school. Implemented programs affect staff relationships among teachers, administrators, and support staff as well as the students within the school.
3. **Institutions, or Organization-wide Operational Initiatives.** Operational initiatives go beyond the adoption of specific programs and affect the organizational structure and underlying philosophy of how the school or school system functions. Such reorganization requires continuous professional development of educators as they work to create and maintain a culture supportive of a community of learners.
4. **Consortia, or Cross-Institution Cooperative Agreements.** Schools partner with community stakeholders, including postsecondary two-year and four-year institutions, business and community leaders, and parents, to create and extend relationships.

The following slides detail each type of methodology for infusing relationships within the Career Clusters Framework.

Slide 21

People create relationships through their interactions with one another. Relationships can be established through the techniques listed here.

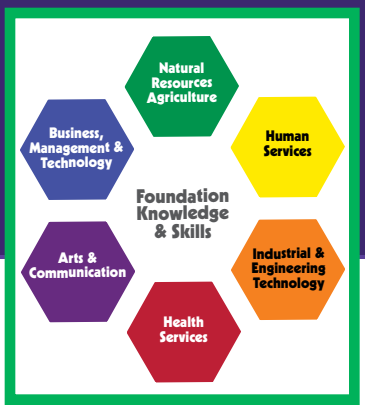
Slide 22

Programs can facilitate the development of strong relationships. For example: programs that build emotional intelligence, facilitate academic transitions, and apply academics to career opportunities.

Slide 23

- **Small Learning Communities** are structured to eliminate the possibility of students moving through an impersonal educational experience. Keeping the size small fosters relationships among students and staff and encourages personal interactions that are not possible in larger settings.

Module Script



- **Professional Learning Communities** create teacher relationships by organizing faculty into learning teams that focus on student achievement.
- **Making Middle Grades Work** is the middle school initiative of the Southern Regional Education Board (SREB).
- **High Schools That Work** is the first SREB school-improvement initiative. The framework of the HSTW Goals and Key Practices emphasizes the importance of relationships for student success.
- **Technology Centers That Work** is an enhancement of the HSTW framework that focuses on literacy, and student readiness for work and postsecondary education. Each TCTW site develops a close relationship with a partner HSTW site.
- **Project Lead the Way** promotes engineering careers through the relationship of partner institutions: middle schools, high schools, higher education, and the private sector.
- **Model Schools Initiative** furthers the aim of increasing rigor, relevance, and relationships in educational institutions. Member schools demonstrate the student success that results from strong relationships.

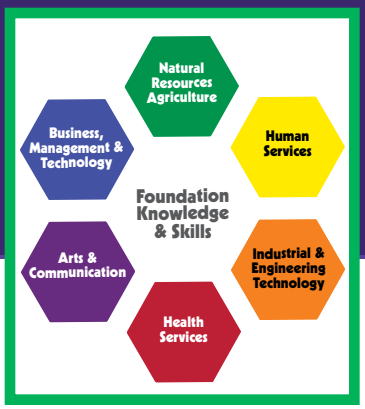
Slide 24

It is essential to create a system for seamless transition from middle school to high school and from high school to postsecondary institutions. The **Career Clusters Framework** is a structure that provides all students a means for seamless transition from middle school to high school and on to postsecondary education and employment.

Evidence of cross-institutional cooperation includes:

- Events and activities that assist students in adjusting to new environments. Orientation, pre-enrollment advisement, and campus tours are examples of this.
- Policies and agreements that foster student transitions include articulation and dual credit/dual enrollment agreements and transfer policies that ensure credit for coursework previously completed and prevent unnecessary duplication of content.
- A student's personal plan of study represents a 10-year map, from middle school through high school and beyond to postsecondary education and employment. When multiple institutions collaborate in the development of a program of study based on the Career Clusters Framework, student transitions — relationship structures — are enhanced.

Module Script



Slide 25

Documenting evidence of rigor, relevance, and relationships in an educational setting requires taking a close look at available "artifacts." For example, student handbooks are "artifacts" that offer insight into existing school programs.

Slide 26

Knowledge without action is of little value. How can you infuse rigor, relevance, and relationships into your own educational setting?

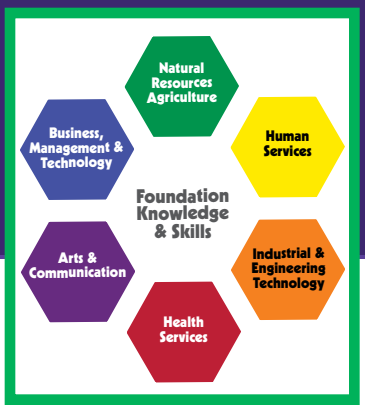
Slide 27

Missouri Center for Career Education staff offer assistance in developing and implementing action plans to achieve greater rigor, relevance, and relationships in your educational setting. In addition, a variety of professional development workshops, free lending library resources, and print materials are offered to support your on-going implementation of school improvement initiatives.

Slide 28

A number of additional resources exist for your use. These include:

- **Career Clusters** (www.careerclusters.org), is the Web site for the States' Career Clusters Initiative (SCCI) and features research, products, and services.
- **High Schools That Work** (www.sreb.org/Programs/hstw/hstwindex.asp), is the largest and oldest of the Southern Regional Education Board's (SREB) school improvement initiatives for high school and middle grades leaders and teacher. The site allows users to register for conferences and workshops, obtain copies of publications, read about exemplary school and classroom practices, find a schedule for technical assistance visits to member schools, and learn how SREB collects data on students' academic achievement.
- **Model Schools Initiative** is a program of the International Center for Leadership in Education (www.leadered.com), which offers a wealth of information related to rigor and relevance in learning.
- **Project Lead the Way** (www.pltw.org), is a not-for-profit organization that promotes pre-engineering courses for middle and high school students. PLTW forms partnerships with public schools, higher education institutions and the private sector to increase the quantity and quality of engineers and engineering technologists graduating from our educational system. The site offers resources for school



certification, assessment, and program evaluation.

- **Missouri Connections** (www.missouriconnections.org), is a Web-based education and career planning system available at no charge to all public middle and secondary schools. It allows students to explore career options and develop personal plans of study as well as electronic portfolios.
- **Missouri Center for Career Education** (www.MCCE.org), offers curriculum, professional training, and other resources for schools, teachers, and staff.
- **Missouri Department of Elementary and Secondary Education** (www.DESE.mo.gov), offers downloadable booklets and other information about career clusters and career pathways.

Slide 29 - 30

Take a few minutes to review these key points from this module.

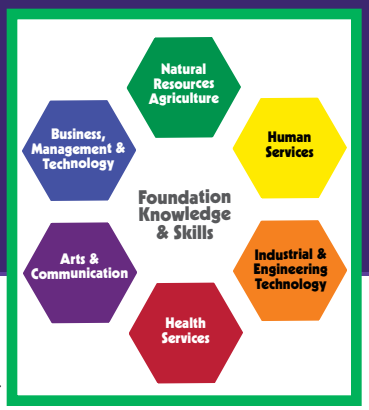
Slide 31

Thank you for your participation in *Infusing Rigor, Relevance, and Relationships in Academic & Career Education*. We hope the exercises and next-step activities provided will help you to work within your institution/district to enhance career opportunities for all students.

Module Exercises

Missouri Career Education
ESSENTIAL SKILLS FOR ALL STUDENTS

Exercise 1: Balancing Rigor, Relevance, Relationships



Objective:

Rank the level of rigor, relevance, and relationships in learning activities.

Instructions:

Complete the chart below by ranking the level of rigor, relevance, and relationships (as either "high," "medium," or "low") in each of the following learning activities:

Learning Activity	Rigor (High, Medium, Low)	Relevance (High, Medium, Low)	Relationships (High, Medium, Low)
1. Read a recipe for making bread.			
2. Plot the coordinates for a quadrilateral on a grid.			
3. Work with a team to collect data and make recommendations to address an environmental concern.			
4. Use tessellation to create an original artistic design.			
5. Write and direct a one-act play.			
6. Memorize the Periodic Table of Elements.			
7. Discuss, in a small group, how the events in a novel relate to nonfiction current events.			
8. Create a collage illustrating positive and negative space.			
9. Mentor an elementary student learning to speak simple Mandarin Chinese conversational phrases.			
10. Work in a crew to design and construct a garden shed.			

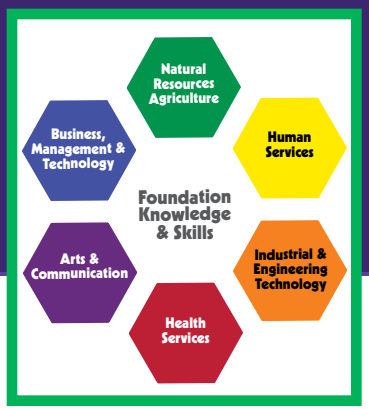
Next-Step Activity:

Share this activity with others in your school/district. Discuss with them the following:

- What did you notice about the low-rigor learning activities?
- What did you notice about the high-relationship activities?
- How might the level of relevance in a learning activity affect both rigor and relationships?

Record your answers on the following page.

Exercise 1:
Next-Step Activity Responses

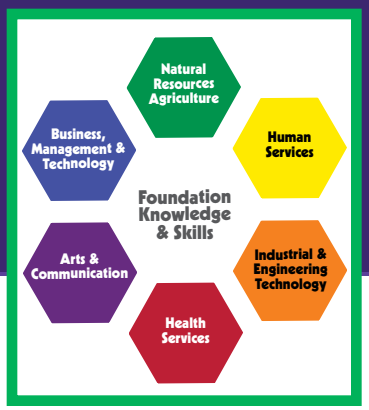


What did you notice about the low-rigor learning activities?

What did you notice about the high-relationship activities?

How might the level of relevance in a learning activity affect both rigor and relationships?

Exercise 2: Identifying Rigor, Relevance, Relationships



Objective:

Utilize district publications (print or online) to identify existing programs offering rigor, relevance, and relationships.

Instructions:

Review the student handbook excerpt in on pages 27 through 32. Highlight evidence of the following and put an "X" in the boxes below if those programs reflect rigor, relevance, and/or relationships.

Programs Described in the Student Handbook Excerpt	Indicates Rigor	Indicates Relevance	Indicates Relationships
Activities/clubs/student life			
Service learning/community service			
Internships/practicum			
Parent/teacher meetings			
International Baccalaureate (IB)			
Tutoring strategies			
Advanced placement			

Next-Step Activity:

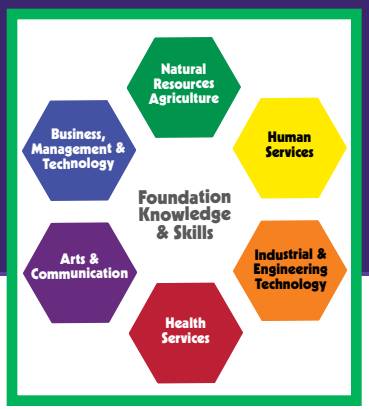
Look at the student handbook for your institution/district.

What evidence is there of rigorous learning, relevant experiences, and programs that enhance relationships? Complete the same table for your institution below.

Programs Described in Your Institution's Student Handbook	Indicates Rigor	Indicates Relevance	Indicates Relationships
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Discuss what you find with others at your institution.

Exercise 3: Creating Your Personal Action Plan



Objective:

Develop a personal action plan to improve rigor, relevance, and relationships at a specific institution.

Instructions:

Complete at least two items per category below. Then, list two to three action steps that you can personally take within the next four weeks to facilitate each of your suggestions.

The rigor in my institution would improve if only…	The relevance in my institution would improve if only…	The relationships in my institution would improve if only…
Item A:_____ **Action Steps:** **1.** **2.** **3.**	**Item A:**_____ **Action Steps:** **1.** **2.** **3.**	**Item A:**_____ **Action Steps:** **1.** **2.** **3.**
Item B:_____ **Action Steps:** **1.** **2.** **3.**	**Item B:**_____ **Action Steps:** **1.** **2.** **3.**	**Item B:**_____ **Action Steps:** **1.** **2.** **3.**

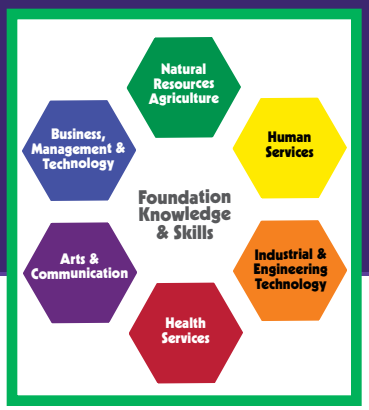
Next-Step Activity:

Meet with teachers and others at your institution to brainstorm improvements to rigor, relevance, and relationships. Together, create a team action plan for implementing the improvements you agree on.

Handouts

Missouri Career Education
ESSENTIAL SKILLS FOR ALL STUDENTS

Devin's Story



A Story about Career and Technical Education

Devin, a sophomore at one of the high schools in St. Louis County, is sitting in the high school's assistant principal's office with his parents, Mr. and Mrs. Smith. The topic for discussion: Devin's declining school performance. The last semester of his freshmen year, Devin received Ds in Algebra I, Physical Science, and Language Arts. This semester, he is failing those subjects.

Devin begins the conversation: " I don't see what the big deal is. I don't really need to know these subjects. They are boring. Besides, at Tech they tell me I'm doing great. In fact, they tell me I'm the best they have seen in a while and that they will write me letters to get into IT."

As a sophomore, Devin attends classes for a half day at his home high school within the district in which his family lives and pays taxes. The other half day, Devin is enrolled in Technical Education Exploration, TEE, a one-year exploratory program that allows him to explore two of four career clusters. The four choices are Business & Graphics, Construction, Medical & Human Services, and Technology. Devin has chosen Business & Graphics and Technology. He is interested in computers but also precision machining.

"But Devin," counters the assistant principal, "how can you be successful at any of those fields you are interested in with failing grades in mathematics and science here at this school? Those areas require math abilities, geometry, trigonometry, and in IT, algorithms. Right now you're a long way off from taking our upper-level mathematics courses. You can't build many machines without a knowledge of physics and trigonometry and that requires Algebra skills, in which you have not shown proficiency."

Devin's father, angry and confused, speaks up: "I don't understand how you can excel in a technical field, and that is what he says he is being told by his teachers at Tech, but be failing Geometry and Science? What is going on here?"

The assistant principal asks Devin to step outside for a moment. When the administrator returns, Devin's mom makes the following statement to Devin's father…

"Look, Frank, this is the first time in a long time that Devin has experienced any success in a school setting. What with his learning disability, there have been times that I never thought he would want to attend or participate in anything that had to do with school. He likes Tech. They give him the time to do projects that interest him. Maybe it's a place where he can find some success…"

"That may be true, Mrs. Smith," the assistant principal replies, "but if Devin's performance does not improve here, he can count on the following things occurring; first, possibly not having enough credits to attend Tech or graduate on time. Also, you can plan on Devin spending at least a year in remedial coursework at any postsecondary program he plans on attending – say, at St. Louis Community College or Ranken. And, we know that kids who have to spend time taking remedial coursework often drop out of college within the first year."

Devin's Story, Continued

The assistant principal asks Devin to step back into the office. "Devin," he asks, "what do you think caused your performance in Geometry and Biology to decline so much in the second quarter? Your first quarter grades, all Cs, were not stellar but they were not failing like they are now."

"I don't know," replies Devin. "I told you these high school courses are boring. There's a lot of reading, and I don't like to read that much. I read a couple of pages and can't remember what I have just read. How am I ever going to learn if that happens?"

"I don't know either, Devin," his exasperated father responds, "but you're obviously not trying hard enough."

Devin's mother throws a disconcerting look at her husband's low level of tolerance.

"I'm trying as hard as I can, Dad. Look, at TEE we don't have to read long textbooks, and we can't do homework 'cause I can't take the machines home. I still don't see what math and science at this school have to do with the projects I get to do at Tech."

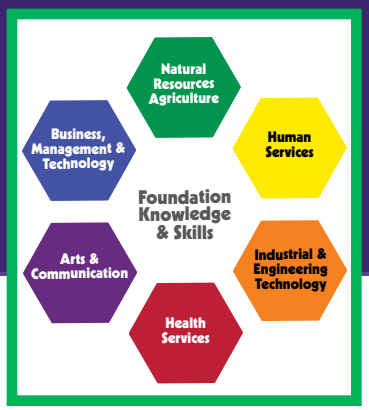
The assistant principal has heard these student-parent conversations before and knows that young people like Devin who find little interest in the traditional high school curriculum can be intrigued by the world of work. Devin is this kind of student. His freshman grades and fall semester sophomore grades and excitement for real-world learning show it.

A program like graphic design or precision machining might catch him —keep him in school and aid him in fashioning an occupation. It might give him a chance to forge a career pathway for himself. The big question the assistant principal wonders is what awaits Devin? Would it be a restricted pathway that defined him and the trade he would choose in the narrowest of intellectual as well as economic terms? Or a pathway that consists of a curriculum that ensures curiosity and the ability to learn. And, while situated in a particular trade, will he seek connections to writing, to mathematics, to science, to economics.

The core problem, it seems to the assistant principal, is not that multiple curriculums exist. In fact, varied courses of study are enriching. The problem it seems is that, even after tracking, there are biases at play in who gets what curriculum. Furthermore, the curricular options are built on terribly diminished and self-fulfilling assumptions about the cognitive capacity of technical students. After a while, a short "while" in Devin's case, they figure out whose mind is certified by their high school and whose future is not.

It is tough, the assistant principal thinks, to be a sophomore in high school and have to define yourself either in compliance or rejection of an institution's dynamics.

Student Handbook Excerpt



STUDENT HANDBOOK

Academic/Career & Technical High School Belief Statements:

MISSION STATEMENT

Our mission is to create a positive, caring environment where all students can learn the skills essential for a successful life in a diverse, democratic society.

GOALS

Academic/Career & Technical High School students will:

- Seek academic excellence.
- Respect self, others, and the environment.
- Communicate effectively.
- Process information to solve problems independently and cooperatively.
- Apply technology competently
- Develop personal wellness practices.

A+ SCHOOLS GRANT PROGRAM

The A+ Schools Program provides financial incentive to qualified A+ graduates to continue their education beyond high school. A+ graduates may be eligible to receive reimbursement for the cost of tuition and general fees while attending a Missouri public community college or vocational/technical school on a full-time basis. It is recommended that all students enroll in the A+ Schools Program and work toward graduating with A+ status. To graduate with A+ status a student must meet ALL of these requirements:

- Attend a designated A+ School for three consecutive years (grades 10-12) prior to high school graduation.
- Graduate with an unweighted cumulative GPA of 2.5 or higher on a 4.0 scale.
- Graduate with at least 95% ADA (Average Daily Attendance) for grades 9-12.
- Perform and document 50 hours of unpaid district tutoring or mentoring coordinated through the A/C&THS A+ Office.
- Maintain a record of good citizenship and avoid the unlawful use of drugs and alcohol.
- Apply for non-payback scholarships by completing the FAFSA (Free Application for Federal Student Aid).

To sign up for the A+ Schools program, pick up an A+ Agreement from the Guidance Office or the A+ Office.

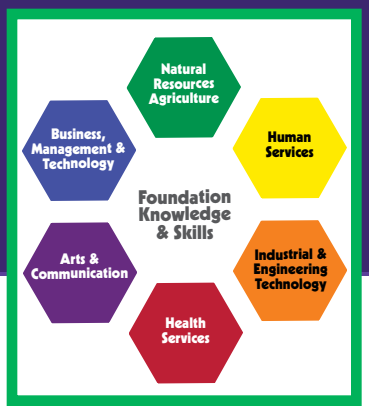
ACADEMIC LETTER

Any full-time student with a full schedule of classes who has attained at least a 4.0 cumulative grade point average during any semester will receive an academic letter. Fall semester qualifiers will be recognized in the spring at the Academic Achievement Awards ceremony. Spring qualifiers will be recognized during the following year's ceremony.

ADVANCED STUDIES AND RECOGNITION PROGRAM

The Advanced Studies and Recognition Program is based on the premise that the school system has a responsibility (1) to challenge highly motivated and talented students, (2) to increase students' opportunity for admission to leading postsecondary institutions,

Student Handbook Excerpt, Continued



(3) to enhance the students' possibilities for receiving placement and credit in college for advanced work completed in high school, and (4) to provide recognition for achievement which will increase the chances for financial aid toward postsecondary studies.

The Advanced Studies and Recognition Program encompasses the following:

- Honors courses
- College courses for credit
- Advanced Placement (AP)
- International Baccalaureate Program

Courses taken in the Advanced Studies and Recognition Program receive extra weight in the grading system. Students enrolled in the Advanced Studies/AP courses receive a weighted value of .50 on a 4.0 scale. Students enrolled in the IB and AP courses will receive a weighted value of 1.0 on a 4.0 scale. Students enrolled in college credit or Honors courses receive a weighted value of .66 on a 4.0 scale. Students enrolled in IB and AP courses are required to take IB/AP exams to receive weight in the course.

REQUIRED PROJECTS

Some courses have required projects. A required project is defined as one of such importance that it must be completed if credit for the course is to be given. Failure to complete a required project will result in a semester grade of F.

ACTIVITY AND ATHLETIC INFORMATION

Activity Programs

Clubs are an important part of student life and the school's educational program. Clubs stimulate interest in different fields. They provide friendships with others who have the same interest. They help promote a feeling of belonging to the school. In order to keep enthusiasm within the club, the student should support the organization to which he/she belongs.

A/C&THS endorses and sponsors these Missouri State High School Activities Association (MSHSAA) sanctioned activities and athletics:

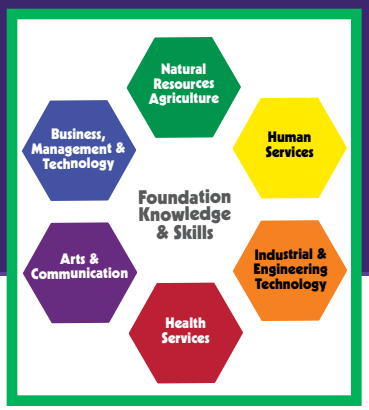
- Cheerleading
- Choirs
- Dance Team
- Flag Guard/Winter Guard
- International Thespian Society Marching Band
- Orchestra
- Symphonic Band
- Scholar Bowl Team

Athletic Programs

Boys: Baseball, Basketball, Cross Country, Football, Golf, Soccer, Swim/Dive, Tennis, Track and Field, Wrestling

Girls: Basketball, Cross Country, Golf, Gymnastics, Soccer, Softball, Swim/Dive, Tennis, Track and Field, Volleyball

Student Handbook Excerpt, Continued



NATIONAL HONOR SOCIETY

The Academic/Career & Technical High School Chapter of National Honor Society is a duly chartered and affiliated chapter of this prestigious national organization. Membership is open to those students who meet the required standards for selection established by the national office of NHS in four areas of evaluation: scholarship, leadership, service, and character.

STUDENT SENATE

The A/C&THS Student Senate is the governmental body for the building. Members include the President, Vice-President, Secretary, Treasurer, Historian, and senators from each grade. The purposes of this organization are to establish a working relationship between the student body and the administration; to develop a forum for student voice and channels for student involvement; to provide evidence of good citizenship, scholarship, and leadership; and to provide orderly direction for school activities.

ATTENDANCE AND TARDIES

Regular attendance is an important responsibility of the student's life. Poor attendance is the greatest contributing factor to school failure.

ARRIVAL AT SCHOOL

When entering the building in the morning, students should gather all necessary materials for the first period class.

- Students may go to their first period classroom or to the Commons where they will be allowed to visit and/or study until class time.
- Only students who wish to study may enter the Media Center before school. The Media Center is a quiet area at all times.
- Standing in groups in the halls blocks the normal traffic flow and creates the problems of running, pushing, and loud unnecessary talking; therefore, students are to move into rooms and not stand in the hallways.

POSTSECONDARY INSTITUTION VISITS

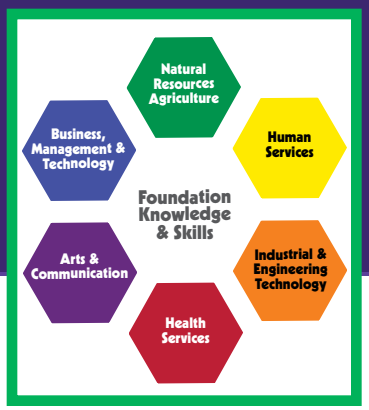
Juniors and seniors will be allowed verified postsecondary institution visits. These visits are excused absences, but are NOT classified as a school activity when calculating outstanding attendance eligibility. Forms can be picked up in the Attendance Office.

EIGHTH SEMESTER ATTENDANCE REQUIREMENT

A limited number of seniors who qualify will be allowed to leave campus the eighth semester and continue their education in a program to meet the eighth semester attendance rule in one of six ways:

- The student who enrolls in a college or vocational school. A student attending college must submit proof of enrollment of twelve (12) college hours. A student attending college must have a high school average of 2.5. A student attending a vocational school must submit proof of enrollment for a minimum of four (4) hours of instruction per day.
- The student who enters the Armed Services.
- The student who is allowed to work full-time providing the job appears to have a reasonable opportunity to

Student Handbook Excerpt, Continued



be a profitable experience. (See guidance counselors for program requirements.)

- The student is a parent or future parent. The student must provide a written statement explaining the circumstances necessitating early graduation.
- The student who is married and is responsible for the management of the home.
- The student who has a 92 percent attendance record over the previous two semesters. (No more than eight days of absence per semester.)

The student who successfully meets the above requirements during the eighth semester of school will be eligible for graduation. It is further understood that a student will forfeit the right to graduate with the class if he or she fails to notify the school of a change in the original agreement to leave campus the eighth semester. The high school principal or his designee will conduct a conference with each applicant and the parent or legal guardian prior to the approval of the application.

INTERNSHIPS/PRACTICUM

Some A/C&THS courses offer internship and/or practicum experiences for students. Qualified students earn course credit while working on the job in their chosen career field. For more information about this opportunity, contact Guidance and Counseling Services.

JOBS

- Students who work after school have the responsibility to take care of their school obligations, including after school detention, before being excused from school each day,
- Students seeking jobs or participating in job training must do so on their own time.
- Students will not be excused from school to look for jobs. Interviews scheduled at a specific time can be met by having a parent make arrangements in advance with the administration.

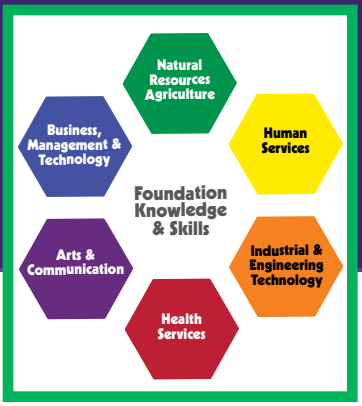
ACADEMIC INTEGRITY

Academic integrity is defined as the conscious intent on the part of students and staff to honestly and responsibly use original, unique yet informed thoughts, ideas, opinions, and products toward the achievement of personal or professional academic goals. A violation against the Academic Code of Ethics is an act which could deceive, cheat, or defraud so as to promote or enhance one's academic standing. Academic dishonesty also includes knowingly or actively assisting any person in the commission of a violation of the Code.

Violations could include, but are not limited to:

- Plagiarism—Failure to use original, unique yet informed ideas, thoughts, works, images, or products, with the intent to represent the work of others as one's own.
- Cheating—The willful intent to use sources improperly for personal gain.
- Forgery/Falsifying documents—Counterfeiting documents for personal unwarranted advantage in terms of grades, standardized testing, academic standing, recognition, postsecondary placement, eligibility, and privileges.

Student Handbook Excerpt, Continued



STUDENT IDENTIFICATION CARD

The school issues a picture ID card to each student for security, identification, library check-out, and activity purposes.

- The picture ID is required to be in the student's possession at all times during the regular school day and at all school sponsored activities.
- Students will be expected to produce it for an employee when requested.
- If lost, the student must purchase a new card for $10.

CLASSROOM RESPONSIBILITY FOR STUDENTS

Students are responsible to be in regular attendance, to be in the right place at the right time, to be prepared (books, handbook planner, assignments, supplies, etc.), and to have positive intentions supported by genuine effort.

AFJROTC UNIFORM POLICY

Students should be self-motivated to wear their uniform properly. Wearing the uniform on designated, weekly uniform days is a course requirement. Each student must wear the uniform all day during the minimum designated number of assigned uniform days in order to successfully complete course requirements and receive a passing grade.

DISCIPLINE POLICIES

The law provides teachers with considerable authority over the control and education of the child, once the parent sends his child to the public schools.

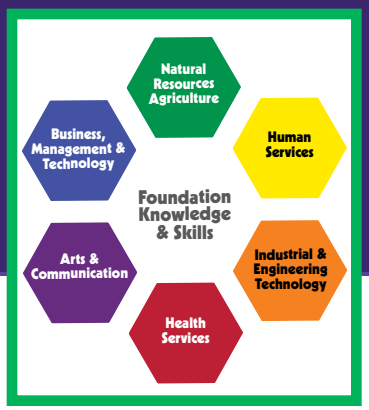
- The authority of the teacher is given by law and is not delegated by the parent.
- Authority is granted to the teacher by the state as an essential part of teaching responsibility.
- The teacher stands in place of the parent when the child is under the teacher's supervision and care.

GRADUATION INFORMATION: COMMUNITY SERVICE REQUIREMENTS

The service-learning requirement is based on our goal to prepare young adults to become active and productive citizens. People learn by doing, and community service is one means of educating students to be good citizens. The service hours have proven to be beneficial in enhancing student's self-esteem while increasing growth in social awareness and social commitment.

- Community service is volunteer work for which no other credit or monetary compensation is received.
- Ten hours of community service is a requirement for graduation from high school. A student will not participate in graduation ceremonies or receive a diploma who has not performed the ten hours of community service.
- The required community service for graduation is to be completed by the end of the student's junior year.

Student Handbook Excerpt, Continued



GRADUATION REQUIREMENTS

Graduation requirements for the class of 2008 shall be a minimum of twenty-four units of credit completed during grade nine and above. Graduation requirements for Classes of 2009 and beyond shall be a minimum of twenty-six units of credit completed during grade nine and above. In addition to the program of study for graduation, a student shall pass proficiency exams concerning the Missouri and the United States Constitutions, complete ten hours of approved community service, and meet all District disciplinary and financial obligations to qualify for graduation from the District. Additional graduation requirements may be established to meet specific programs of study.

GUIDANCE AND COUNSELING SERVICES

Guidance and counseling is an integral part of the Academic/Career & Technical High School's total educational program. The Missouri Comprehensive Guidance Plan is followed as a model for implementing this program. The components of this Plan include:

- Guidance Curriculum (curriculum geared toward career planning exploration, knowledge of self and others, and educational vocational development).
- Individual Planning (activities that help students plan, monitor, and manage their own learning, personal, and career development)
- Responsive Services (activities to meet immediate student needs with counseling, consultation, referral, or information),
- Support Services (management activities that establish, maintain, and enhance the total guidance program).

TUTORING

Occasionally, a student may benefit from additional one-on-one or small group instruction to supplement the classroom experience. Weekly tutoring sessions are offered to A-C&THS students throughout the school year. For more information, or a current schedule, visit the Student Support Services Web site: sss@acths.org.

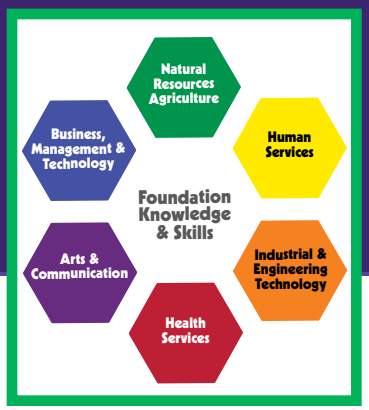
PARENT-TEACHER CONFERENCES

Parent-Teacher Conferences are held once each semester. Dates for these formal events can be found on the Parent Information page of the A/C&THS Web site: parentinfo@acths.org. In addition, parents are encouraged to contact teachers directly with questions or concerns or for specific information. A Staff Directory is located in this Student Handbook and on the A/C&THS Web site at staff@acths.org.

Evaluation Forms

Missouri Career Education
ESSENTIAL SKILLS FOR ALL STUDENTS

Participant Evaluation



Leader Instructions:

The evaluation form below shown below should be used in instructor-led workshop settings for the module. You can download a pdf version of this form to be printed and distributed at the end of the workshop (at **www.missouricareereducation.org/Project/pos**).

Workshop Participant Evaluation
Infusing Rigor, Relevance, and Relationships in Academic & Career Education

Date: _____ **Your School District:** _____

Your Job Title: ❑ Administrator ❑ Teacher ❑ Counselor ❑ Other _____

Institution Type: ❑ Elementary ❑ Middle School ❑ Comprehensive High School ❑ Career Center ❑ Community College ❑ 4-Year College/University

Please rate each of the following statements.	**Agree**	**Neutral**	**Disagree**
1. The content was valuable and appropriate.			
2. The materials were sufficient to support the learning tasks and understanding of the topic.			
3. The content of this module will increase my knowledge and skills in my educational role.			

Complete the following statements.

4. With what I've learned from this module, I can help impact student achievement in my educational setting by:

   _____

   _____

5. I now have a better understanding of:

   _____

   _____

6. The knowledge or skill(s) I gained from this presentation will enable me to:

   _____

   _____

7. I would be interested in (mark all that apply):
   - ❑ Additional information about the content of this module.
   - ❑ Follow-up training in respect to the content of this module.
   - ❑ On-going technical implementation support in respect to the content of this module.

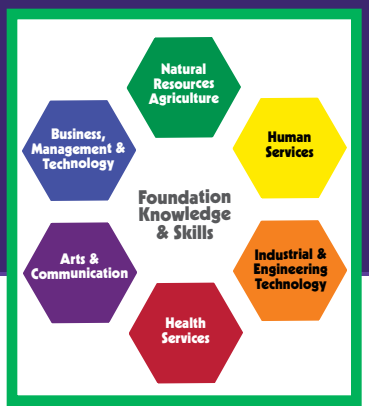
   Please contact me at: _____

Comments:

_____

_____

Leader Evaluation



Leader Instructions:

Complete the evaluation form shown below by downloading and printing the pdf version or by using the online version (at **www.missouricareereducation.org/Project/pos**). This form facilitates our understanding of how well this module meets your needs as a facilitator as well as a summary of the workshop participants' perceptions. We appreciate your input about this module and knowing what additional assistance we can provide.

Workshop Leader Evaluation and Summary of Participant Evaluations: Infusing Rigor, Relevance, and Relationships in Academic & Career Education

Date: _____ **Your School District:** _____
Your Job Title: ❑ Administrator ❑ Teacher ❑ Counselor ❑ Other _____

Institution Type: ❑ Elementary ❑ Middle School ❑ Comprehensive High School ❑ Career Center ❑ Community College ❑ 4-Year College/University
Number of Workshop Participants: _____
Audience Demographics: Please describe your target audience. _____

Workshop Duration _____ **& Time:** ❑ Before school ❑ After school ❑ Staff development day

Part One: (Provide input on module materials)

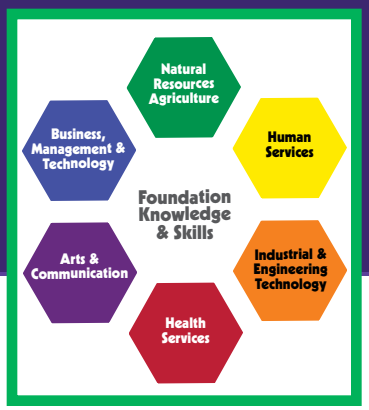
A. Quality of the Content

Please rate the quality of each of the following components.	High	Average	Low
1. PowerPoint slides			
2. Talking Points script			
3. Leader's Guide information			
4. Participants' Workbook			

B. Usability of the Module Materials

Please indicate "agree" or "disagree" or "neutral" for each statement.	Agree	Neutral	Disagree
5. The materials were easy to access from the MCCE Web site.			
6. Appropriate and necessary information is provided to allow an individual to prepare for and deliver and workshop presentation.			
7. The amount of information included was "just right" for a workshop presentation.			
8. More information was needed to make the presentation effective.			

Leader Evaluation, Continued



C. Overall Presentation

9. Describe what worked well (materials, activities) in your presentation:

_____

_____

_____

_____

10. Describe what—if anything—did not work well (materials, activities) in your presentation:

_____

_____

_____

_____

11. Describe what you would do differently if you presented this module as a workshop again:

_____

_____

_____

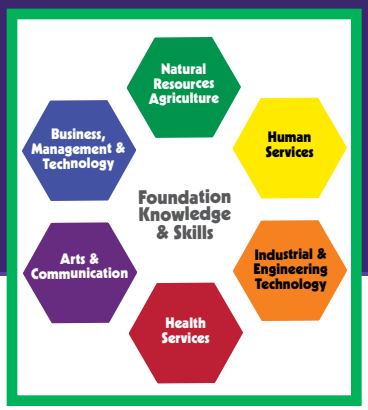
_____

Part Two: (Summarize workshop participants' evaluations.)

A. How many individuals participated in the workshop presentation? _____(enter #)

Enter the total number of responses in each category.	Agree	Neutral	Disagree
1. The content was valuable and appropriate.			
2. The materials were sufficient to support the learning tasks and understanding of the topic.			
3. The content of this module will increase my knowledge and skills in my educational role.			

Leader Evaluation, Continued



B. Provide sample responses from the participants' evaluation:

4. The knowledge or skill that I learned from this module will impact student achievement in my educational setting in this way:

_____

_____

_____

5. I now have a better understanding of:

_____

_____

_____

6. The knowledge or skill I learned from this presentation will enable me to:

_____

_____

_____

C. Enter the total number of responses for each choice.

7. I would be interested in (mark all that apply):

❑ _____ Additional information about the content of this module.
❑ _____ Follow-up training in respect to the content of this module.
❑ _____ On-going technical implementation support in respect to the content of this module.

Please contact me at: _____

D. Share any relevant comments:

_____

_____

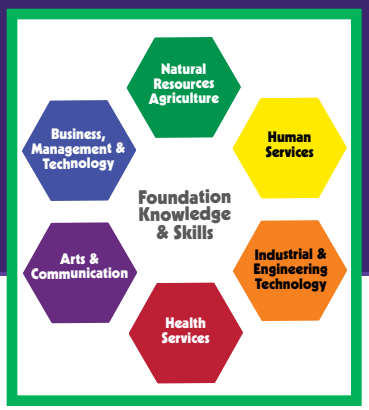
_____

_____

Appendices

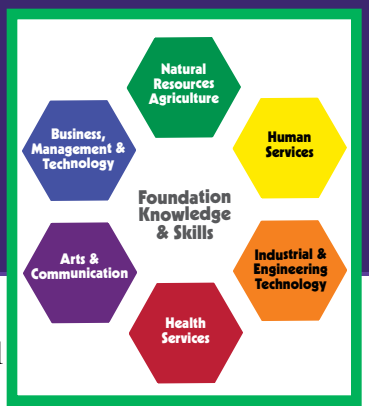
Missouri Career Education
ESSENTIAL SKILLS FOR ALL STUDENTS

Appendix A: Glossary



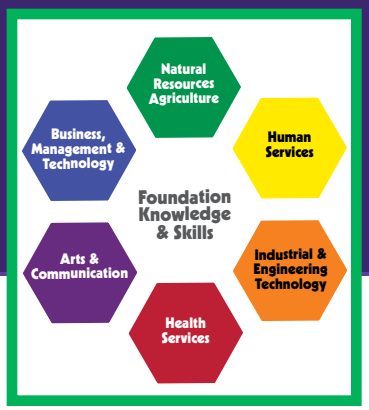
- **Academic Standards —** Standards that address the understanding and competency students should attain
- **Active Learning Instructional Strategies —** Teacher facilitation of relevant learning tasks that challenge students to discover content in-depth and to apply facts, concepts, and procedures while analyzing, evaluating, and creating
- **Advanced Placement —**Rigorous courses designed to provide college-level coursework to secondary students; exemplary scores on the standardized Advanced Placement assessment may be awarded postsecondary credit
- **Articulation Agreements —** A written agreement between educational institutions that specifies the process by which a student may receive course credit or advanced standing for knowledge, skills, and abilities previously mastered at the sending institution as a result of aligned curriculum
- **Articulation Model —** An example of a standardized agreement between educational institutions where the receiving institution grants a student credit or advanced standing for knowledge, skills, and abilities previously mastered at the sending institution as a result of aligned curriculum
- **Capstone Experience —** A learning task in which students must integrate special studies with a major area of emphasis and extend, critique, and apply knowledge gained in the major
- **Career Clusters** — An organizing framework that groups occupations and careers based on common knowledge and skills
- **Career Development** — Self-development over the life span through the integration of life roles, settings, and events
- **Career Path** — A broad category of curricula and educational activities targeted at a student's academic and career goals
- **Career Pathway** — Listing of occupations that share advanced technical skills and/or common roles within a career cluster
- **Career-based Learning —**Structured learning experiences that integrate grade-appropriate, career-based activities with classroom instruction.
- **Character Education —** Educational programming that targets the development of positive human qualities in an individual that are good for both the individual and for society

Glossary, Continued



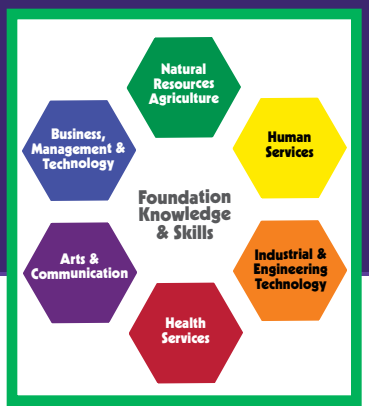
- **Dual Credit —** College-level courses taught on the high school campus by qualified instructors
- **Dual Enrollment —** College courses taken by high school students who must travel to the college campus for instruction
- **Emotional Intelligence** — The ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others (Mayer & Salovey, 1997)
- **High Schools That Work (HSTW) —** The first SREB school-improvement initiative, where Goals and Key Practices emphasize the importance of relationships for student success
- **Integration —** The process of combining rigorous academic content and real world applications in a seamless and meaningful way
- **International Baccalaureate** — A program offering rigorous curriculum that emphasizes development of inquiry, knowledge, and intercultural understanding and respect and allowing secondary IB students completing a two-year program of studies to qualify for a prestigious IB diploma recognized by universities worldwide
- **Internship —** Any formal program (with or without course credit) that provides practical experience for beginners in an occupation or profession; courses that often provide specific training plans and assignments to enhance the practical experience and are supervised by a trained, certificated instructor and an employer
- **Job Shadowing —** The act of observing a person engaged in everyday on-the-job activities to learn about the person's career choice and if it is appealing to the observer; typically a short-term experience, which sometimes involves the observer in some job tasks
- **Knowledge and Skills —** What people need to know and be able to do in specific careers, which integrates grade-appropriate, career-based activities with classroom instruction to apply and advance student knowledge in academic areas while learning occupational skills
- **Making Middle Grades Work —** A middle school initiative of the Southern Regional Education Board (SREB)
- **Measurement Criteria —** Items under each Performance Element that clarify what is to be measured and level of performance expected
- **Mentoring —**A formal process through which an experienced person (mentor) provides support and guidance to a less experienced colleague (mentee/protégé)

Glossary, Continued



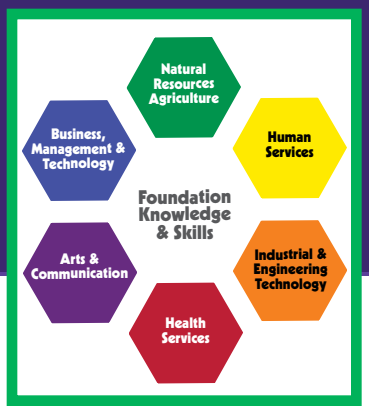
- **Model Schools Initiative —** A program that furthers the aim of increasing rigor, relevance, and relationships in educational institutions with member schools demonstrating student success
- **Performance Elements —** Measurable instructional components that represent a single outcome behavior, support knowledge and skills statements, reflect high expectations/ rigor, and use all levels of Bloom's Taxonomy, as appropriate
- **Performance Standards —** Standards that identify what a student needs to do to demonstrate the knowledge and skills required to meet achievement indicators
- **Personal Plan of Study —** A student's scope and sequence of coursework and co-curricular experiences based on chosen educational and career goals; relies on the school's implementation of a Program of Study
- **Problem-based Learning (PBL) —**Focused, experiential learning (minds-on, hands-on) organized around the investigation and resolution of messy, real-world problems; curriculum that provides authentic experiences fostering active learning, supporting knowledge construction, naturally integrating school learning and real life, addressing state and national standards, and integrating disciplines
- **Professional Learning Communities —** Faculty organized into learning teams focused on student achievement
- **Program of Study —** Coherent, rigorous, and relevant content aligned with challenging academic standards in a coordinated, non-duplicative progression of courses and co-curricular experiences that align secondary education with postsecondary education
- **Project Lead the Way —** A program that promotes engineering careers through the relationship of partner institutions: middle schools, high schools, higher education, and the private sector
- **Project-based Learning --** A process in which students investigate rich and challenging issues and topics, often in the context of real-world problems, integrating subjects such as science, mathematics, history, and the arts (Edutopia, 2002, p.3)
- **Relationships —** Four critical learning connections formed in schools: (1) Among students, parents, peers; (2) Among staff members; (3) Among teachers with others in their profession; and (4) Between the school and the community (parents, businesses, community leaders)
- **Relevance —** Learning experiences in which students apply core knowledge, concepts, or skills to solve real-world problems

Glossary, Continued



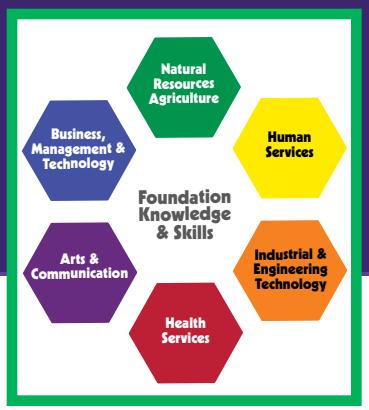
- **Remediation** — The correction or strengthening of skills, especially academic skills required for post-secondary success, through programs designed to target specific deficits by offering instruction to increase skill attainment and boost student achievement
- **Rigor** — Learning experiences that foster cognitive skills in which students demonstrate a thorough, in-depth mastery of challenging tasks
- **Service Learning** — An educational experience in which students participate in community-based, volunteer projects that strengthen the understanding of course content and reinforce the development of citizenship and civic responsibility
- **Small Learning Communities** — A structure that fosters relationships among students and staff and encourages personal interactions not possible in larger settings
- **Summer Bridge Programs** —Programs designed to ease the ninth grade transition into high school; experiences may include academic remediation/enhancement and high school orientation activities
- **Tech Prep** — A non-duplicative, sequential course of study that combines a minimum of two years of secondary education with a minimum of two years of postsecondary education or an apprenticeship program of not less than two years following secondary education; also integrates academic and career and technical education instruction, and utilizes work-based and worksite learning experiences, where appropriate and available
- **Technology Centers That Work (TCTW)** — An enhancement of the HSTW framework that focuses on literacy and student readiness for work and postsecondary education with each TCTW site developing a close relationship with a partner HSTW site
- **Transitions** — The successful advancement of students from middle school to secondary school, secondary to postsecondary education, and from postsecondary education to the world of work
- **Work-based Learning** —An instructional approach that offers a range of experiences, such as job shadowing, internships, and other similar arrangements between schools, students, and employers to provide students with connections between classroom learning and the workplace
- **Work-site Learning** — An educational approach that uses the actual worksite to provide students with a context for connecting classroom-taught knowledge and skills to real-life work experiences

Appendix B: Resource Links



- **Achieve (www.achieve.org)** was created by the nation's governors and business leaders, to help states raise academic standards and achievement so that all students graduate ready for college, careers, and citizenship.
- **College Access (www.going2college.org)** is a Web site where students may find state-specific information about planning for college and careers; supported by the Missouri Department of Higher Education.
- **Career Clusters (www.careerclusters.org) is** the Web site for the States' Career Clusters Initiative (SCCI), features research, products, and services.
- **Career and College Transition Initiative (www.league.org/league/projects/ccti/purpose.html)** is a key resource is the League for Innovation in the Community College (http://www.league.org), an international organization serving community colleges. Among the League's projects is the Career and College Transition Initiative (CCTI), which is a federally funded project in cooperation with several nationally recognized partner organizations.
- **Career One Stop (www.careeronestop.org)** is a site sponsored by the US Department of Labor that offers career resources and workforce information for students and job seekers.
- **College Access (www.going2college.org)** is a Web site where students may find state-specific information about planning for college and careers; supported by the Missouri Department of Higher Education.
- **Department of Elementary and Secondary Education (www.DESE.mo.gov)** offers downloadable booklets and other information about career clusters and career pathways.
- **Edutopia (www.edutopia.org),** sponsored by the George Lucas Foundation, provides inspiring articles about innovative teaching in K-12 schools.
- **High Schools That Work (www.sreb.org/Programs/hstw/hstwindex.asp)** is the largest and oldest of the Southern Regional Education Board's (SREB) school improvement initiatives for high school and middle grades leaders and teacher. The site allows users to register for conferences and workshops, obtain copies of publications, read about exemplary school and classroom practices, find a schedule for technical assistance visits to member schools, and learn how SREB collects data on students' academic achievement.
- **Missouri Center for Career Education (www.MCCE.org)** offers curriculum, professional training, and other resources for schools, teachers, and staff.
- **Missouri Connections (www.missouriconnections.org) is** a Web-based education and career planning system available at no charge to all public middle and secondary schools. Using the Career Clusters Framework, it allows students to explore career options and develop personal plans of study as well as electronic portfolios.

Resource Links, Continued



- **Missouri Economic Research and Information Center (www.missourieconomy.org)** provides a student edition of the Missouri Career Guide, along with information and projections about in-demand occupations.
- **Model Schools Initiative, a program of the International Center for Leadership in Education (www.leadered.com),** offers a wealth of information related to rigor and relevance in learning.
- **Project Lead the Way (www.pltw.org**) is a not-for-profit organization that promotes pre-engineering courses for middle and high school students. PLTW forms partnerships with public schools, higher education institutions and the private sector to increase the quantity and quality of engineers and engineering technologists graduating from our educational system. The site offers resources for school certification, assessment, and program evaluation.
- **The Futures Channel (www.thefutureschannel.com)** connects learning with the real world through stories and short movies about people who are innovating in various fields of work.