South Dakota Capstone Experiences
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Pierre

Participants:

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Participants introduced themselves stating name, location, and curricular area of expertise.

An introductory video, *Success in the New Economy* written and narrated by Kevin Fleming and produced by Bryan Y. Marsh, was shared. This video (available on the Internet at https://vimeo.com/67277269), describes a fallacy in the traditional "college for all" model of education and encourages individuals to select career paths based on interests and skills. Discussion suggested that the message aligns well with apprenticeship opportunities (with particular reference to the German-Swiss model), especially the concept of 1:2:7 (one position requiring an advanced degree: for two positions requiring an associate degree : for seven positions requiring some postsecondary education). It would be good to share this information with parents, especially given that only about one half of students in South Dakota who begin a baccalaureate program complete that program, and that the debt load is high. Others noted that students may complete a baccalaureate degree and still will return to a technical college for further preparation. Skills + Talent = WIN.

It was noted that the purpose of the work was to develop South Dakota's state standards for capstone experiences to ensure that they:

- Are aligned with industry needs
- Prepare students to be successful in employment and in postsecondary training
- Establish a sequence of courses leading to completion of a program of study.

It was clarified that standards describe "what" is to be learned, not "how" it is to be learned.

Information was provided regarding the importance of the federal Carl D. Perkins Career and Technical Education Act to the work and an update on progress toward reauthorization of the Act, last authorized

by Congress in 2006. Participants were reminded that Perkins has had strong bipartisan support in Congress and may be up for reauthorization this year.

The role of the standards committee was clarified to show that the standards committee members were selected because they were subject matter experts who would:

- Take the suggestions of industry
- Utilize personal expertise about how students best learn, and
- Write a standards draft.

It was further clarified that the work of the committee will go through industry validation and multiple public hearings before consideration for adoption by the State Board of Education.

It was noted that much of the early work of the standards review committee will be to identify programs of study. A program of study was defined as:

- A nonduplicative sequence of both academic and technical courses
- Beginning no later than grade 11 and continuing for at least two years beyond high school
- Culminating in a degree, diploma or certification recognized as valuable by business/industry partners.

A program of study was viewed as the bridge connecting preparatory and advanced work in high school with further study at the postsecondary level through a collegiate program or advanced training through work.

A summary of a recent labor market analysis for South Dakota was presented, with separate slides shown identifying the 20 largest industry clusters, the fastest growing industry clusters by percentage growth and increase in employment demand, and the occupations with a projected demand of 50 or more.

Participants were asked to identify industry trends by describing what was new and emerging in business/industry and what is no longer done in business/industry. It was intended that this information would guide discussion about where new standards were needed and where existing standards could be deleted. For the capstone experiences the discussion suggested:

New

- Career Readiness Certificate
- Lack of Soft Skills Training
- More assistance in service
- Learning how to use new technology properly in the workplace context
- 24/7 expectations
- Information literacy
    - Discernable
    - Reliable
- Jobs shifting up as skills advance

Emerging

- Remote work – virtual
- Getting along
- Social media and interaction
- Professional conversations

- Disconnect between academics and the real world
- Self-starter – "grit"
- Awareness of what needs to be done
- Leadership

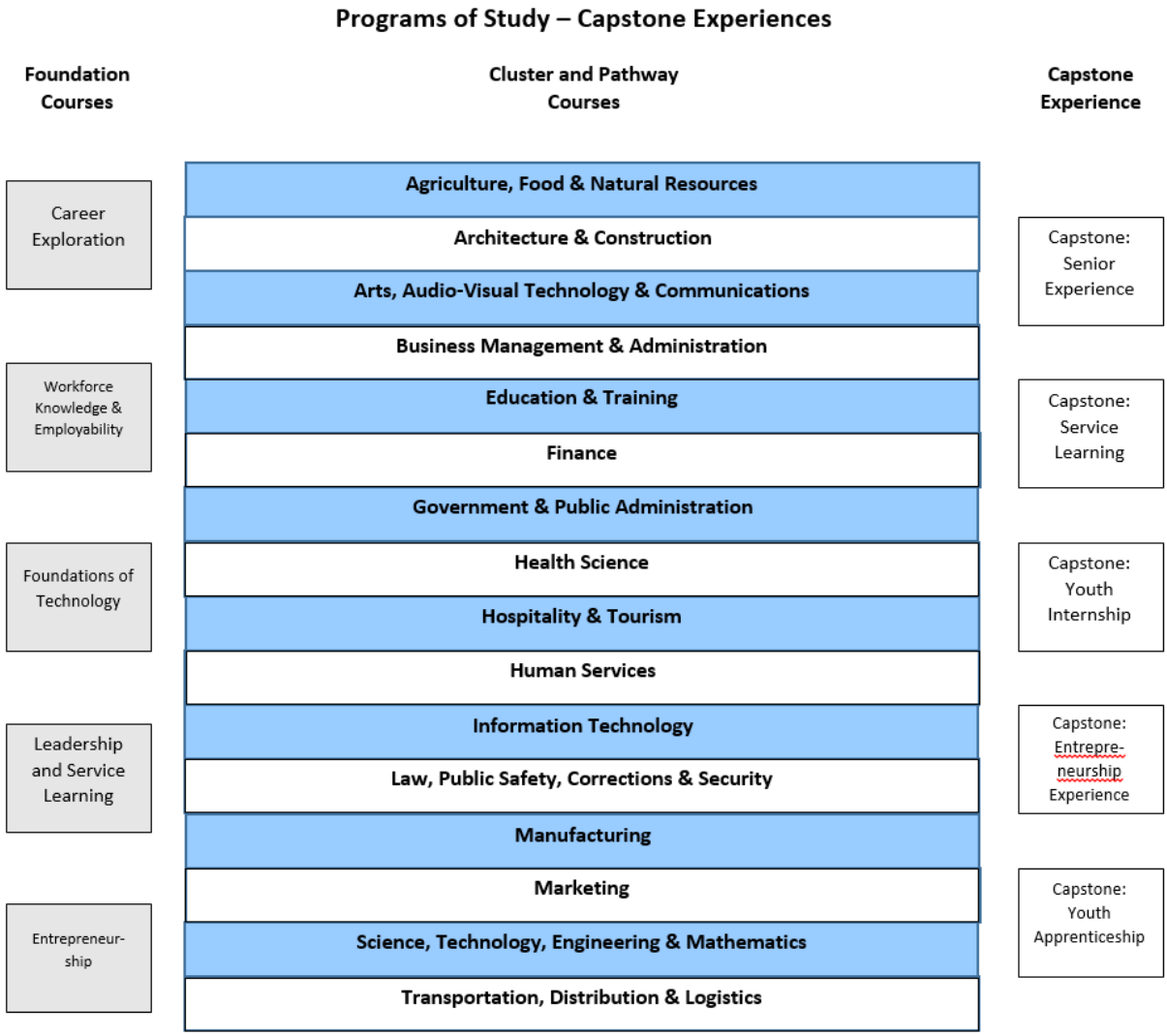
No longer done

- Phone calls
- Old communication vs. new
- Handwriting
- Email
- 8:00 to 5:00
- Google it (practical vs. useless information)
- Patience

Results of a recent survey of employers were shared. The survey was designed to ascertain if employers were having hiring difficulties, if applicants were deficient in either soft or technical skills, and options for a state response. One hundred eighty seven survey responses were included in the results with the largest participation from hospitality and tourism (38), architecture and construction (25), manufacturing (20), agriculture, food and natural resources (19), business management (14), finance (12) and marketing (12). In general:

- Four out of five employers noted having hiring difficulties in the previous 12 months.
- Primary reasons for this hiring difficulty were:
    - Low number of applicants (126)
    - Lack of work experience (88)
    - Lack of technical or occupational skills (62)
    - Lack of soft skills (48)
    - Unwillingness to accept offered wages or work conditions (38)
- Occupational areas noting the greatest hiring difficulties were hospitality (37), manufacturing (20) and marketing (20) though these results are skewed by the response rate from the individual sector.
- The most highly noted soft skills lacking were:
    - Initiative (118)
    - Attendance/dependability (114)
    - Communications (99)
    - Customer service (88)
    - Problem solving (78)
- Similarly, employers noted the highest needs for additional training in:
    - Attendance/timeliness/work ethic (75%)
    - Customer service (61%)
    - Problem-solving (52%)
    - Teamwork (41%)
- Forty four percent of employers noted that applicants lacked technical skills.
- Employers asked that the state response focus on:
    - Communications (10)
    - Work ethic (9)

The current state program of study in capstone experiences showed four capstone experience options to follow any of the sixteen career clusters (expanded to five capstone experience options with this year's work).



An example of a program of study developed last year for the finance career cluster was shared, showing the sequences of courses beginning with foundation courses, cluster courses, and pathway courses leading to the capstone experiences. After reviewing brief definitions of the current capstone experiences, participants were asked to identify common elements in the capstone experiences, and to discuss what about the current capstone options makes them similar in terms of student expectations and/or rigor.

Common Elements

- Business-industry partnership
- Some level of engagement with people outside school
- Individualized, based on student choice

- Real-world
- Senior experience and entrepreneurship both have a presentation and a portfolio
- Relevant to being a member of a community

Elements of Rigor

- May or may not have rigor – depends on implementation
- Portfolio is not currently an element of service learning experience
- Required components are rigorous

Members were also asked to identify necessary skills for students to make the transition from middle school to high school and from high school to the postsecondary level. To do so, participants were asked what they would want students to know and be able to do upon entry into programs at the postsecondary level, not as hard prerequisites, but general expectations for students to be ready to participate fully and effectively; and what they would want students to know and be able to do upon entry into secondary programs, reflecting upon whether those expectations were included in the courses available at the middle level or in the foundational courses. For capstone experiences the following skills were identified:

High School

- Soft skills/power skills
- Speaking to peers/colleagues
- Speaking to boss/adults
- Elevator speech
- Presentation skills
- Writing
- Appearance
- Employability skills (cover letters, etc.)
- Be sure student is gaining knowledge (e.g., service learning capstone is not about raising money)

Postsecondary Entry

- Time management
- South Dakota School of Mines – Mines Advantage
    - Communication – virtual, oral, written, verbal
    - Career preparation
- Creative problem solving
- Embrace lifelong learning
- College and career readiness standards for adult education
- How to be an online student/learner
    - Respect
    - Courtesy
- Technology tools
- Professional emails (not “hotlegs2@gmail.com”)

Participants were asked to identify how each capstone experience will prepare an individual to continue in a program of study at the postsecondary level. The group identified the postsecondary focus of a capstone experience to be:

- Capstone should pull the student's career objective into focus
- Choice and experience build confidence
- Connection with postsecondary plans is a starting point for choosing a capstone experience
- Connection to student personal learning plan (PLP)
- Expectation that a plan is in place to fulfill the capstone experience
- All capstones have a product to carry to the next level (i.e., postsecondary education, workplace)

Other considerations

- Power skills – Foundational skills = Soft skills
- Career focus
- Qualifications of capstone advisors
- Department of Labor partnership
- Virtual offerings

Participants were encouraged to identify a "big picture" concept statement describing what was to be accomplished within each course before developing standards. This "big picture" statement would eventually be revised to be an executive summary statement at the time that the standards had been drafted.

Information was provided about what makes good standards. Criteria were shared with the participants. These criteria included:

- Essential – does it define knowledge and skills that an individual must have to participate fully and effectively in programs that prepare them to enter careers with livable salaries, and to engage in career advancement in growing, sustainable industries?
- Rigorous – does it ask a student to demonstrate deep conceptual understanding through the application of knowledge and skills to new situations?
- Clear and specific – does it convey a level of performance without being overly prescriptive? Is it written in a way that the general public would understand?
- Teachable and Learnable – does it provide guidance to the development of curricula and instructional materials? Is it reasonable in scope?
- Measurable – Can it be determined by observation or other means that the student has gained the knowledge and skills to be demonstrated to show attainment of the standard?
- Coherent – Does it fit within the progression of learning that is expected for the program of study?
- Sequential – Does it reinforce prior learning without being unnecessarily repetitive? Does it provide knowledge and skills that will be useful as the student continues through the program of study?
- Benchmarked – Can the standard be benchmarked against industry or international standards? Does it prepare the student to be successful in the regional, state and global economies?

State agency staff met in May of 2015 to review the processes to be used for standards review. During that session the staff identified other criteria to be considered when writing standards:

- Connections to postsecondary programs

- Relevant across the content area
- Compatible with virtual learning
- Reflects business/industry input
- Adaptable to change over time
- Allows for instructional creativity
- Appropriate for the target audience
- Aligned with relevant academic content
- Applicable to student organizations
- Recognizes unique features of CTE

These additional criteria were shared with participants for their consideration during standards development, and an exercise was conducted in which participants individually, and then as a group, reviewed four sample standards.

Brief mention was made of resources available in the Dropbox in which members shared information. The Dropbox review showed categories of information provided in the general section and noted that a Working Drafts folder would be created in which participants would store their work.

A Standards Template was shared with the participants and reviewed:

- The course title was inserted at the top.
- A grid of administrative information was completed to the extent the information was known. This grid included:
    - The Career Cluster [All]
    - The Course Code [to be added by state staff if not known]
    - Any prerequisites or recommended prior coursework
    - Credits [generally established by the individual school district]
    - Graduation requirement [generally established by the individual school district]
    - Program of study and sequence [a listing of the components of the program of study]
    - Student organization options
    - Coordinating work-based learning appropriate for the course
    - Industry certifications [if appropriate for the course]
    - Dual-credit or dual enrollment options if available
    - Teacher certification requirements [to be completed by state staff]
    - Resources
- Course description. Eventually this will be an executive summary describing the course, but in the process participants were encouraged to develop a “big picture” statement about the course to serve as a reminder when developing standards.
- Program of study application: a more detailed description of the elements within the program of study and where the particular course fits within a sequence.
- Course Standards and prods
    - “Prods” is a list of topics to keep in mind when developing standards to see that related topics are included. The prods identified by state staff include:
        - Safety
        - Soft skills
        - Reinforcing academic concepts in math, language arts, science and social studies
        - Addressing all aspects of the industry
        - Trends [so that students are thinking of the direction that an industry is moving]

- Indicators – the main topics written in terms of a demonstration of knowledge and skills
- Sub-indicators – statements identifying in more detail how the indicator will be demonstrated
- Integrated content – A space that allows for examples, explanation, reference to credentials, alignment with other academic standards or other useful information to bring clarity to the understanding about the intent of the sub-indicator
- Notes – a place for additional information to clarify the intent and expectations of the indicator.

Particular information was shared about Webb's Depth of Knowledge levels which would be assigned at the sub-indicator level.

An example standards template was shared to ensure understanding.

Working teams were then established to write the standards. Each team selected a course to begin the work. Early drafts were reviewed by all participants to gauge consistency. The consultants reviewed all draft standards each evening and participants were led with guiding questions so that they could refine their own work. Eventually, when standards had been developed for all courses, the participants did a final group review of all standards to give their approval. Final documents were then reviewed by the consultants for format and structure, and saved to the shared Dropbox. Participants were given two weeks to make any final comments or suggestions, at which time the Dropbox was put into a "read-only" status.

For capstone experiences the following course standards were developed:

Capstone Experiences

Capstone: Senior Experience

Students will conceptualize, organize and construct a proposal for the senior experience which advances workplace skills, career development and postsecondary options.

- Construct an essential plan, including:
  - Describe overall learning objective(s) that connects to personal learning plan
  - Design a project proposal (e.g., project service event)
  - Explain how project extends learning and skills as a learning stretch, demonstrating a significant level of knowledge and skills
- Develop a timeline for the project with realistic and workable dates
- Identify project resources (e.g., people, materials, funds), acquisition and budgeting

Students will evaluate career and personal attributes to develop a professional work ethic.

- Assess personal attributes
- Compare personal attributes to career interest expectations
- Apply power skills

Students will create appropriate workplace documents.

- Create and develop documents that may be required for use in the workplace
- Develop a career portfolio and organize materials

Students will develop a research component relevant to senior experience product.

- Construct a concise and clear thesis statement:
  - Support main points

    - Relevant research obtained from valid sources
    - Provide a summative section
- Prepare a formatted citation document to accompany research component

Students will construct a product connected to the conceptual plan.

- Product defines and demonstrates educational and personal growth
- Demonstrate skills and knowledge gained throughout pathway coursework to product construction

Students will develop a presentation showcasing the conceptualized plan, product and research.

- Utilize a technology presentation tool that incorporates appropriate and effective audio, visuals and text
- Formulate presentation demonstrating public speaking skills
- Present an overview of the senior experience to an audience

Capstone: Service Learning

Students will develop skills in employability and identify area of career interest.

- Develop a professional work ethic
- Connect career interests to service learning
- Develop communication skills

Students will prepare a plan for a service learning project.

- Assess needs within the community
- Develop optional meaningful and personally relevant service activities
- Hypothesize attainable and visible outcomes that are valued by those being served
- Establish a collaborative, shared vision and plan

Students will develop community partnerships that aid in implementation of service learning.

- Identify a variety of partners
- Identify and analyze different points of view to gain understanding of multiple perspectives

Students will implement service learning plan.

- Gather evidence from multiple sources throughout the experience
- Apply evidence to improve service learning project

Students will evaluate the service learning experience through a final product or presentation.

- Analyze personal growth such as changes in leadership qualities and self-awareness
- Analyze one's role as a citizen within the community and how he/she contributes to society
- Evaluate the quality and effectiveness of the experience
- Present service learning results

Capstone: Youth Internship

Students will analyze personal aptitudes, abilities, strengths, talents and weaknesses.

- Connect an understanding of self to career area of interest

Students will apply career development skills.

- Exhibit positive work-based behaviors

- Apply behaviors and qualities to multiple work-based settings
- Create a professional portfolio

Students will complete a youth internship.

- Prove an understanding of steps to acquire employment
- Perform daily work tasks consistent with the responsibilities and work culture of the chosen internship field

Students will develop a postsecondary personal learning plan after completion of internship experiences.

- Analyze internship experiences
- Connect future career goals to steps needed to achieve them
- Prove skills and knowledge gained from internship experience

Capstone: Entrepreneurship

Students will evaluate career and personal attributes to develop a professional work ethic.

- Identify entrepreneurial career interests that align with personal learning plans (PLP)
- Assess personal attributes
- Compare personal attributes to career expectations
- Apply power skills
    - Problem solving
    - Employability
    - Communication
    - Leadership/initiative
    - Interpersonal relations
    - Attendance/punctuality
    - Cooperation
    - Responsibility/accountability
    - Self-management
    - Integrity/honesty
    - Appearance

Students will investigate ideas for a business to provide a product or service.

- Compare and contrast various business ideas
- Use knowledge and comprehension of industry standards to frame an idea to answer a challenging problem or question
- Engage in rigorous research to validate the business idea

Students will develop a comprehensive business plan proposal for a real or hypothetical company based on industry standards.

- Compose a concise overview (executive summary) of the business plan
- Describe the service or product in detail
- Conduct a detailed market analysis which compares and contrasts the strengths and weaknesses of the business plan
- Develop a marketing plan
- Develop an organizational structure, management scheme, and operational procedures
- Formulate financial projections to meet the requirements for funding by a lending institution

- Create an appendix for business plan documents

Students will demonstrate effective communication to explain the business plan.

- Create a short business pitch that illustrates the major concepts and benefits of the product or service
- Present the business plan to relevant stakeholders utilizing appropriate visual aids
- Defend and support the business plan

Students will reflect, analyze and document the learning process of the entrepreneurship experience.

- Self-evaluate and assess the business plan
- Articulate challenges encountered in the project and describe the outcomes
- Identify future options and opportunities based on entrepreneurial experience

Capstone: Youth Apprenticeship

Students will evaluate career and personal attributes to develop a professional work ethic.

- Identify career interests in the apprenticeship experience that align with the student personal learning plan (PLP)
- Assess personal attributes
- Compare career interest expectations to personal attributes
- Apply power skills

Students will complete on-the-job training and occupational-related tasks.

- Demonstrate mastery of occupational-related skills by documenting a minimum of 200 on-site apprenticeship hours per semester during the experience
- Adhere to industry norms and safety standards
- Identify an array of skills learned through exposure to several tasks within the business setting

Students will demonstrate final product of the apprenticeship experience.

- Perform daily work tasks consistent with responsibilities and work culture in the apprenticeship experience
- Showcase a presentation, demonstration or portfolio as the culmination of the apprenticeship experience

Students will create a postsecondary plan.

- Evaluate career pathway(s)
- Construct postsecondary plan

A cover letter has been drafted to guide business/industry feedback to the standards developed through this process. The thirteen standards documents will be reformatted with three columns for business/industry feedback at the sub-indicator level utilizing a 1 (low) to 5 (high) scale:

- Is the sub-indicator essential?
- Is the sub-indicator clear and specific?
- Is the sub-indicator measurable?

Business/industry partners are also asked if the standards reflect the preparation necessary for a student to enter her/his particular occupational field. A sample of the reformatted document follows.

Career Cluster: All

Course: Senior Experience

Course Standards

SE 1. Students will conceptualize, organize and construct a proposal for the senior experience which advances workplace skills, career development and postsecondary options.

			Essential 1 (low) – 5 (high)	Clear and Specific 1 (low) – 5 (high)	Measurable 1 (low) – 5 (high)
Webb Level	*Sub-indicator*	*Integrated Content*			
Level 4: Extended Thinking	SE 1.1 Construct an essential plan, including • describe overall learning objective(s) that connects to personal learning plan • design a project proposal (e.g., project service event) • explain how project extends learning and skills as well as a learning stretch, demonstrating a significant level of knowledge and skills.	SDMyLife, https://owl.english.purdue.edu, Monster, *Elements of Business Writing: Guide to Writing Clear and Concise Letters*, TheBalance.com, Problem-Based Learning			
Level 3: Strategic Thinking	SE 1.2 Develop a timeline for the project with realistic and workable dates	SkillsYouNeed.com, TakeChargeToday.arizona.edu, http://nextgenpersonalfinance.org			
Level 4: Extended Thinking	SE 1.3 Identify project resources (e.g., people, materials, funds), acquisition and budgeting	TakeChargeToday.arizona.edu,http://nextgenpersonalfinance.org,			

Notes

Following business/industry review, state staff will revise the standards documents as necessary to incorporate business/industry suggestions. The revised documents will be shared with participants in the standards development process and, eventually, with teachers of capstone experiences throughout the state for their feedback. Final documents will be taken through public hearings and delivered to the State Board of Education for adoption.