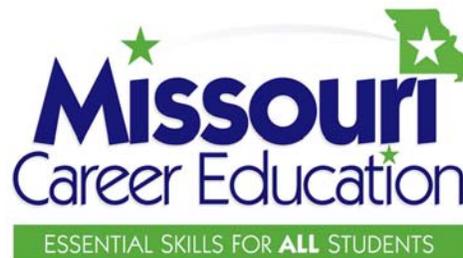


WHITE PAPER

STUDENT PATHWAYS TO SUCCESS



Four recommendations
to promote a practical focus
on improving student achievement
in every Missouri public school

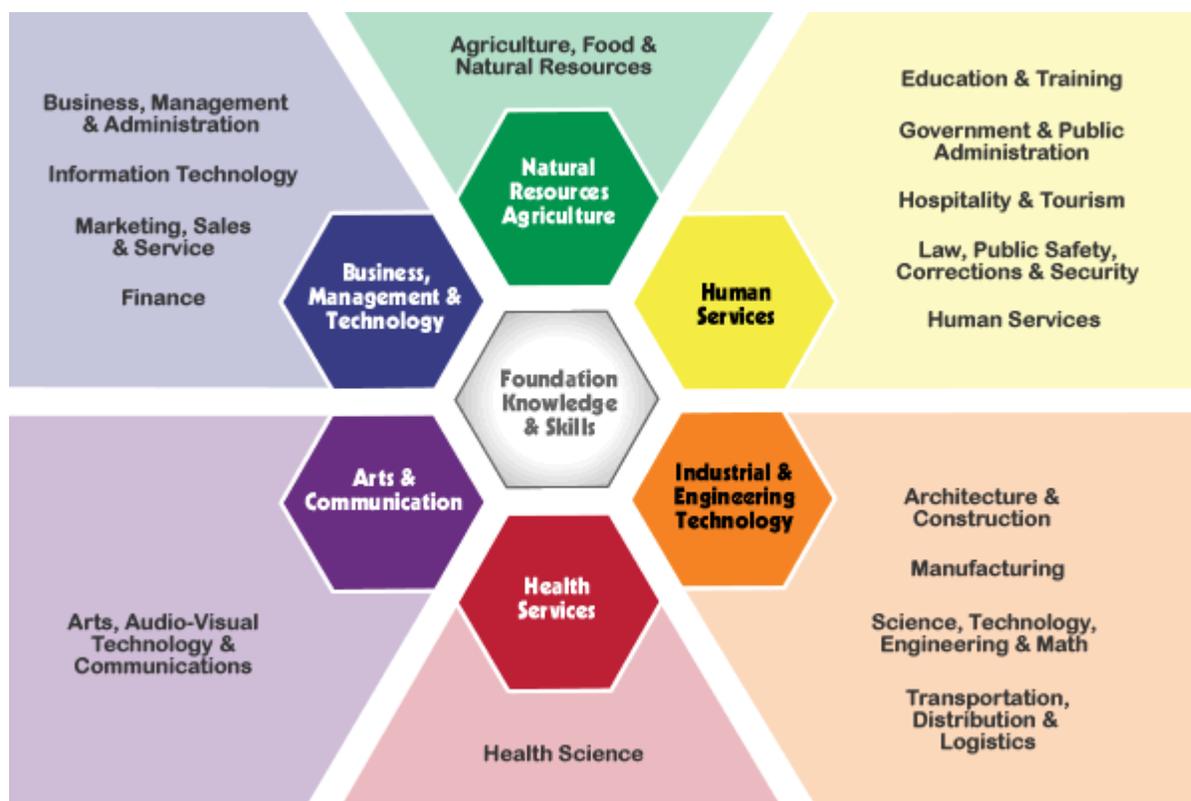


Missouri Department of Elementary and Secondary Education
Division of Career Education
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UPDATED JULY 2007

TABLE OF CONTENTS

Executive Summary	1
Recommendation 1: Focus on School Career Guidance and Counseling.....	3
Recommendation 2: Focus on Rigorous, Relevance, and Relationships in School Curricula	6
Recommendation 3: Focus on Student Transitions	7
Recommendation 4: Focus on High-Quality Professional Development.....	9
Conclusion	10
Resources	11
Glossary of Terms	12



Six Career Paths and 16 Career Clusters

EXECUTIVE SUMMARY

Through the Department of Elementary and Secondary Education, its Division of Career Education, local educators, business people, and other stakeholders, a framework is being developed to help learners of all ages prepare for the global, knowledge-based economy of today and tomorrow. This framework is Career Clusters.

Coupled with a comprehensive guidance program, which includes a regular review of each student's personal plan of study, the Career Clusters framework is intended to provide all students the academic preparation, flexible focus, seamless transitions, and transferable skills to help them develop and pursue their interests, abilities, and career goals. The Career Clusters framework reinforces the schools' fundamental objectives of academic accountability and improved achievement for all students. At the same time, Career Clusters offer a practical way for educators in all disciplines to create relevant contexts for their students' learning.

The Division of Career Education presents four recommendations to promote a practical and comprehensive focus on improving student achievement in every public school, as well as to build stronger partnerships between schools and the communities they serve. These recommendations support reform efforts for Missouri's high schools.

RECOMMENDATIONS:

- #1 **FOCUS ON SCHOOL CAREER GUIDANCE AND COUNSELING**
Organize the career development process around the Career Clusters and deliver through a comprehensive guidance program that culminates in a personal plan of study. The individual planning component of a comprehensive guidance program focuses on career awareness and exploration at the elementary and middle school levels based on the six Career Paths, then moves to planning and preparation with Career Clusters at the secondary level.
- #2 **FOCUS ON RIGOR, RELEVANCE AND RELATIONSHIPS IN SCHOOL CURRICULA**
The foundation of a quality curriculum is the combination of rigorous academics and meaningful, career-based learning for all students. The curriculum must be relevant to the lives of students and prepare them for current and future career opportunities.
- #3 **FOCUS ON STUDENT TRANSITIONS**
Educational systems assist in the successful advancement of their students. This involves the implementation of transition strategies for middle school students entering high school and secondary students entering postsecondary education and/or the world of work.
- #4 **FOCUS ON HIGH-QUALITY PROFESSIONAL DEVELOPMENT**
High-quality professional development will focus on academically-rigorous contextual learning methodologies and career development strategies to support all educators in meeting the needs of all students.

The Career Clusters framework can assist our students' ability to transition within our system and to postsecondary education. This design also increases our system's ability to meet employer expectations for a high-skilled workforce that contributes to the economic vitality of our state. Ultimately, our system will become student-centered, industry-focused, and performance-driven.

To guide our transition, we are developing a process for schools to use the Missouri Career Clusters framework that aligns curricula and standards to the 16 Career Clusters, their associated pathways and knowledge and skill statements.

The Career Clusters framework grew out of a cooperative agreement in 2001 with the U.S. Department of Education Office of Vocational and Adult Education and the National Association of State Directors of Career and Technical Education Consortium. By 2007, nearly every state has or will soon be using the Career Clusters framework as an organizing tool as states assist their educational communities develop programs of study, which are required in the reauthorization of the Carl D. Perkins Act of 2006.

The following federal, national, and state initiatives are helping to reshape the environment in which we operate. These initiatives all contain the common thread of increased accountability as well as the realization that education is a true partner in economic development.

Federal

- No Child Left Behind Act, 2002
- Carl D. Perkins Career and Technical Education Improvement Act, 2006

National

- *Reinventing the American High School for the 21st Century*, a position paper by the Association for Career and Technical Education, January 2006
- *Expanding Opportunities: Postsecondary Career and Technical Education Opportunities and Preparing Tomorrow's Workforce*, a position paper by the Association for Career and Technical Education, March 2007
- *Building Linkages: Making Integrated Standards Work for Education and Industry*, 2000
- *High Schools That Work*
- Project Lead The Way
- *Breaking Ranks II Strategies for Leading High School Reform*, National Association of Secondary School Principals, 2004
- International Center for Leadership in Education's Model Schools Initiatives

State

- *Meeting the Challenge: Providing Superior Public Education for All Missouri Students*, November 1998
- Department Strategic Plan, January 2007
- Division of Career Education Strategic Plan, 2006-2010
- Missouri School Improvement Program
- *Improving Missouri High Schools*, A Report of the Commissioner's Study Group on High School Reform, February 2006
- Missouri Mathematics, Engineering, Technology, and Science (METS) Alliance
- Missouri Career Prep Certificate Program

Note: Web links can be found on page 11.

RECOMMENDATION 1

FOCUS ON SCHOOL CAREER GUIDANCE AND COUNSELING

Organize the career development process around the Career Clusters and deliver through a comprehensive guidance program that culminates in a personal plan of study. The individual planning component of a comprehensive guidance program focuses on career awareness and exploration at the elementary and middle school levels based on the six Career Paths, then moves to planning and preparation with Career Clusters at the secondary level.

GOAL

Integrate the Career Clusters framework into the districts' overall educational program so that all Missouri students will have access to that framework. As a result of the integration, all students will have a rigorous and relevant personal plan of study around Career Paths/Career Clusters.

Through an integrated approach and a fully implemented guidance program, students can gain the knowledge that will allow them to ascertain and explore their abilities and interests within the Career Clusters framework. By the end of the eighth grade, the knowledge developed through this approach will allow students to create a carefully constructed personal plan of study relevant to their educational and career goals. The personal plan of study will also include a rigorous core curriculum in communication arts, math, science and social studies. Additional coursework will be aligned to their chosen Career Path/Career Cluster.

ISSUES

Some assumptions that might have been generally true about students a quarter of a century ago are mistakenly considered to be true today. Four common assumptions are:

- All students have the interest and ability to go to a four-year institution. Students believe it is the only sure path to career success.
- All students are fully aware of all available career opportunities and take coursework related to careers that interest them.
- Everyone fits neatly into one of two paths after high school graduation: going to college before entering the workforce or going directly to work from high school.
- All students are systematically learning about careers and career opportunities. They all have well-developed, four-year plans that are reviewed and revised with input from students, parents, counselors, and teachers.

In truth, data shows that the greatest growth in public postsecondary education is occurring at two-year institutions, not at four-year schools, and that an increasing number of students are not prepared to take credit-bearing classes as they enter college. Over the past decade, Missouri's public postsecondary institutions have experienced an overall increase of nearly 30 percent of first-year students. However, only a 9 percent increase has been realized at the four-year institutions while freshmen enrollment at two-year schools has escalated nearly 61 percent from 1996 through 2005.

Projections by the Missouri Department of Economic Development relating the percentage of jobs in our state's labor force that will require a four-year diploma in order to fulfill occupational requirements are

essentially the same as those in place on a national scale 50 years ago. The estimate is that approximately 20 percent of available jobs absolutely require a bachelor's degree or higher.

The change since 1957 is in the percentage of jobs requiring technical skills of greater complexity than one would normally gain by the time of high school graduation, but not necessarily a bachelor's degree. Fifty years ago, more than half the jobs in the American economy were classified as unskilled, or not requiring a substantial amount of specific training in order to perform many if not most of the occupational requirements. Today, that number is less than 15 percent.

It is in the broad classification of skilled occupations that the economy has seen growth to the point where those jobs comprise 65 percent of the labor force. This growth has created a high demand for students to receive ongoing skill development after graduation from high school.

The use of a well-developed, four-year plan can help students develop an understanding about a variety of career options and opportunities. With input from parents, counselors and teachers, this becomes a valuable tool for designing a personal plan of study.

In the spring semester of 2006, 2,058 seniors from 33 Missouri high schools participated in the *High Schools That Work* assessment. Included in the *HSTW* assessment was a student survey that asked questions about their secondary educational experiences, allowing for academic achievement data to be disaggregated in unique ways. Of those seniors, 52 percent reported discussing their four-year plan with parents, stepparents, or other adults several times per semester. The remaining seniors reported having this discussion less often, 15 percent once per semester, 12 percent once per year, 13 percent once overall, and 8 percent not at all.

The *HSTW* report shows that assessed abilities in reading, math and science are minimally one full grade level higher for those who discussed the plan several times per semester than those who rarely or never discussed the plan. More than one out of five students fell into this latter category. As reported by those students, the trend continued when either guidance counselors or teachers were substituted for parents, stepparents, or other adults. Thirteen percent reported never discussing the four-year plan with a counselor, 19 percent reported the same with a teacher.

The concept of the personal plan of study is a sound component of Missouri's Comprehensive Guidance Program, but it must be used in order to be effective.

The final issue is the arbitrary division of college bound versus non-college bound and how it ignores the unique needs of each student. This division does not allow all students to work through a comprehensive process of career awareness, exploration, planning, and decision-making.

These issues may be addressed through a comprehensive process of career development by which students develop a focused but flexible personal plan of study. Within the Career Clusters framework, students can examine careers within a broad context and then see which postsecondary experience will best meet their career goals; whether it be a four-year college/university, community college, state technical college, apprenticeship, military, or on-the-job training.

The importance of building a relevant personal plan of study is recognized in the following documents, legislation and initiatives:

- *Improving Missouri High Schools*, A Report of the Commissioner's Study Group on High School Reform in February 2006, states that each student should have a personal plan of study that is "flexible and rigorous in content and relevant to the goals and future plans of the student."
- The *Graduation Requirements for Students in Missouri's Public School* stresses the importance for each student to have a personal plan of study focused around Career Paths/Career Clusters.

- Missouri School Improvement Program Standard 6.9 states that students must develop a personal plan of study relevant to their career goals. In addition, Missouri’s Comprehensive Guidance Program has established grade-level expectations around Career Paths/Career Clusters and the acquisition of knowledge and experience to develop focused but flexible personal plans of study.
- *High Schools That Work*, a state-supported reform effort, speaks to the need for “...all students to take a carefully-planned sequence of high-level academic courses and either an academic or a career concentration.” Again, the focus is on a rigorous and relevant personal plan of study that has a specific yet flexible focus.

A key resource for students, counselors, and parents is *Missouri Connections*, a Web-based educational and career planning system developed by Kuder, Inc., under contract with the Department of Elementary and Secondary Education. *Missouri Connections* is available at no charge to all public middle and secondary schools. A key component of *Missouri Connections* is it allows students to explore careers around Career Paths and Career Clusters, to develop personal plans of study, to explore postsecondary options, and to create electronic portfolios.

Missouri has recognized the importance of a meaningful system that will assist students to successfully progress through high school and beyond. The issues, therefore, deal with helping students understand the world of work in a way that is relevant to their individual interests and abilities and in developing a relevant personal plan of study that fosters future success.

ACTION ITEMS

- Fully implement a district-wide, comprehensive guidance program (MSIP Standard 6.9) to ensure that all students have access to meaningful learning opportunities that promote their academic, career and personal/social development.
- Integrate guidance Grade Level Expectations (GLEs) into all curricula.
- Work in partnership with counselors, teachers, and parents to use Career Clusters in assisting students in educational and career planning.
- Use the Individual Planning Component of the Missouri Comprehensive Guidance Program to ensure that every student initiates and follows a personal plan of study that integrates rigorous academics within the Career Clusters framework.
- Utilize the Missouri Economic Research and Information Center (MERIC) data at all levels of education to assist students in the development of their personal plan of study.
- Develop a local plan with input from teachers, counselors, parents, and students to integrate the Career Clusters framework into the school districts’ overall educational programs.
- Encourage schools to make available to middle and secondary students a Web-based career and educational planning system, such as *Missouri Connections*.

INDICATORS OF SUCCESS

- All school districts will have integrated guidance Grade Level Expectations (GLEs) into their curricula.
- School districts will increase inservice opportunities for administrators, teachers, and counselors focusing on:
 - Career Paths/Career Clusters
 - Effective use of DESE and MERIC resources
 - Use of career interest assessment data to make informed programming decisions
- All districts will fully implement the Missouri Comprehensive Guidance Program.
- All high school students will have a personal plan of study, built around Career Paths/Career Clusters, that is reviewed and revised annually.

RECOMMENDATION 2

FOCUS ON RIGOR, RELEVANCE, AND RELATIONSHIPS IN SCHOOL CURRICULA

The foundation of a quality curriculum is the combination of rigorous academics and meaningful, career-based learning for all students. The curriculum must be relevant to the lives of students and prepare them for current and future career opportunities.

GOAL

Instill rigor, relevance, and relationships in the entire secondary curricula by incorporating career connections for greater participation in engaging learning strategies.

ISSUES

A disconnection often occurs between the overall school curricula and the requirements necessary for successful advancement in the modern economy. A breakdown can affect students' ability to make the transition from classroom academics to career readiness. In today's modern world, higher-order thinking and reasoning, teamwork, technical literacy, and oral communications are all critical skills for success.

Too often, students are categorized as being college bound or non-college bound with the quality of education they receive dependent on the assigned group. The leveling of educational rigor and quality is inequitable and it ignores research stating that many technical fields require stronger academic skills. For example, according to Willard R. Daggett, Ed.D., of the International Center for Leadership in Education, manuals and materials used by frontline technicians are generally more complex than materials used in entry-level college courses.

ACTION ITEMS

- Base each student's personal plan of study on a rigorous curriculum which incorporates the knowledge and skill statements identified within Career Clusters.
- Explore embedded credit as an avenue to support rigorous and relevant curriculum. Embedded credit offers students the opportunity to demonstrate mastery of academic principles gained in career-related coursework.
- Promote the concept of allowing a student's personal plan of study based on Career Paths/Career Clusters to guide course selection choices available for focused, career-based learning experiences.
- Provide students with a capstone experience related to their personal plan of study that demonstrates academic and career competencies.
- Provide teacher inservice regarding alternate experiences that could be used at an equal level of effectiveness in lieu of traditional internships. One such example is a senior capstone experience project centered on an area of career interest.

INDICATORS OF SUCCESS

- Fewer high school graduates will need remediation at the postsecondary level.
- Assessment scores (MAP, ACT, etc.) will increase.
- Persistence to graduation at the secondary and postsecondary levels will increase.

RECOMMENDATION 3

FOCUS ON STUDENT TRANSITIONS

Educational systems assist in the successful advancement of their students. This involves the implementation of transition strategies for middle school students entering high school and secondary students entering postsecondary education and/or the world of work.

GOALS

Missouri must strive for a seamless transition system from middle school to high school and from high school to postsecondary institutions. The state experienced a 3.8 percent dropout rate in the 2004-2005 school year. This was an increase from 3.4 percent in 2003-2004. Support mechanisms that allow for effective transitions from middle school to high school must be put in place. These supports could include intensive summer work or a revised ninth grade program for students needing additional assistance. A significantly reduced dropout rate and an increase in the persistence to graduation could be a result of strong systems of support.

Ensuring that all students graduate from high school is one goal. Another goal is to create a seamless educational system in which curricula, instruction, and assessment are connected and coordinated. In such a system, no student would have to repeat learning and credits would transfer easily from institution to institution. This would assist students in making a smooth transition to the next level whether they choose to enter the workforce or continue their education. Career education courses should be aligned from one educational institution to another without loss of credit or time for the student. This alignment must also include articulation agreements or dual-credit arrangements among secondary and postsecondary institutions. To ensure that all students have the opportunity to take advantage of articulation agreements and dual-credit arrangements, transitional programs need to be centered on developing college readiness skills. This is especially important for students who are behind academically.

The transferable nature of academic skills will serve students in their future professional lives, regardless of career changes.

ISSUES

Students and their parents need assurance that the personal plan of study they build offers a road to educational and career success. This kind of assurance is possible with a seamless transition from middle school to high school and from high school to postsecondary institutions. One issue that needs to be addressed is the transferability of courses and credits. This should be a seamless process in all areas including career education programs. Without a uniform transfer policy in place, students will continue to repeat unnecessary coursework at the postsecondary level.

Another issue to address is helping to ensure that middle school students are academically prepared for high school work. Programs need to be put in place that provides support and assistance to rising ninth grade students who might not have the requisite skills for success. Only 76.4 percent of the students who were high school freshman in 2001-2002 graduated in 2005.

In support of these issues are programs of study that align course offerings at the secondary level with advanced academic and career education courses at the postsecondary level. A program will better equip students with the skills and credentials required for success in high-demand careers. In addition, students

entering ninth grade who have the academic skills or supports necessary to succeed will be able to take advantage of the secondary opportunities within their personal plan of study.

ACTION ITEMS

- School districts provide the support systems that allow for a successful transition from middle school to high school.
- Teachers and counselors jointly assist students in successfully making the transition from middle school to high school and into postsecondary education and/or quality employment. The personal plan of study, which is developed as a part of the Missouri Comprehensive Guidance Program, is the foundation for the system.
- Secondary and postsecondary institutions develop dual-credit and articulation agreements. Other advanced-level opportunities are consistent among postsecondary institutions.
- The Departments of Elementary and Secondary Education and Higher Education work together to ensure that a seamless transfer policy for dual-credit, articulation agreements, and other advanced-level opportunities are consistent among postsecondary institutions.

INDICATORS OF SUCCESS

- Increase in the number of students receiving postsecondary credit through articulation agreements with no remediation for career education.
- Increase in the number of students receiving postsecondary credit through dual-credit and/or dual-enrollment for career education increases.
- Replace the course-to-course articulation agreements with an articulated sequence of study (program of study) that includes academic and career education coursework. Students who meet the postsecondary institution's entry requirements and have completed the sequence of study described above shall have their articulated credits immediately transcribed.

RECOMMENDATION 4

FOCUS ON HIGH-QUALITY PROFESSIONAL DEVELOPMENT

High-quality professional development will focus on academically-rigorous contextual learning methodologies and career development strategies to support all educators in meeting the needs of all students.

GOAL

Practicing educators participate in high-quality professional development to integrate contextual learning methodology.

ISSUE

Educators' knowledge of careers is often confined to their own firsthand career experiences. Many teachers go from high school to college to the classroom with little work experience outside of their field. This can limit the understanding of the labor market and the application of academic competencies that meet the demands of today's workforce.

ACTION ITEMS

- Teachers from academic and career education disciplines, as well as counselors, should participate in high-quality professional development opportunities focused on:
 - integrated, cross-curricular instruction
 - received over time and directly linked to student learning
 - problem-based learning and career development
 - the value and use of Career Paths/Career Clusters
- Teachers and counselors participate in workplace learning experiences through continuing education and professional development.
- Establish and utilize education/business partnerships to provide context and support for the personal plan of study.

INDICATORS OF SUCCESS

- Both academic and career education teachers regularly participate together in high-quality professional development that focuses on:
 - how to increase the emphasis on academic skills in their courses and how to upgrade technical skills
 - opportunities to return to industry for occupational exposures
 - curriculum integration of academic and career education
- Teachers are regularly supported in integrating academic and career education curricula that enable students to solve authentic problems with real-world applications and motivate students to learn more complex materials.
- School administrators are encouraging and supporting collaboration between academic and career education teachers.
- Problem-based learning is practiced throughout the curriculum. This enables students to see relationships between what they learn in school and what they do outside of school.

Conclusion

The Career Clusters framework is part of the overall educational system. It provides a foundation for students to gain knowledge about the world of work in a meaningful way while at the same time developing strong academic skills within a context relevant to educational and career goals. The Career Clusters framework allows students to create a flexible personal plan of study based on their interests, abilities, and career maturity. Because each plan is individualized, it guides and motivates learning, aligns postsecondary educational goals, and ultimately provides the direction for lifelong success.

The use of a seamless, well-connected educational system will provide students with opportunities to study and build academic and workforce skills. In turn, students will achieve their personal and career goals enabling them to reach their fullest potential.

Middle schools, high schools, and postsecondary institutions should work together to develop transition strategies that ensure all students will be successful at the next stage of their educational preparation. A key component of successful transition is the development of a personal plan of study. The personal plan of study is focused on rigorous academics and the Career Clusters framework. It includes multiple opportunities for students to achieve their educational and career objectives. Another component includes support systems for ninth grade students needing assistance. In addition, a consistent policy is needed regarding advanced coursework, dual-credit, and articulation agreements.

To assist all students in making informed choices, it is essential that Missouri educators are knowledgeable about careers and the level of education and skill required in today's workforce. This includes using problem-based learning methods of teaching to meet the needs of individual students and the demands of the modern and future workforce. Career Clusters can enhance a school's ability to achieve these laudable goals.

RESOURCES

The following links are related Web sites for national and state legislative and educational initiatives listed on page 1 of this paper:

Breaking Ranks II

http://www.nwrel.org/scpd/sslc/institutes_2005/documents/Ollarvia_executive_summary.pdf

Building Linkages: Making Integrated Standards Work for Education and Industry

http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/4c/7c.pdf

Career Clusters

www.careerclusters.org

Carl D. Perkins Career and Technical Education Improvement Act

www.dese.mo.gov/divcareered/perkins_iv.htm

Department of Elementary and Secondary Education, Strategic Plan 2006-2010

www.dese.mo.gov/divadm/StrategicPlan.html

Division of Career Education, Strategic Plan 2006-2010

www.dese.mo.gov/divcareered/strategic_plan.htm

High Schools That Work

www.sreb.org/Programs/hstw/hstwindex.asp

Expanding Opportunities: Postsecondary CTE and Preparing Tomorrow's Workforce

www.acteonline.org/policy/legislative_issues/postsecondary.cfm

International Center for Leadership in Education

www.leadered.com

Meeting the Challenge: Providing Superior Public Education for all Missouri Students

www.dese.mo.gov/stateboard/challengecover.htm

Missouri Mathematics, Engineering, Technology, and Science (METS) Alliance

www.gov.mo.gov/mets

Missouri School Improvement Program

www.dese.mo.gov/divimprove/sia/msip/index.html

No Child Left Behind Act

www.dese.mo.gov/divimprove/nclb

Project Lead The Way

www.pltw.org

Reinventing the American High School for the 21st Century

www.acteonline.org/policy/legislative_issues/upload/ACTEHSReform_Full.pdf

GLOSSARY OF TERMS

Articulation Agreement

A written, formal document that specifies the process by which a high school student may earn college credit through successful completion of certain high school courses when students achieve learning outcomes, skills, and abilities comparable to those covered in a college course. The process allows high school students to move smoothly into postsecondary education without experiencing delay or duplication of courses. Generally, the college credit is not awarded until the student is enrolled at the college issuing the articulation agreement and until the student has satisfactorily completed a designated number of credit hours or terms. Because the courses involved are at the high school level, the student pays no tuition.

Capstone Experience

A culminating experience in which students are expected to integrate special studies with the major and extend, critique, and apply knowledge gained in their major.

Career Clusters

An organizing framework that groups occupations and careers based on common knowledge and skills. The framework assists educators in tailoring coursework and work experience around specific occupational groups that offer students core academics as well as activities that match their skills and interests. Career Clusters provide depth to Missouri's six Career Paths. Missouri has adopted the U.S. Department of Education's 16 Career Clusters (www.careerclusters.org).

Career Development

Self-development over the life span through the integration of life roles, settings, and events.

Career Paths

A broad categorization of curricula and educational activities targeted at a student's academic and career goals. Missouri has identified six Career Paths as a way of helping students become aware of and explore careers in a logical and meaningful way. As students become more vocationally mature, they have the opportunity to drill down into the Career Paths by exploring one or more of the 16 Career Clusters that are incorporated into the Career Paths.

Career Pathway

Listing of occupations that share advanced technical skills and/or common roles within a Career Cluster. Career pathways are an area of study within the 16 Career Clusters. The U.S. Department of Education has identified 81 career pathways.

Carl D. Perkins Career and Technical Education Improvement Act of 2006

The federal legislation that supports career and technical education programs at the secondary and postsecondary levels.

Dual-Credit

Postsecondary courses that are taught on the high school campus. These courses are taught by qualified instructors as defined by the Coordinating Board for Higher Education and are of the same quality and rigor as all other college courses.

Dual Enrollment

High school students who take postsecondary classes and who are physically present on the postsecondary education campus for those classes.

Focused Career-Based Learning

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. Eight examples* of career-based learning experiences and the appropriate grade levels for each experience are as follows: Service-Learning (Grades K-12+); Mentoring (Grades 5-12+), Job Shadowing (Grades 7-12+), Volunteer Service (Grades 10-12+), Internship (Grades 10-12+), Cooperative Education (Grades 11-12+), Youth Apprenticeship (Grades 11-12+), Registered Apprenticeship (Grades 11-12+).

**Adapted from Steven and Mary Agnes Hamilton, Cornell University*

High Schools That Work (HSTW)

A national initiative that stresses high academic and career and technical education standards based on 10 key practices, including high expectations for students and offering them work-based learning opportunities.

MERIC

An acronym for the Missouri Economic Research and Information Center, the research division of the Department of Economic Development. MERIC provides innovative analyses and assistance to policymakers and the public, including studies of the state's targeted industries and economic development initiatives. Other MERIC research includes economic condition reports, economic impact assessments, and labor market information produced in cooperation with the U.S. Department of Labor.

Missouri Comprehensive Guidance Program

The Missouri Comprehensive Guidance Program is designed to serve all students in grades K-12 and help insure equal opportunity for all students to participate fully in the educational process integrating academics, career, and personal/social development.

Missouri Mathematics, Engineering, Technology, and Science (METS) Alliance

Governor Matt Blunt's initiative to focus on mathematics, engineering, technology, and science for the well-being of Missouri citizens.

Missouri School Improvement Program (MSIP)

MSIP reviews and accredits the school districts in the state within a five-year review cycle. School district reviews cover the areas of resource, process and performance. The process of accrediting school districts is mandated by state law.

Missouri Career Prep Certificate Program

The statewide initiative focuses on the local implementation of a work readiness certificate that enables high schools to endorse their graduates for the workplace. The voluntary program provides a framework for communities, large or small, to design a certificate program that meets the needs of employers.

No Child Left Behind Act

Signed by President George W. Bush on January 8, 2002, the Act gives schools historic education reform based on stronger accountability for results, more freedom for states and communities, encouraging proven education methods, and more choices for parents.

Personal Plan of Study

A student's scope and sequence of coursework and co-curricular experiences based upon chosen educational and career goals. Personal plans of study are arranged according to secondary graduation requirements and postsecondary admissions requirements. The foundation of the personal plan of study is the school's implementation of a *program of study*. To ensure students make a successful transition to high school and a positive postsecondary experience, it is important for them to develop a rigorous and relevant personal plan of study based on their interests and abilities. The personal plan of study includes a map of coursework, graduation requirements, and relevant work-based learning experiences. The plan reflects student movement toward a chosen career revolving around career pathways and/or clusters. A plan of study is developed cooperatively between counselors, educators, students, and parents. It should be reviewed annually and adjusted as necessary to reflect any changes in a student's career plan.

Portfolio

A collection of student work indicating progress made in one or more subjects, activities, and/or programs. The

portfolio, or e-portfolio, is generally used as an assessment tool in order to make decisions about courses to be taken, to assign grades, or to recommend students for specialized programs or activities.

Program of Study

A program adopted and offered by local educational agencies and postsecondary institutions as an option to students (and their parents as appropriate) when planning for and completing future coursework. A program of study incorporates secondary and postsecondary 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 postsecondary education to adequately prepare students to succeed in postsecondary 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 postsecondary education credits; and lead to an industry-recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree.

Relationships

Relationships complement rigor and relevance. There are four dimensions of relationships important in schools: 1) learning relationships with students essential for support in the learning process, formed from a combination of relationships with parents, peers, and teachers; 2) staff relationships among teachers, administrators, and support staff that influence teaching, support functions, staff retention and development, and school decisions and problem-solving; 3) professional relationships each educator creates and maintains to learn and develop in the profession; and 4) community relationships of the school as an organization with parents, business, and community leaders.

Rigor

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.

Relevance

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

Tech Prep

An articulated two-year secondary and two or more year postsecondary education program that integrates academic and career and technical education instruction that utilizes work-based and work site learning where appropriate.



The Department of Elementary and Secondary Education does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. Inquiries related to Department programs may be directed to the Jefferson State Office Building, Title IX Coordinator, 205 Jefferson Street, Jefferson City, Missouri 65102-0480; telephone number (573)751-4212.

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