The Development of a P-20 Educational Campus: A Case Study on Innovation

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THE DEVELOPMENT OF A P-20 EDUCATIONAL CAMPUS:
A CASE STUDY ON INNOVATION

A Dissertation
Presented to
The Faculty of the Morgridge College of Education
University of Denver

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
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Abstract

Tyack & Tobin (1994, p. 454) describe that the “grammar of schooling,” like the shape of classrooms, has remained remarkably stable over the decades. This has frustrated generations of reformers who have fought to change standardized organizational traditions. Typically school reform has taken the form of innovations in education. Unfortunately, educational innovations don’t usually last long or they were never truly innovations in the first place but rather a repackaging or reintroduction of age-old customary practices.

The “Eos Public Schools” set out on a mission to integrate P-20 educational reform into its overall school system as a way to confront some longstanding 20th century practices and challenge the status quo. One way of accomplishing this was through the creation of a P-20 Educational Campus. Was the district, merely by their intentions and subsequent actions, able to truly innovate the way in which they conceptualized and reconceptualized schooling in the development of the P-20 Campus? How did they “do school” differently? What specifically were the innovations and how significant were they?

This study examined the conception and significance of specific innovations within the creation of the P-20 Educational Campus through case study methodology to tell the story of how this Colorado school district approached P-20 educational reform. A mixed methods approach was used from a review of documents, interview responses
combined with survey results. Serving as the conceptual framework for this case study, the key product (goods or services), process (production or delivery methods), organizational (organizational structures, practices, or methods), and marketing (design or packaging) innovations were illuminated.

The research revealed the most significant innovations as the seamless, aligned P-20 Campus system, academic and career pathways, partnerships, and world languages. These significant innovations were accompanied by postsecondary and workforce readiness (PWR), new instructional technologies, the Campus leadership model, fluid movement of students, and plans of study. Specific themes emerged through these innovations: alignment and coherence, choice, connections, opportunities, partnerships, and 21st century learning.

These findings will inform school reformers thinking about how to provide more instructional alignment and coherence toward a seamless, educational system from preschool through postsecondary experiences; to address PWR; and to create critical partnerships among P-12 education, higher education, and the community and industry.

It is too soon to tell if these findings were enough to truly reshape the “grammar of schooling.” However, when considering innovations in education, these findings revealed the need for systemic structures to promote educational innovation for the 21st Century.
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I remain eternally grateful for your love, support, vision, and guidance…

Evan: “With you, I am home – both inside and out.”

Oma: “We’ll never be apart…you’re still here in my heart.”

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Sher: “You taught me to how clear the debris and build new structures.”

Liann: “Your unwavering collegiality truly helped me ‘slay the beast’.”

Marilyn and Peter: “You inspire me through your wisdom.”
# Table of Contents

Chapter One: Introduction .................................................................................................. 1  
  Background ............................................................................................................. 1  
  Statement of Problem .............................................................................................. 6  
  Purpose of the Study ............................................................................................... 8  
  Significance of the Study ...................................................................................... 10  
  Research Approach ............................................................................................... 11  
  Research Questions ............................................................................................... 13  
  Organization of the Study ..................................................................................... 13  
  Definition of Terms ............................................................................................... 14  

Chapter Two: Literature Review ...................................................................................... 22  
  Introduction ........................................................................................................... 22  
  National Education and School Reform – A Recent History .................................. 23  
  The P-16 and P-20 Education Reform Movements .............................................. 27  
    Essential components of P-20 reform ................................................................. 30  
    Opposition and impediments toward P-20 reform ........................................... 31  
  Colorado’s Endeavor Toward P-20 Reform .......................................................... 33  
  Change Theories and Practices ............................................................................. 38  
    Guiding School change – the role and work of change agents ................................ 39  
    The new meaning of educational change .......................................................... 40  
    Managing transitions ......................................................................................... 41  
  Innovation ............................................................................................................. 41  
    The OECD/CERI background and definition of innovation ............................ 43  
    Innovation in the business sector ..................................................................... 45  
    Educational innovation concepts – applications from business ..................... 48  
    Educational innovation processes – applications from business ..................... 50  
  Leading Educational Innovations ......................................................................... 53  
    Distributed leadership ...................................................................................... 53  
    Sustainable leadership ..................................................................................... 55  
    School leadership that works .......................................................................... 56  
    Systems thinking ............................................................................................... 58  
    The path of least resistance ............................................................................ 60  
    Leading in a culture of change ........................................................................ 61  
    Leading change .................................................................................................. 61  
    The six secrets of change ................................................................................. 62  
  Summary ............................................................................................................... 62  

Chapter Three: Methodology .......................................................................................... 66  
  Introduction ........................................................................................................... 66  
  Research Questions ............................................................................................... 67  
  Background and Rationale .................................................................................... 67  
  Research Design .................................................................................................... 70  
  Conceptual Framework Description and Conditions .......................................... 73
List of Tables

Table 1  Overview of information needed and participants.............................................. 77

Table 2  Combination of Highest-Scoring Innovations from the Document Review and Interviews ................................................................................................................. 103

Table 3  Overall Convergence of Qualitative and Quantitative Data ............................... 105

Table 4  P-20 Educational Campus Document Review of Product, Process, Organizational, and Marketing Innovations ................................................................................................................. 117

Table 5  Interview Responses of P-20 Educational Campus Product, Process, Organizational, and Marketing Innovations ................................................................................................................. 119

Table 6  Merged Innovations from Document Review and Interview Responses sorted by Product, Process, Organizational, and Marketing Innovations ................................. 122

Table 7  Survey Results Ranked by Mean Order – Innovation Item, Mean, Standard Deviation, and Count ......................................................................................................................... 126

Table 8  P-20 Educational Campus Product, Process, Organizational, and Marketing Innovations ................................................................................................................................. 127

Table 9  CCHE Freshmen Admission Standards ........................................................................................................................ 165
List of Figures

Figure 1. Innovation: the OECD definition (2010a): There are four types of innovation identified in the OECD Oslo Manual (2005, p. 80) for measuring innovation: product innovation; process innovation; organizational innovation; and marketing innovation. ................................................................. 9

Figure 2: Reform process .............................................................................................................. 23

Figure 3. Case context and units of analysis ........................................................................... 68

Figure 4. Chain of evidence flowchart ..................................................................................... 73

Figure 5. Innovation: the OECD definition (2010a): There are four types of innovation identified in the OECD Oslo Manual (2005, p. 80) for measuring innovation: product innovation; process innovation; organizational innovation; and marketing innovation. ..................................................................................... 75

Figure 6: Sample groups and their contributions ................................................................. 88

Figure 7. Steps taken in the convergence of the multiple sources of evidence .................. 96

Figure 8. Community workforce planning communication constituency groups .......... 141

Figure 9. Pathway Advisory Committees Lines of Communication ................................. 142

Figure 10. Structural tension charting ....................................................................................... 191

Figure 11. Coexistence of Critical P-20 Campus Groups ...................................................... 197
Chapter One: Introduction

“A rock pile ceases to be a rock pile the moment a single man [woman] contemplates it, bearing within him [her] the image of a cathedral.”

(Antoine de Saint-Exupery, French Novelist, from *Pilote de Guerre*, 1942)

Only from his (her) actions, his (her) fixed utterances, his (her) effects upon others, can man (woman) learn about himself (herself); thus he (she) learns to know himself (herself) only by the round-about way of understanding. What we once were, how we developed and became what we are, we learn from the way in which we acted, the plans which we once adopted, the way in which we made ourselves felt in our vocation, from old dead letters, from judgments on which were spoken long ago...We understand ourselves and others only when we transfer our own lived experience into every kind of expression of our own and other people’s lives.

(Dilthey, quoted in Stake, R. 1995, p. 36)

Background

For more than a century, public education in the United States has witnessed many changes and transformations, but none as profound as what has taken place within the past twenty five years during this age of reform and accountability. Since the early 1980s, states across America have sustained a consistently high level of involvement in education reform. This prolonged period of focus on reform and its deep impacts are unprecedented in the history of education in the United States. A significant reason for this continuously high level of reform and accountability lies within the core problem that our education and training systems were built for another era, an era in which most workers needed only a rudimentary education. It is not possible to get where we have to go by patching that system. Over the last 30 years, one country after another has
surpassed us in the proportion of their entering workforce with the equivalent of a high school diploma, and many more are on the verge of doing so. Thirty years ago, the United States could lay claim to having 30 percent of the world’s population of college students. Today that proportion has fallen to 14 percent and is continuing to fall (National Center on Education and the Economy, 2007). Harvard Graduate School of Education (2011, p.1) shares, “Yet as we end the first decade of the 21st century, there are profoundly troubling signs that the U.S. is now failing to meet its obligation to prepare millions of young adults. In an era which education has never been more important to economic success, the U.S. has fallen behind many other nations in educational attainment and achievement.”

One contemporary and significant educational reform addressing the overall American educational system is referred to as ‘preschool to college completion’, P-16 or P-20, education. In an effort to ensure that more students graduate from high school, succeed in college, and are highly trained for the modern workforce, many states are initiating P-20 councils and policies to address the alignment in programs from preschool through postsecondary education. Because of increasing high school dropout rates, continuous gaps in student achievement, lack of postsecondary and workforce readiness, and an incoherent educational system, there is an urgent need for P-20 reform. P-20 educational reform has come in response to the rather larger disjuncture in expectations among preschool, grade school, secondary school, and college. The gaps resulted in the staggered and uneven evolution of these levels of education. Today, it is not uncommon to find high school exit requirements that bear little resemblance to college entrance requirements. As a result, many students graduate high school and enter the workforce or
college without adequate preparation (Krueger & Rainwater, 2003). P-20 education reform seeks to bridge these gaps by increasing communication among the various educational institutions and industry through aligning standards and competencies. Such reform aligns the overall educational system ensuring a continuous path of knowledge and skills leading to life-long learning and career readiness. P-20 reform efforts strive for a seamless educational system that guarantees clear pathways for all students to obtain college degrees, regardless of point of entry. P-20 reform also aims to improve early childhood, elementary, middle and high school standards to ensure higher education preparedness and workforce expectations to meet industry-specific skills as it facilitates students’ progress through the numerous pathways to college and careers for the 21st century economy.

Colorado, like most states, has initiated reform efforts to close achievement gaps and to align the preschool through postsecondary educational system. Achievement gaps relate to the difference in performance between low-income and minority students compared to that of their peers on standardized tests. Traditionally, low-income and minority children have not performed as well as their peers on the tests. Most significantly for Colorado is to address what is referred to as The Colorado Paradox (Colorado Governor, 2010). Despite having one of the most highly educated populations in the nation, Colorado has consistently underperformed in sending students, who grow up in Colorado, to college. During his gubernatorial campaign titled, The Colorado Promise (Colorado Governor, 2006), Governor Bill Ritter took a strong stance on education to address the Paradox with a focus on closing achievement gaps in schools; doubling the number of degrees and certificates earned by Colorado students; cutting the
high school dropout rate in half; increasing access to early childhood education;
improving student learning in the K-12 system; and reducing high-school drop-out rates
to provide Colorado businesses with the nation’s best-educated home-grown workforce.
In order to fulfill this Promise, Colorado formed a P-20 Council to help create Senate Bill
08-212, the Colorado Achievement Plan for Kids (CAP4K) in May, 2008. CAP4K
essentially was designed to construct a truly aligned preschool-to-college educational
system; to establish new standards and new assessments so that students have the skills
and the knowledge to succeed in today’s 21st century, ultra-competitive global economy;
and to make attempts in eliminating traditional walls between Colorado’s pre-K, K-12
and higher-education systems. In September, 2007, the Colorado Department of
Education (CDE) launched its new strategic plan, Forward Thinking (Colorado
Department of Education, 2010a). The plan was created, in part, to provide choice so
parents can match programs to the needs of their students; create partnerships; ensure that
all children have quality instruction; continue to expect high standards and academic
rigor; and graduate college- and/or workforce-ready high school students.

Eos Public Schools (EPS) (pseudonym used) is an urban/suburban school district
located in Colorado. In order to protect the school district and individuals who shared
information so readers can see themselves in the story, the researcher had all identifying
information removed before data was analyzed. Moreover, as the researcher and Director
of the EPS P-20 Educational Campus Development, I am closely related the work of the
development of the P-20 Campus. Because of my position, there was potential risk for
individuals participating in the study. Such risk was inherent because of the researcher’s
prior relationship with all of the participants within the study. The use of a conceptual
framework and the removal of identifying information help to protect against this inherent risk.

Within its strategic plan, the EPS district vision is to “graduate every student with the choice to attend college without remediation.” Additionally, within its district mission, EPS declares “to teach every student the knowledge, skills and values necessary to enter college or a career and become a contributing member of society who flourishes in a diverse, dynamic world.” One significant way in which the school district supported its vision and mission was in its endeavor to provide students with choices in pursuit of their postsecondary and career goals. Such choices came from developing new schools and organizing existing schools to better support expanded educational opportunities. As one result, EPS developed a P-20 Educational Campus. EPS’s efforts were to address current educational issues such as rapidly changing demographics; wide disparities in educational attainment, income, and access; an ever-increasing demand for high-skilled employees; and limited financial resources. Furthermore, to ensure that more students are able to successfully graduate from college and enter the workforce, EPS believed that P-20 education would ensure that students meet the needs that arise from:

- increasing globalization and shifting workforce demands;
- rapidly changing and advancing technological changes;
- an increasing need for creativity, innovation, collaboration, critical thinking, and problem solving in all fields;
- a workforce that is likely to change jobs, even careers, many times, requiring additional education to do so;
- a variety of informal sources of learning, such as Internet, blogs, mobile devices, video conferencing and other media, that change how individuals learn and relate to the world.
The EPS P-20 Campus was intentionally developed to reflect, as a coalition of, the educational philosophy of the district’s strategic plan, the Colorado Achievement Plan for Kids (CAP4K), and the Colorado Department of Education’s strategic plan, *Forward Thinking*. This was demonstrated by its intent to develop the campus around small learning communities, educational alignment from preschool through postsecondary education, multiple academic and career pathways, collaborative partnerships, and leadership development. EPS planned to develop the P-20 Campus as a source for innovation and creativity that was intended to impact P-20 reform efforts in the district, state, and the nation. The P-20 Campus was planned to open with a P-8 school and a high school. The site plan was developed with the potential to add a higher education building in the future. Moreover, as a center for student and adult learning, the EPS P-20 Campus was to serve as a professional development center for internships, mentors, consultative support, classes and advanced degrees for staff. Students could take advantage of the on-site college(s) for dual enrollment programs to earn both a high school diploma and an advanced degree. Staff throughout the district could be involved in leadership development that focuses on enhancing creativity, building school culture and maximizing teaching and learning to support student achievement. The site was positioned to become a center for professional excellence that was to serve as a demonstration campus and to develop cutting edge teaching skills.

**Statement of Problem**

Tyack & Tobin (1994, p. 454) describe that the “grammar of schooling”, like the shape of classrooms, has remained remarkably stable over the decades. By the “grammar of schooling” they refer to the regular structures and rules that organize the work of
instruction. They refer to the standardized organizational practices in dividing time and space, classifying students and allocating them to classrooms, and splintering knowledge into ‘subjects.’ Continuity in the grammar of instruction has frustrated generations of reformers who have fought to change these standardized organizational forms. The grammar of schooling is difficult to alter due to how language sets on top of deep cultural norms and beliefs. Moreover, education has consistently tried to challenge the grammar of schooling, yet decade after decade, the resolute manner in which we conceptualize schooling continues to exist. It is the departure from customary practice in schooling that attracts attention (Tyack & Tobin, 1994). Typically such a departure involves educational innovations. Unfortunately, innovations in education don’t usually last long or they were never truly innovations in the first place; but rather a repackaging or reintroduction of age-old customary practices.

The Eos Public Schools set out on a mission to integrate P-20 educational reform into its overall school system as a way to confront some longstanding 20th century practices and challenge the status quo. One way of accomplishing this was through the creation of a P-20 Educational Campus. The development of the P-20 Campus was to provide the district with a center of excellence and breeding ground for innovation. This study was initiated from several questions. Was the district, merely by their intentions and subsequent actions, able to truly innovate the way in which they conceptualized and reconceptualized schooling in the development of the P-20 Campus? If they were indeed innovative, how did they “do school” to reshape the “grammar of schooling” on the P-20 Campus? What specifically were the innovations and how significant were the innovations?
Purpose of the Study

The purpose of this case study was to tell the story of how a Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. This case study of the creation of the EPS P-20 Educational Campus was told through examination of the conception and significance of specific innovations. Understanding the important contextual conditions, such as P-20 educational reform efforts, was highly relevant to this case.

This study applied the definition of innovation from The Organization for Economic Co-operation and Development (OECD) Centre for Educational Research and Innovation (CERI). In its *Oslo Manual* (Organization for Economic Co-operation and Development, 2005), OECD defines innovation “as the implementation of a new or significantly improved product, process, organizational method, or marketing method.” The OECD definition of innovation provided the framework for categorizing the EPS innovation activities through which we can best understand the study data. The framework components are shown in the figure below (Organisation of Economic Co-operation and development, 2010a):
Innovation: the OECD definition (2010a): There are four types of innovation identified in the OECD Oslo Manual (2005, p. 80) for measuring innovation: product innovation; process innovation; organizational innovation; and marketing innovation.

<table>
<thead>
<tr>
<th>Product Innovation</th>
<th>Process Innovation</th>
<th>Organizational Innovation</th>
<th>Marketing Innovation</th>
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</thead>
</table>
| • Involves goods or services that are new or significantly improved.  
  • Includes significant improvement in technical specifications, components and materials, incorporated software, user friendliness, or other functional characteristics.  
  • In education, a product innovation can be a new or significantly improved curriculum, a new educational software, etc.  | • Involves a new or significantly improved production or delivery method.  
  • Includes significant changes in techniques, equipment, and/or software.  
  • In education, this can be a new or significantly improved pedagogy, etc.  | • Involves introducing a new organizational method in the firm's business practices, workplace organization, or external relations.  
  • In education, this can be a new way of organization of work between teachers, or organizational changes in the administrative area.  | • Involves significant changes in product design or packaging, product placement, product promotion, or pricing.  
  • In education, this can be a new way of pricing the education service or a new admission strategy.  |

The creation of the P-20 Campus was illuminated through the key product (goods or services), process (production or delivery methods), organizational (organizational structures, practices, or methods), and marketing (design or packaging) innovations, which served as the conceptual framework for this case study. Moreover, the definitions within the framework furnished the means for categorizing and conceptualizing the EPS innovation activities through which we can best understand the study data. Subsequently,
the story of the development of the P-20 Campus unfolded through the data collected and analyzed within these four areas of the conceptual framework.

By highlighting the key innovations in the creation of the P-20 Campus, leadership decisions and actions were ultimately revealed and a model for the educational community was provided. It is important to note that because of the uniqueness of this educational endeavor of the development of a P-20 Educational Campus system within its time and place, it was not possible to conduct this research elsewhere. Moreover, the planning and implementation of the development of the EPS P-20 Educational Campus were unique to the state and nation. The names of the campus and school district have been changed.

Significance of the Study

Ortiz (2008) states that P-20 education alignment refers to the establishment of a connected, cooperative system of public education from preschool to the achievement of an associates, technical, baccalaureate, advanced, or professional degrees. The information gained through this research provided the school district with the innovations used in the creation of its P-20 Educational Campus and efforts made in aligning the overall P-20 Educational Campus system. This research can be used by other school districts in their efforts in educational alignment to establish a more connected, cooperative system of public education from preschool to the achievement of an associates, technical, baccalaureate, advanced, or professional degrees.

By spotlighting the innovations, the development of the EPS P-20 Campus addressed these inherent gaps through the many aspects of P-20 educational reform. Additionally,
an exposure of how reform drives change causing innovations will occur. Elements that
guided the organization of this study included:

- Why the school district pursued this and how another school district might
go about a similar endeavor.

- What changes happened along the way; what took place behind the
scenes; what worked and what didn’t; and what pitfalls and roadblocks
were encountered.

- How the Campus addresses *The Colorado Paradox* to increase graduation
rates; ensure seamless alignment from preschool through postsecondary;
and better prepare students for postsecondary and workforce readiness.

- How the Campus might serve as a model for public education focused on
instructional alignment from preschool through postsecondary
experiences.

- How the Campus is supported by community, higher education, and
industry partnerships.

- How the Campus systemically brought education and industry together
through community workforce planning to build a talent pipeline for
college and careers.

- How multiple academic and career pathways are embedded within the
Campus.

- How the Campus provided educational experiences that are real-world and
relevant, innovative and connected; where staff and students thrive with
choice and responsibility; to cultivate creativity and invention.

**Research Approach**

A case study research approach was selected to explore the development of the
EPS P-20 Educational Campus. The case study included:

- The review of documents by the researcher which provided the initial step
in the review of the products, processes, organizational methods, and
marketing methods that were new or significantly improved in the
development of the P-20 Campus.
Data from the first phase of the collection were combined with interview responses providing content for survey questions.

The third step in the data collection and analysis was administration of the survey.

The data collected, reviewed and analyzed by the researcher tells the story of how one Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. The conceptual framework of this research consisted of the product, process, organizational, and marketing innovations that essentially contextualized the leadership decisions and actions.

While much of the approach of the research was filtered through the lens of the conceptual framework, the study of the development of the EPS P-20 Educational Campus also explored the larger context of educational reform – more specifically P-20 reform efforts. Because of this greater arena of P-20 reform, an exposure to how change was approached as well as a disclosure of the leadership actions taken and decisions that were made in how reform and change were also addressed. Such leadership actions and decisions were elemental in the creation of this unique educational endeavor and the sequence of events in how the story unfolded, provided both a highlight of the processes for change and an in-depth view of innovations made. The literature review provided the theoretical framework for this study: educational reform efforts often drive educational organizations to make changes and change often causes innovations which require leadership decisions and actions to move change to innovation.
Research Questions

The study asked the following research questions:

1. What are the product innovations related to the development of a P-20 educational campus?
2. What are the process innovations related to the development of a P-20 educational campus?
3. What are the organizational innovations related to the development of a P-20 educational campus?
4. What are the marketing innovations related to the development of a P-20 educational campus?
5. How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?

Organization of the Study

This study consists of five chapters. Chapter one introduces the problem to be explored, and the purpose and significance of the research while setting the background of the case on the development of the EPS P-20 Educational Campus into the larger context of P-20 educational reform. Furthermore, chapter one launches the study’s conceptual framework of product, process, organizational, and marketing innovations which serves to organize the data, address the research questions, and the means to illuminate the development of the P-20 Campus. An initial description of the study research approach and background to the case are revealed. Chapter two presents a review of the literature relevant to the study including P-20 educational reform, change theories and actions, innovation in business and education, and leadership. Chapter three outlines the methodology, study design, the research questions, sample and population, and the instruments used. Additionally, data analysis procedures are described. The
study’s limitations are presented. Chapter four presents the findings and interpretations of the results. Chapter five discusses conclusions and significance of the findings as well as recommendations for further research.

**Definition of Terms**

The following definitions assist the reader in accessing the context and content of the study. These definitions were created and edited through the work of the EPS P-20 Campus leadership team and several EPS P-20 Advisory Committee members.

**21st Century Skills:** Skills, expertise and content knowledge needed to be competitive in the 21st Century.

**AA Degree:** Associate of Arts degree granted after completion of two years of study in a higher education institution.

**AAS Degree:** Associate of Applied Science; or in some cases, Associate of Arts and Sciences

**Academic rigor:** High academic expectations that are determined not just by what is taught, but how it is taught and how it is assessed.

**Access:** Availability of high-quality education opportunities for all students regardless of race, ethnicity, income or gender.

**Accountability:** Measurable proof that teachers, schools, districts, university systems and states are teaching effectively and well.

**Achievement gaps:** The observed inequity on a number of educational measures between the performance of groups of students, especially groups defined by gender, race/ethnicity, ability, and socioeconomic status.

**Adjunct faculty:** College/university faculty hired on a temporary basis to teach specific courses on a course-by course basis.

**Alignment:** Processes and curriculum that move smoothly from one education level to the next.

**Articulation:** Agreements among institutions to accept the transfer of credits.
ASCENT: Accelerating students through concurrent enrollment – Program that allows eligible high school seniors who have accumulated twelve credits or more by the end of their senior year to stay an additional (13th year) to take advantage of a year of college classes where tuition is paid by the school district. Eligible students are those who have accumulated twelve credits or more by the end of their senior year. ASCENT is a Colorado state funded program.

Assessment: Measuring or judging the performance of students or teacher.

At-risk: Students who have a higher than average likelihood of failing or dropping out of school. At risk status is often determined by a student’s eligibility for free or reduced lunch.

CAP4K (Senate Bill 212): The Colorado Achievement Plan for Kids (CAP4K) calls a streamlined, coherent alignment of Colorado’s educational systems from pre-school to college. It also requires descriptions of school and postsecondary/workforce readiness, new K-12 content standards, new statewide tests and adoption of high school graduation requirements by local school boards.

Carnegie unit: A credit representing the completion of a core of high school and college courses; developed in the early 1900s to set norms for curriculum and course time in public schools across the country. Carnegie units of credit are based on “seat time.”

CDE: Colorado Department of Education

Certifications: There are two general types of professional certification: some are valid for lifetime, once the exam is passed. Others have to be recertified again after a certain period of time. Also, certifications can differ within a profession by the level or specific area of expertise they refer to. For example, in the IT Industry there are different certifications available for Software Tester, Manager, and Developer. Similarly, the Joint Commission on Allied Health Personnel in Ophthalmology offers three certifications in the same profession, but with increasing complexity. Certification does not refer to the state of legally being able to practice or work in a profession.

Collaboration: Agreement between or among individuals or organizations that enables the participants to accomplish goals more successfully together than they could have separately.

College in Colorado: CollegeInColorado.org - a free, comprehensive Website dedicated to providing students with everything they need to know about career exploration and planning, selecting high school courses, choosing and applying to colleges, obtaining financial aid and getting ready to take the SAT, ACT or GRE tests.
**Colorado Career Clusters Model:** A model developed from partnerships involving state, schools, educators, employers, industry groups, and other stakeholders with curriculum guidelines, academic and technical standards for 16 career clusters. Students can use career clusters to investigate a wide range of career choices. The career cluster approach makes it easier for students to understand the relevance of their required courses and helps them select their elective courses more wisely.

**Colorado Model Content Standards:** The expectations of what Colorado students need to know and be able to do. Standards are not the same as lesson plans or curriculum. They stand for the values and content organizers of what Colorado sees as the future skills and essential knowledge for our next generation to be more successful beyond school. State standards are the basis of the annual state assessment. New state content standards were adopted in 2009 in civics, dance, economics, foreign language, geography, history, mathematics, music, physical education, reading and writing, science, theatre, visual arts, world languages, English Language Development, Expanded Benchmarks, and Personal Financial Literacy.

**Community college:** A postsecondary institution beginning at grade “13” and offering instruction adapted in content, level and schedule to the needs of the local community and its workforce.

**Community outreach projects:** An effort by individuals in an organization or group to connect ideas or practices to the efforts of other organizations, groups or the general public. Typically non-profits, civic groups, and churches engage in outreach.

**Concurrent enrollment:** The process in which high school students enroll at a university or college to attain class credit for high school and/or college. More broadly, it can refer to a student taking multiple courses simultaneously at different educational institutions.

**Contextual learning:** Reality-based, outside-of-the-classroom experience, within a specific context. It calls on students to directly apply their learned knowledge and skills, as well as reflect on and build lasting connections among their learning experiences. These structures may include internships, service learning, and study abroad programs, among others.

**Continuum:** A gradual transition from one condition, to a different condition, without any abrupt changes.

**Core academics:** A curriculum or course of study which is considered essential and usually required for all students of a school or school system. In general, mathematics, science, reading, writing and social science are considered part of the core curricula.

**Coursework:** The work carried out by students at university or secondary / middle / high school.
**CTE:** Career and Technical Education. A program that prepares and trains learners for jobs related to a specific trade, occupation or vocation.

**CTE licensure:** A Career and Technical (CTE) license allows an individual to teach career and technical education courses.

**Demographic Information:** Demographic information includes race, age, income, disabilities, transportation means, highest level of education completed, home ownership, employment status, and location.

**Diploma:** A diploma is a certificate issued by an educational institution to a student who has successfully completed a particular course of study (for example, high school graduation or completion of a college/technical degree program).

**Dual credit:** Students enrolled in high school may be dual enrolled at a local institution of higher learning, such as a community college or university. These students may take classes at either institution for credit toward their high school diploma, as well as for college credit.

**E-Portfolio/Online portfolio:** Electronic collection of a student’s work and accomplishments through his/her academic career.

**Early learning:** Education of young children typically focusing on ages 3 to 7, or preschool through 2nd grade.

**EPS P-20 Campus:** Eos Public Schools’ solid commitment to 21st century learning and skills that starts in preschool and continues beyond high school to prepare students for higher education and/or the workforce. The P-20 Campus reflects the educational philosophy of the district’s strategic plan, the Colorado Achievement Plan for Kids (CAP4K or Senate Bill 212), the Governor’s P-20 Council and the Colorado Department of Education’s strategic plan, *Forward Thinking*.

**Equity:** Equal access to and successful participation in high-quality education regardless of race, ethnicity, income, or gender.

**Experiences:** Purposeful activities that engage learners in direct participation and focused reflection in order to increase knowledge develop skills and values.

**Explore:** A program of extended learning opportunities that provide relevance and real work context while further examining career opportunities within a cluster.

**Forward Thinking:** The Colorado Department of Education’s plan to increase the graduation rate and close the achievement gap in all Colorado schools.
**Grants**: Funds disbursed by one party, (often a government department, corporation, foundation or trust), to a recipient (often, but not always, a nonprofit educational institution or business).

**ICAP**: Individual Career and Academic Plan for all Colorado students beginning in 9th grade. Allows student to set his/her study and career goals and create a path to achieve them.

**Industry partners**: Business alliance to strengthen student achievement.

**Industry Certificates**: Industry certificates are records that show potential employers a student’s understanding or mastery of a specific program or process (i.e. Microsoft Office Specialist (MOS), Certified Nursing Assistant (CNA), Occupational Safety and Health Administration (OSHA)) to provide them with continuous education and employability credentials in order to place them in high-demand and high-opportunity jobs.

**Industry standards**: Generally accepted requirements followed by the members of an industry.

**Integrated learning (Multidisciplinary learning)**: Incorporating skills and knowledge from multiple sources and experiences. Students may apply skills and practices in various settings and utilize different points of view.

**K-16**: Education system that integrates a student’s education from kindergarten through a four-year college degree.

**K-20**: Education system that integrates a student’s education from kindergarten through graduate school.

**Lifelong learning**: Process by which an adult continues to acquire formal or informal education throughout his or her life.

**Naviance**: A web-based tool used in EPS that provides career, college, and scholarship resources. It is designed to assist students in exploring their interests, making career choices, finding schools where they can pursue their education (in-state and out-of-state), and finding financial aid sources.

**Online Portfolio/E-Portfolio**: Electronic collection of a student’s work and accomplishments through his/her academic career.

**P-16/PreK-16**: Education system that integrates a student’s education beginning in preschool (as early as 3 years old) and ends with a four-year college degree.
**P-20:** System that integrates a student’s education beginning in preschool (as early as 3 years old) and ends with a graduate school degree.

**P-20 Advisory Council:** An advisory group that ensures fidelity to the vision for the EPS P-20 Campus. The Team identifies and helps build collaborative partnerships with CDE, Governor’s P-20 Council, professional networks, higher education, Eos community/business leaders, elected officials and parents.

**P-20 Design Team:** The group that will ensure there is a seamless continuum of instructional alignment preschool through post-secondary. Their charge is to provide multiple pathways for student engagement that support post-secondary and workforce readiness, identify curricula and instruction aligned with the expectations of the district and state’s strategic plans. Ensure 21st century technology supports learning, encourages innovation as well as established best practices, and provides on-going progress reports to the P-20 Advisory Council and the District Leadership Team.

**P-20 Site Based Team:** A group comprised of faculty and staff from the P-20 campus that will: align curricula, instruction, assessment and professional learning around multiple pathways for student learning and engagement, ensure transparent accountability for classrooms and school(s), oversee the implementation of standards-based system P-12, expand distributive leadership and leadership capacity, foster school-centered professional development, design curricula and instruction to build creating and innovation skill, tap critical-thinking and problem-solving skills, communication and collaborative skills, foster social and cultural awareness and civic engagement, encourage initiative and self-direction, flexibility, productivity and accountability in students, connect technology with instructional planning and delivery by integrating applications into the curricula, expose to and involve students in postsecondary planning beginning in kindergarten, partner with institutions of higher learning, become a demonstration campus for incubating/implementing cutting edge teaching skills.

**P-20 Vision/EPS P-20 Vision:** To support educational excellence and student achievement by fostering and supporting innovation, providing seamless education preschool through post-secondary, and strengthening post-high school and workforce readiness opportunities for students.

**Partnerships:** One or more combinations of school, university, community, political and business alliances designed to strengthen student achievement.

**Pathway:** Career pathways are an integrated collection of programs and services intended to develop students’ core academic, technical and employability skills; provide them with continuous education and training; and place them in high-demand, high-opportunity jobs.
Perkins Grant: Carl D. Perkins federal funding supports Career and Technical Education to improve curriculum and technology, and provide opportunities for students in grades 9-12 to pursue specific career and technical training of their choice.

Plans of Study: A visual communication tool that demonstrates the link between high school academic and CTE courses to college programs and careers.

Postsecondary: Education following high school; normally includes college, as well as vocational education and training.

Prepare: Extend learning opportunities to provide relevance and real work context and arrange postsecondary learning for career specialties in specific occupations.

Program approvals: The process by which a state governmental agency reviews a professional education program to determine if it meets the state's standards for approval.

PSEO: Post Secondary Enrollment Options – an academic option which allows eligible and qualified high school seniors and juniors to take courses at the college level.

PWR: Postsecondary and Workforce Readiness. The knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy.

Remedial education: Course or program designed to enable underachieving students to catch up with their peers.

Seamless system: Term used to describe a system in which expectations for student knowledge and skills are aligned throughout preschool, elementary, secondary and postsecondary levels.

Service learning: A method of teaching, learning and reflecting that combines/integrates academic classroom curriculum with meaningful service, frequently youth service, throughout the community. More specifically, it is designed to enrich the learning experience, teach civic responsibility, encourage lifelong civic engagement, and strengthen communities for the common good.

School readiness: The preparedness of a child to engage in and benefit from learning experiences, and the ability of a school to meet the needs of all students enrolled in publicly funded preschool or kindergarten. School Readiness is enhanced when schools, families, and community service providers work collaboratively to ensure that every child is ready for higher levels of learning in academic content.
**Simulation**: The imitation of some real thing, situation or process. In general, the act of simulating something entails representing certain key characteristics or behaviors of a selected physical or abstract system.

**Stakeholders**: A person, group, organization, or system who affects or can be affected by an organization's actions.

**Standards/Academic Standards/Content Standards**: Statements of what students should know and be able to do at each level of the education system.

**STEM**: Science, Technology, Engineering and Math

**Student achievement**: Academic performance of a student or group of students.

**Student ability**: The skills a student has at present.

**Student transition**: The changes that students make as they move from one level of the education system to the next.

**Teacher/Educator preparation**: Coursework, curriculum and experiences designed to train individuals to become classroom teachers and school leaders.

**Teacher/Educator Effectiveness**: Factors that support and promote the recruitment, preparation, professional development, instructional practice, working conditions and retention of effective teachers and school leaders.

**Transfer**: Procedure by which student credit hours earned at one institution are applied toward a degree at another institution.

**Virtual teleconferencing**: The live exchange of information among several persons and machines remote from one another but linked by a telecommunications system.

**Workforce development**: Activities designed to meet the labor needs of communities or states.
Chapter Two: Literature Review

The more complex society gets, the more sophisticated leadership must become. Complexity means change, but specifically it means rapidly reoccurring, unpredictable, nonlinear change. Moreover, the pace of change is increasing. How do you lead in a culture such as ours, which seems to specialize in pell-mell innovation? This is the leader’s dilemma. On the one hand, failing to act when the environment around you is radically changing leads to extinction. On the other hand, making quick decisions under conditions of mind-racing mania can be equally fatal.
(Fullan, M. 2001, p. ix)

The key to breakthrough improvement and reform is not engineering intricate new solutions but tilling the field to improve the possibility that dramatic and sustainable improvements will take root. Doing so entails rethinking norms, institutions, and routines so that educators and a new generation of problem solvers can address age-old challenges of teaching and learning more effectively in the 21st century.
(Hess, F. 2010, p.xii)

Introduction

This study tells the story of how a Colorado school district approached educational reform by developing a P-20 Educational Campus. Through the illumination of the product, process, organizational, and marketing innovations, the Eos Public Schools (EPS) leadership decisions and actions were ultimately described to provide a richness and depth toward this school district’s P-20 educational reform journey.

The review of the literature explores underlying assumptions that reform efforts drive change and change often causes innovations and it requires leadership actions to innovate. The reform process is demonstrated in Figure 2.
This chapter presents recent national education and school reform issues with a spotlight on the P-16 and P-20 educational reform movement and Colorado’s endeavor toward P-20 reform. This placed the case of the EPS P-20 campus into the larger context of P-20 educational reform. Because reform efforts often drive change, change theories and practices that influenced the work in the development of the EPS Educational Campus are discussed. Moreover, because innovations repeatedly follow change, theory about how the educational community can use innovation processes and concepts from the business world is presented. To finish, the role of leadership actions are discussed.

**National Education and School Reform – A Recent History**

Education as a major social movement is coming to an end (Berube & Berube, 2006). The history of educational reform can be seen through three major educational reform movements: the Progressive Education movement at the beginning of the 20th century, the Equity Reform movement of the 1960s-1970s, and the Excellence Reform movement from 1983 to the present. Wolk (2011, p. 7) elaborates, “The school reform movement that began in the early 1980s continues unabated to this day. It is driven mainly by the same rhetoric – that the U.S. must have the best schools in the world to win the global economic competition…yet, we have known for a long time that our schools are in trouble.” Berube & Berube (2006) contend that such major movements in education will never be seen again. Thus, the end of school reform as we know it – and educational innovation may still continue, but only on a piecemeal basis. Elmore (2004)
describes that more than twenty years ago, when states began the current period of
education reform, no one would have predicted that reform would be sustained and
steadily developed over such an extended period. Not only have states continued a high
level of involvement in education reform since the early 1980s, they have also extended
the reach of state policy into schools and classrooms while they adjust state
accountability systems to the strategic responses of schools and school accountability
systems. The central theme of education reform policy since the early 1990s has been
accountability for student performance. This represents a dramatic and sustained shift in
the focus of federal, state, and local policies.

Looking back to 1983, *A Nation at Risk: The Imperative For Educational Reform*
is the title of the report of President Ronald Reagan's National Commission on
Excellence in Education. The report states: “Our society and its educational institutions
seem to have lost sight of the basic purposes of schooling, and of the high expectations
and disciplined effort needed to attain them (U.S. Department of Education, 2010).” This
report seeks to generate reform of our educational system in fundamental ways and to
renew the nation's commitment to schools and colleges of high quality throughout the
length and breadth of our land (U.S. Department of Education, 2010). Originating in
1983, *A Nation at Risk* is considered to be a landmark event in contemporary educational
history in the United States. The report contributed to the ongoing and ever-present sense
that American schools are failing miserably, and it touched off a wave of local, state, and
federal reform efforts.

Between 1986 and 1989, President George H. W. Bush called the nation’s
governors together to address school improvement and eventually the First National
Education Summit took place to coordinate a national education strategy. This was the first time it was indicated that education was a national concern, not a federal one. Among the results of the summit meeting was the adoption of six National Education Goals. This led to President Bush introducing *America 2000* legislation in 1991 which was never passed by Congress. President Bill Clinton expanded upon this work and, in 1993, the *Goals 2000: Educate America Act* was put into law through bipartisan support for continuing school reform efforts. According to the Association of American Colleges and Universities (2010), the *Goals 2000* Act codified in law six original education goals concerning school readiness, school completion, student academic achievement, leadership in math and science, adult literacy, and safe and drug-free schools. It added two new goals encouraging teacher professional development and parental participation. Within these National Education Goals, the Act also addressed 21st century skills; competition in a global economy; college and workforce readiness; and the promotion of partnerships (Learning Point Associates, 2010).

In 2002, the *No Child Left Behind Act of 2001* (NCLB), was signed into law by President George W. Bush. NCLB has had a massive impact on state boards of education, school districts, and schools. It has dramatically changed the educational landscape for the past decade. The NCLB federal legislation enacts the theories of standards-based education reform, which is based on the belief that setting high standards and establishing measurable goals can improve individual outcomes in education. If states are to receive federal funding for schools, as well as, turn schools around that don’t make the grade, NCLB required states to develop assessments in basic skills to be given to all students in certain grades (Tucker & Toch, 2004.). NCLB also calls for a highly
qualified teacher in the core subjects in every classroom; the use of proven, research-based instructional methods; and timely information and options for parents.

It is important to mention that in 1965, Congress passed the *Elementary and Secondary Education Act* (ESEA), providing, for the first time, significant federal funding for K–12 education. The original law has been renewed eight times, by No Child Left Behind and most recently by President Barak Obama. On March 13, 2010 the Obama administration released its blueprint for revising the Elementary and Secondary Education Act (ESEA), which would ask states to adopt college- and career-ready standards and reward schools for producing dramatic gains in student achievement.

Secretary of Education, Arne Duncan, states:

> The blueprint is organized around our three major goals for reauthorization: raise standards; reward excellence and growth; and increase local control and flexibility while maintaining the focus on equity and closing achievement gaps. All of these policy changes will support our effort to meet the President’s goal that by 2020, America once again will lead the world in college completion. In particular, the ESEA will set a goal that by 2020 all students will graduate ready to succeed in college and the workplace (U. S. Department of Education, 2009, p.1).

Tanski (2008) shares that no less than any other era, the contemporary scene is marked by waves of conflicting and contradictory criticism and reinvented demands for reform. Unless the profession sorts out the demands and prescriptions for reform, the schools will continue to be buffeted by conflicting demands and will ride whatever sociopolitical tide is dominant. For nearly three decades, we have seen wave after wave of reforms virtually everywhere in the country. We have seen vast amounts of energy and uncounted millions of dollars expended on such reforms. Appreciably and arguably, we have not found the results we wanted. It is time for the last education reform (Rochford, 2005). The reform that Rochford was referring to is P-16 education reform.
One must wonder if the widespread P-16 and P-20 education reform movements that have multiplied across the country during this current decade are simply a delivery system for the collective reform efforts that we’ve seen for the past thirty years.

**The P-16 and P-20 Education Reform Movements**

In a policy brief, the Education Commission of the States (2004, p. 1) affirms:

A growing number of states are examining how they can do a better job of connecting the various levels of their education system – early learning, K-12 and postsecondary. Driving these efforts are new challenges and pressures, including changes in the economy and workplace, demographic shifts, and advances in technology and telecommunications. There is also widespread and growing concern over the enormous number of young people who move from one level of the system to the next without the knowledge and skills they need to succeed at that level. Creating a more integrated, seamless education system involves addressing many complex issues, including standards, assessment, teacher education, college admissions policies, governance, funding streams and institutional turf issues. Over the past decade, states have begun to move away from dealing with such issues on a piecemeal basis toward a more comprehensive approach known as "P-16. This term reflects the vision of a coherent, flexible system of public education that stretches from preschool through postsecondary.

In their 2002 study, the Education Commission of the States (ECS) declared that P-16 is the next great education reform. They assert that history and tradition have left us with a dysfunctional and disconnected American education system that lengthens the odds of success for the very students most in need of support and encouragement. Each level of the education system – preschool, elementary, middle school, high school, college – acts independently, leaving students and parents unsure about what is expected from one level to the next. This may have been acceptable when only some students needed to navigate the system through a postsecondary education, but today, everybody’s future is tied to education and everybody must achieve at higher levels (Education Commission of the States, 2002). The distinction of the P-16 and P-20 reform movement...
in aligning the education system has gained momentum in recent national education history.

The first P-16 Council was established in 1995 in Georgia by Governor Zell Miller. From 1995 through the earlier portions of the first decade of the 21st century, P-16 and P-20 political organizations and legislative efforts were sporadic and short-lived. However, in the past five years, numerous states have witnessed a rebirth of some type of P-20 reform legislation. This revival of P-20 reform has generally occurred in two forms: incremental or comprehensive (Krueger & Rainwater, 2003). In his 2008 research, Ortiz shares that incremental change entails addressing individual components (e.g. finance, data monitoring, and assessments) of a P-20 system one-by-one; while comprehensive reform changes most or all of the system’s components at once. Furthermore, today’s P-20 alignment efforts have assumed a prominent spot on the agenda of the education community across the nation.

The prominence of P-16 and P-20 educational reform was born through a desperate need to align the entire educational system grounded in preparing students for the workforce because of business and global competition. Seidel (2007, p. 135) asserts that

…we must adapt if we are to maintain our historic position as an economic superpower and continue to produce new sources of revenue. As other nations join the global marketplace, adding workers with ever-increasing skill levels to the available workforce, the consensus is that we need to do something different to maintain our competitive edge. This threat is growing exponentially at an incredible pace. To reform our educational system with the goal of producing more of the same old result, but for more children, is not going to address this problem. We must build upon our well-established educational infrastructure, enabling life-long learning in such a way that our youth and adult citizens can take on the “new work” of the 21st century.
Van de Water & Rainwater (2001) share the idea that the past 100 years has seen a huge expansion of educational opportunity for American citizens. The nation has responded to succeeding waves of social and economic movements by continuously expanded education opportunities filled by a comprehensive school system. Today, an underlying shift to the Information and Digital Age combined with major demographic shifts and workplace changes that demand higher-level skills and knowledge for an increasingly large proportion of workers have resulted in an education system that is unable to cope with these new demands and challenges. Harvard Graduate School of Education (2011, p. 10) declares, “The United States now has the highest college dropout rate in the industrialized world...because too many young people can’t see a clear transparent connection between their program of study and tangible opportunities in the labor market.” A fundamental problem is that our system has not evolved to serve young adults in this radically different world. At the Education Commission of the States National Forum in July, 2000, John Goodlad said, “We have a 19th-century concept of schooling encased in a 21st-century box of concrete (Van de Water & Rainwater, 2001, p. 6).”

There are extensive literature and research findings that address the overwhelming need for education reform and alignment of the education system evidenced by declining high school graduation rates and an increase in students dropping out of high school combined with American test scores lagging behind many other industrial nations. Hart & Winston (2005) report that despite the importance Americans place on education, fewer than one in ten (9%) say that students graduating from America’s public schools have faced high expectations, and Americans strongly feel that public schools must
improve for America to retain its competitive position in the world. Huggins (2004) shares that Furthermore, although public high schools are doing a good job preparing many graduates, they are seriously failing a substantial minority. As many as two in five recent high school graduates say that there are gaps between the education they received in high school and the overall skills, abilities, and work habits that are expected of them today in college and in the work force (Hart, 2005). Huggins (2004, p. 2) shares,

The job American high schools were designed to do in the early 20th century is no longer the job they need to do today. Despite multiple efforts to transform it, the American high school nonetheless has maintained a relatively consistent structure of education for almost a century. The seemingly positive trends outlined above tell only part of the story. Another set of indicators reveals a hidden crisis: students graduate from high school without the essential knowledge, personal and social skills and habits of mind required for success beyond high school, either in postsecondary education or work. These indicators reveal the American high school is dramatically out-of-sync leading many education experts to declare that the high school diploma has lost its value and thus serves as “little more than a certificate of attendance.

**Essential components of P-20 reform.** To resurrect the current education system and in some ways to try and rebuild it in order to address the lack of coherence among its components, many states are have made efforts to provide a sense of connectedness. The entire U.S. education system has been referred to as P-16, P-20, K-16, or K-20. For the purpose of this research, the alignment of the education system was referred to as P-20. P-20 essentially refers to the integration of the components of the education system from preschool (as early as 3 years old) and ends with a graduate school degree.

Van de Water & Rainwater (2001), offer that P-20 coherence and connectedness must have a grounded and detailed operating standard accomplished by: early childhood care and education programs with well-articulated objectives that connect preschool to kindergarten; established benchmarks in critical areas throughout the education system;
annual performance-based assessments tied to standards; the end of basic education is
grade 12 and standards should extend to grades 14 and 16; governance is vested in a P-20
governance board or council; and an integrated P-20 data system is employed to track
student progress through the system. Rochford (2005) adds that specific global
components are required in P-20 systems; they are: a common core curriculum for all –
preschool through college; testing at all levels of the system; assessment and monitoring
of entire system outcomes by the entire system; common and rigorous standards for all P-
20 students; and P-20 systems must consider college access, particularly for low income
and minority students, student and parent awareness of the need for college, college
participation and completion rates, and the necessity of increasing a region’s or state’s
educational levels to advance economic growth and prosperity.

P-20 is not a specific program, project, or series of programs. Rochford (2005)
adds that it is all of these; yet, none of these. P-20 is a new way of thinking and it is a
systemic reform. It is a community philosophy and a series of strategies. It is the
alignment of multiple systems, organizations, programs, toward the common goal of
graduating students from high school fully prepared to pursue and succeed in
postsecondary education leading to meaningful and productive careers. However, as in
all aspects and types of educational reform, there are arguments against them and
impediments toward a reform’s progress.

Opposition and impediments toward P-20 reform. Though opposition to P-20
reform is limited, it deserves notice. Opponents generally contend that the P-20 reform
effort is well-meaning but too small to make a significant impact without being coupled
with other reforms (Ortiz, 2008). There is research to support this. Brown & Niemi
(2007) compared the degree of alignment between California state high school assessments and community college placement exams where verbal and math skills were modestly or strongly aligned. They found that only one-third of California students were proficient on high school math and verbal assessments which suggests that alignment does not necessarily increase student learning. Furthermore, Ortiz (2008) found scholars and practitioners argue that resources would be better spent on comprehensive social policy reform or career exploration and tailored educational services. Ortiz (2008) suggests that policymakers should consider P-20 reform in tandem with other policy changes. Wilensky (2007) notes that higher education institutions should not set the expectations for all high school students to attend college because many students who are successful after high school never go to college.

While P-20 reform is based on numerous legislative policy decisions across the states, it is prone to the inherent inequities and misinterpretations existing as the policy moves from one system to another and within systems. Policies have a tendency of changing from one level of the system to the next with the likelihood that the longer a policy moves through a system less of the original intent is actually put into practice. If local level implementers are not given the flexibility to adapt a program to local conditions, it will likely fail (Ortiz, 2008). Additionally, Olson (2006) reports that too many statewide P-16 initiatives have a tendency to equate activity with progress – that they can be empty shells. While stating the importance of collaboration to make P-20 reform work, if policy infrastructures do not change, separations with the education systems will continue to exist.
There are other significant challenges facing P-20 reform efforts. A primary pitfall can be considered within the historical context of the separation between the different segments of the educational system – most considerable between high schools and postsecondary institutions. Kirst & Venezia (2001) claim that few state levers (e.g. K-12 accountability systems and funding mechanisms that cross both sectors) are in place to encourage postsecondary institutions to change their long-held practices. Conversely, Ortiz (2008) adds that the overall tension derived from secondary schools’ wariness of making changes on their own in order to meet postsecondary policies should not be underestimated. Rochford (2007) allows for additional impediments for individual states’ implementation of P-20 systems: politics often interfere with creating a lasting structure of P-20 alignment; the discretion of individual agencies and relative autonomy of higher education institutions mitigate P-20 reforms; policy makers do not clearly define the context of the information-based global economy; there is a lack of commitment, or belief in, rigorous coursework; and there is a lack of focus on preschool with more attention given to K-12 and higher education.

**Colorado’s Endeavor Toward P-20 Reform**

In a recent Education Commission of the States study, it is estimated that at least 30 states have experimented with some form of P-20 reform (Krueger, 2006). Since that study, Colorado has taken a very clear and notable stance in the realm of P-20 education reform efforts. Colorado began its comprehensive P-20 alignment in 2007 when Governor Ritter established the P-20 Education Coordinating Council. Its mission is to ensure that a seamless education system from preschool through graduate school prepares
its young people for the demands of the 21st century (Colorado Governor, 2007). The P-20 Council set forth 21 recommendations that fell into four categories:

1. Reduce high school dropout rates,
2. Improve the preparation of classroom teachers,
3. Strengthen post-high school and workforce readiness opportunities for students, and
4. Improve the use of data.

(http://www.colorado.gov/governor/p-20-council.html)

Ortiz (2008) offers that through the discussions with the P-20 Council and individual stakeholders, and after many amendments, the governor’s office eventually produced and passed Senate Bill 08-212, the Colorado Achievement Plan for Kids (CAP4K) in May, 2008. Ortiz (2008) further shares that CAP4K is comprised of four main philosophical tenets: 1) Education standards from preschool to college should be aligned, 2) actual student proficiency is more important than accumulating course credit, 3) the function of public education is to prepare students for the real world, and 4) vocational training and regular jobs necessitate the same core skills as college – which treats college readiness and workforce readiness as equal. CAP4K refers to this as postsecondary and workforce readiness (PWR). CAP4K makes the following five requirements: 1) the State Board of Education (SBE) and the Colorado Commission on Higher Education (CCHE) must establish definitions of school readiness and postsecondary and workforce readiness, 2) expand and refine instructional standards from preschool through year one of college, 3) develop school readiness assessments and modifications to the existing assessment system to align with postsecondary and
workforce readiness standards, 4) amend CCHE admission and remediation policies to permit student to qualify for college admission by demonstrated proficiency, not by seat time or course titles alone, and 5) create support for the planning and design necessary to implement fundamental and systemic change in Colorado’s education system (CO Governor, 2007).

As a complement to CAP4K, another Colorado senate bill, 09-256, set rules governing standards for Individual Career and Academic Plans (ICAP) for all Colorado students beginning in the 9th grade. The bill’s statement of purpose requires the Colorado State Board Education to promulgate rules to establish ICAPs for all students enrolled in public schools in Colorado. The intent of this provision within SB-09 256 is ultimately to decrease dropout rates and increase graduation rates by assisting student in developing and maintaining a postsecondary plan that ensures readiness for postsecondary and workforce success.

The Colorado Department of Education (CDE) also played a leading role in P-20 reform when in September, 2007; it released its strategic plan, Forward Thinking. Within its executive summary, it states: “Intended to complement P-20 efforts already underway, Forward Thinking strives to improve the education of young people by moving forward on a variety of fronts (Colorado Department of Education, 2010a, p. 2).” Such fronts include overarching goals to not sort students according to their perceived probable destinies; to help students achieve their dreams; to promote high standards for all – not just a talented or privileged few; to maximize talent, not reinforce advantage; to enhance performance and eliminate gaps; to provide choice so parents can match programs to the needs of their students; to create partnerships; to continue to expect high
standards and academic rigor; and to graduate college- and/or workforce-ready high
school students (Colorado Department of Education, 2010a). Moreover, CDE joined the
Colorado Legacy Foundation specifically to focus on preparing an increasing number of
Colorado’s children to compete in a global economy. Through the Colorado Department
of Education (2010b), The Colorado Legacy Foundation announces the most important
challenge facing public education today involves systemic reform. “The basic premise is
that our more than century old education system is obsolete and in need of fundamental
redesign, not just the piling up of new programs and demands on top of an antiquated and
inadequate never designed to produce the levels and breadth of learning now required (p.
1).” In association with CDE, the foundation’s mission is to accelerate improvements
within the P-12 education system through strategic, statewide public and private
partnerships that prepare an increasing number of college-ready students for an
economically and socially vibrant Colorado. Still more, the foundation’s four objectives
include:

1. Support P-12 system innovation, entrepreneurship, dissemination of best
practices across Colorado’s locally controlled school districts,

2. Build greater urgency and collaboration for 21st century teaching and
learning efforts in public education through strategic partnerships,

3. Foster and encourage continuous improvements toward a fully aligned P-
20 school delivery system in the state of Colorado, and

4. Honor districts that are leading dynamic public education change efforts
that prepare Colorado’s students to be school-ready, college-ready, and
career-ready for a rapidly emerging global economy

(Cолorado Department of Education, 2010b, p. 3).
On January 11, 2011, during his inauguration, Governor John Hickenlooper signed a 4th Order essentially promising to continue the P-20 reform efforts of his predecessor, Governor Ritter:

Between 2007 and 2010, the Governor’s P-20 Education Coordinating Council was successful in fulfilling the requirements of Executive Order B 003 07. The P-20 Education Coordinating Council created numerous recommendations for the improved alignment and design of the state’s early childhood, K-12 and postsecondary education systems. During this same timeframe, the Colorado General Assembly passed several additional laws and the Colorado State Board of Education passed rules with profound and far reaching implications for reforming the state’s education systems; the Colorado Commission on Higher Education prepared a forward-looking strategic plan and launched a statewide master planning process; and the Early Childhood Leadership Commission adopted the Early Childhood Colorado Framework as a strategic guide.

If implemented successfully, these initiatives hold the promise to align the state’s education systems, improve the quality of instruction throughout the state, and allow all students, regardless of their geographic location, ancestry, or personal wealth, to prepare for full participation in the increasingly demanding and competitive Colorado economy. The successful implementation of these laws is not the responsibility of one agency or board, but is a shared obligation of the executive and legislative branches of government, locally elected school boards and district administrators, educators in classrooms, early childhood providers, and postsecondary governing boards and administrators. Additionally, the ultimate success of these initiatives requires the involvement and support of parents, health care and human service providers, community partners, and the private sector.

Therefore, to deliver on the collective promise of the state’s recent education reforms and continue the cross-system dialogue that recently facilitated broad agreement on the direction of the future and functions of the state’s education systems, it is imperative that the Office of the Governor continues to provide a meaningful forum through which the state’s leadership can examine the current status of education policies, analyze the systems’ near-term opportunities and challenges, and make recommendations.

Rose (2010) announces that this is an exciting time in education as the federal government, state houses, and private philanthropies are all focusing on school reform. A lot of good ideas are in the air – thoughtful proposals for ways to change things, to
imagine a new kind of schooling in America. Indeed, reform certainly brings change with it. As a driving force of change, reform forces a new world upon us.

**Change Theories and Practices**

It is remarkable how far the study of educational change has come in the last thirty years. It has brought us to a new phase – a quantum leap – a paradigm breakthrough in how we think about and act in relation to change. It is now a world where change is a journey of unknown destination, where problems are our friends, where seeking assistance is a sign of strength, where simultaneous top-down, bottom-up initiatives merge, where collegiality and individualism co-exist in productive tension. (Fullan, 1993, p. 10)

Much of the educational change witnessed for the past several decades is a direct result of the reform measures highlighted in the previous section. In brief review, such driving energy behind reform efforts leading to change are: increasing globalization, and shifting workforce demands; an increasing need to ensure that all members of our society achieve to high levels; rapidly changing and advancing technologies, including an explosion of knowledge; rapidly changing demographics; wide disparities in educational attainment, income, and access; ever-increasing demand for high-skilled employees; limited financial resources; an increasing need for creativity, innovation, and interdisciplinary thinking and problem-solving in all fields; a workforce that is likely to change jobs, even careers, many times, whose members will need additional education to do so; an explosion of informal sources of learning such as internet, blogs, television and other media, that change how individuals learn and relate to the world; all combined with decreasing high graduation rates, increasing dropout rates, and overall national student achievement lagging behind many other nations. The reform movement has created an ongoing need for educational change practices due to global, population, technological, and economic demands.
Guiding School change – the role and work of change agents. In 1978, a Rand Study on educational change was published and started a new school of thought. The study demonstrated change implementations were most successfully institutionalized when inside personnel were given time and authority to work alongside outside change agents, when they were able to assume increasing responsibility for the change, and when teachers were provided ongoing support after the change agent left the district (O’Connell-Rust & Freidus, 2001). Following the Rand Study, research on educational change conducted over the past decade identified a set of conditions that strongly correlate with successful change efforts: 1) collaborative cultures that foster professional learning communities, 2) instructional practices that are relevant to and fully understood by teachers and student alike, and 3) instruction that is linked to individual students as well as the standards of the external community. However, collaboration doesn’t just happen; facilitation is essential to the process. By focusing on the facilitator’s role in education reform and change efforts, change agents are created (O’Connell-Rust & Freidus, 2001).

Over time, the roles of facilitators and participants in the change process become one and each party brings their unique experience to the process, learns with and from others, and engages in identifying ways to meet the needs of the children and adults in the setting. Moreover, to define the role of change agents, O’Connell-Rust and Freidus (2001) offer that change agents are negotiators, nurturers, teachers as well as learners, curriculum developers, and must be aware of tensions and obstacles such as power and control.
The new meaning of educational change. Fullan (2007) suggests that the meaning of change is an intriguing concept because large-scale reform is about shared meaning which means it simultaneously involves individual and group or societal change. While large-scale reform causes both voluntary and imposed change, all real change involves loss, anxiety, and struggle. Failure to recognize this causes us to ignore important aspects of change and misinterpret others. The implementation of educational change involves change in practice. Fullan (2007) continues by stating that educational change is not a single entity; that change leads to innovations and innovations are multidimensional because they involve the use of materials, approaches, and beliefs. From this, new meaning must be acquired and the acquisition of meaning is personal and is valued when the meaning shared across a group working in concert.

Essentially all change can be distilled to one word: motivation – and motivating people is built through an interactive culture. Fullan (2007) offers some elements of successful change:

1. Be driven by tapping into people’s dignity and sense of respect,
2. Ensure the best people are working on the problem,
3. Recognize that all social strategies are socially based and action oriented,
4. Assume that lack of capacity is the initial problem and then work on it continuously,
5. Stay the course,
6. Build internal accountability linked to external accountability, and
7. Establish conditions for positive pressure.

(Fullan, 2007, p. 44)
Managing transitions. “It isn’t the changes that do you in, it’s the transitions” (Bridges, 2003, p.3). Bridges (2003) describes that transitions and change are not the same thing. Change is situational; whereas, transition is psychological. Transitions are three-phase processes that people go through as they internalize and come to terms of the new situation that change brings about. Managing transitions is helping others through the process:

1. Letting go of the old ways and the old identity people had. This first phase is an ending and a time people need help dealing with their losses,

2. Going through an in-between time when the old is gone and new isn’t fully operational. This is called the neutral zone and this is the time when critical psychological realignments take place, and

3. Coming out of transition and making a new beginning. This is when people develop a new identity, experience new energy, and discover a new sense of purpose that makes the change begin to work.

(Bridges, 2003, pp. 4-5)

Change often involves learning to do something new. Fullan (2007) states that large-scale reform of educational change points toward innovation and innovativeness. Innovation concerns the content of a given new program and innovativeness involves the capacity of a given organization to engage in continuous improvement.

Innovation

Driven by change, when educators attempt to implement an innovation, they typically face a complex challenge of meshing new ideas with engrained practices and beliefs. “In education, change for good, change for better, and change for worse are inevitable and constant” (Orange, 2002, p. ix). As education continues to be the target of reform based on the changing needs of people and society, innovations within all areas of
education reinforce the good, the better, the worse, and are inevitable and constant. Innovations come in many forms – programs, mandates, policies, models, practices, movements, legislation, theories; and they are initiated from many levels of society – governments, communities, educators, reformers, politicians, parents, businesspeople, administrators, school districts, and parents.

As society enters the second decade of the 21st century, education is saturated with innovations stemming from the reform to prepare American students to compete in a global economy. What intensifies educational innovations is education breaking free from its image of being inflexible and its industrial age image. “Innovation is the new black…if you ever had a radical idea to improve your schools, now is the time to do it” (Scholastic, 2010, p. 33). Schools are now at the epicenter of change. The P-20 reform movement is an example of the education system breaking free from the 20th century model of education.

To transform education, Hess (2010) suggests the term Greenfield Schooling. Greenfield is a term of art typically used by investors, engineers, or builders to refer to an area where there are unobstructed, wide-open opportunities to invent or build. It is not a term often heard in K-12 education because school leaders are not noted as creative problem solvers. Hess (2010) shares that most educators labor in bureaucratic, rule-driven school systems that owe more credit to the practices of early 20th century factory management than to any notion of how to foster great teaching and learning in the 21st century. Tyack and Tobin (1994) describe that educators have learned over generations how to work within traditional organizational patterns. The familiar matrix of schooling persisted because it enabled district superintendents, state officials, school boards
university professors, and teachers to standardize education; make it reproducible; control student behavior; and sort students for future roles in school and life. Politics and function played an enormous part in 20th century schools and became deeply engrained and entrenched in American society. “Innovations can and will change schools through shared beliefs of a broad social movement…the cultural construction of schooling need not be a block to reform…it can be the engine of change if public discourse commits to a new sense of common good” (Tyack & Tobin, 1994, p. 455).

The OECD/CERI background and definition of innovation. The Organization for Economic Co-operation and Development (OECD) details its mission as “OECD brings together the governments of countries committed to democracy and the market economy from around the world to: support sustainable economic growth; boost employment; raise living standards; maintain financial stability; assist other countries' economic development; contribute to growth in world trade.” The Organization provides a setting where governments compare policy experiences, seek answers to common problems, identify good practice and coordinate domestic and international policies (Organization for Economic Co-operation and Development, 2010a).

OECD has several major divisions – one of them the Centre for Research and Innovation (CERI). From its website, the Organization for Economic Co-operation and Development (2010b) publicizes CERI was set up in 1968 as an independently funded programme by member countries and other organizations. CERI has established an international reputation for pioneering educational research, opening up new fields for exploration and combining rigorous analysis with conceptual innovation. CERI’s work covers learning at every age, from birth to old age. It goes beyond the formal education
system. They have a particular concern with emerging trends and issues, futures thinking in schools and universities. Their goal is to ensure that the futures work is thoroughly integrated with empirical analysis. They also put specific emphasis on accumulating evidence on the value and quality of futures work. CERI works with all member countries, often in small groups of between five and fifteen countries. They draw extensively on experts from member countries for research and analysis. They have developing links with educational and other research associations and national and international multidisciplinary networks. CERI disseminates its work to a wide range of audiences including researchers, policy-makers and practitioners, extending beyond education. Its core outputs are conferences, publications, reports, and policy briefs (Organization for Economic Co-operation and Development, 2010b).

In its Oslo Manual, the Organization for Economic Co-operation and Development (2005) Centre for Educational Research and Innovation (CERI) defines innovation as the implementation of a new or significantly improved product, process, organizational method, or marketing method. The Organization for Economic Co-operation and Development (2010a) further define these innovations as:

Product innovation involves a good or service that is new or significantly improved. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics. In the education sector, a product innovation can be a new or significantly improved curriculum, a new educational software, etc.

Process innovation involves a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or
software. In education, this can, for example, be a new or significantly improved pedagogy.

Organizational innovation involves introducing a new organizational method in the firm’s business practices, workplace organization or external relations. In education, this can, for example, be a new way organization of work between teachers, or organizational changes in the administrative area.

Marketing innovation involves a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. In education, this can, for example, be a new way of pricing the education service or a new admission strategy.

These innovations can be new to the firm/educational institution, new to the market/sector or new to the world.

**Innovation in the business sector.** While many organizations acknowledge that innovation is important to their growth and success, the term "innovation" is still without a consistent definition in the business world. Common terms are: new, creation and creativity, invent and invention, ideas, processes, products, value, development, market, usefulness, performance, productivity, quality, and competition. Much of how innovation is referred to in the business literature has undertones of profitability and marketability. Dundon and Pattakos (2000) view innovation in a broader sense than linking innovation to either the new product development process or the research and development function. They believe the concept of innovation can be applied to: new products and services, existing products and services, and processes an organization uses to plan and manage its activities. Such processes can be both internal and external and
transcend all dimensions of an organization. Christensen, Horn, and Johnson (2008) offer innovation as the act of creativity or the identification of new ideas. Drucker (1998) defines innovation as the specific function of entrepreneurship. Innovation is the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth. He further states that innovation is change that creates a new dimension of performance.

Innovative companies break free from competition by looking for new market space essentially through the creation of products and services for which there are no direct competitors. Kim & Mauborgne (2001) suggest that instead of looking within the boundaries that define how an industry competes, managers can look methodically across them. By doing so, they can find unoccupied territory that represents real value innovation. Another example of how companies can innovate and demonstrate their innovativeness is by building an innovation factory. Hargadon and Sutton (2001) offer that businesses which constantly innovate have systematized the production and testing of new ideas, and the system can be replicated by practically any organization. They refer to cycles of the Knowledge Brokering Cycle. Essentially, organizations capture good ideas from a variety of sources; keep the ideas alive by playing with them, discussing them, using them; then they imagine new uses for old ideas; and finally turn the concept into new services, products, processes, and models. Macmillan and McGrath (2001) detail how businesses can differentiate by offering customers something they value that competitors do not have. This is accomplished by expanding thinking to include the customers’ entire experience with a product or service – from beginning to
end - during the *consumption chain* they can uncover opportunities to position their offerings that neither they nor their competitors thought possible.

**Sustainable and disruptive innovations.** Successful companies are good at responding to evolutionary changes in their markets. Christensen (1997) refers to this as sustaining innovation: innovations that make a product or service perform better in ways the mainstream market already values. When companies run into trouble handling or initiating changes in their markets, this is referred to as disruptive innovation. Rafii and Kampas (2002) define disruptive innovation as a technology, product, or process that creeps up from below an existing business and threatens to displace it. Bower and Christensen (2002) expand this idea sharing that disruptive innovation often sacrifices performance along dimensions that are important to current customers and offers a very different package of attributes that are not yet valued by those customers. At the same time, the new attributes can open up entirely new markets. Sony’s early transistor radios are a good example of this; while they sacrificed sound quality, they opened up an entirely new market for small, portable radios (Bower and Christensen, 2002). However, as innovations enter the market, and the market matures, the innovations lose their competitive edge and become mainstreamed.

**Innovator’s dilemma.** Innovators often face a dilemma. They carefully pay attention to what customers need and invest heavily in new technologies, but still lose their market leadership suddenly. This loss can happen when disruptive technologies enter the stage. The moment disruptive technologies are introduced, they cannot at once compete against the traditional products and so they cannot directly reach a big market. Christensen (2006) explains the innovator’s dilemma through the introduction of
disruptive technologies or innovations upsetting the existing order of things in a particular industry. The usual process is a lower-end innovation that appeals to customers who are not served by the current market. With time, because the capacity/performance of the innovation exceeds the market’s needs, the innovation comes to displace the market incumbents. Incumbents generally don’t react to disruptive innovations until it’s too late because they don’t represent an interesting market, are low end, and often low cost.

Whether innovations are sustainable or disruptive it appears that throughout the literature, innovations and businesses are quite susceptible to the innovator’s dilemma. The vulnerability usually increases the larger the company. Innovation often becomes more and more difficult the bigger and more established the business is. "It is no wonder that innovation is so difficult for established firms. They employ highly capable people and then set them to work within processes and business models that doom them to failure (Christensen, 2006, p. 7).”

**Educational innovation concepts – applications from business.** In the school-based world of teaching and learning, innovations seem to be all-important. Schools and school districts often describe being on the cutting edge of things, and know the latest trends, to avoid being old-fashioned or out-of-date. Yet, reminiscent of what can take place in the business sector, education structures, processes, designs, etc. are deeply established into the network of society; therefore, as education tries to innovate by employing highly capable people, it also sets them to work within processes and models that can doom them to failure. There are processes and concepts that education can apply from business.
**Catalytic innovation.** Christensen (2002) suggests that despite beliefs spawned by popular change management and reengineering programs, processes are not nearly as adaptable as resources are – and whether in business or the social sector, organizations need new processes and values because they need new capabilities and new organizational spaces or structures. Furthermore, Christensen, et. al (2006) introduce the term catalytic innovations. Catalytic innovation is a form of innovation that challenges organizational incumbents by offering simpler, good enough solutions aimed at underserved groups. Unlike disruptive innovations, though, catalytic innovations are focused on creating social change. Because the disruptive innovation model is applied to commercial products and services, catalytic innovation is applicable for use in social change. Christensen, et. al. (2006) outline that catalytic innovators have five qualities:

1. they create systemic change through scaling and replication,
2. they meet a need that is either over-served or not served at all,
3. they offer products and services that are simpler and less costly – which are perceived to be good enough,
4. they generate resources such as donations, grants, volunteers, and intellectual capital that are unattractive to competitors, and
5. they are often ignored, disparaged, or even encouraged by existing players to avoid and retreat from the market segment.

(Christensen, et. al., 2006, p. 3)

Still more, Christensen, et. al. (2008) create impact through a simple conjecture; that it’s no secret that people learn in different ways, so why can't schools customize their teaching? The current system, designed for standardization, must by its nature ignore the individual needs of each student. The answer to this problem is disruptive innovation.
The idea is that an audience in need will benefit from even a faulty opportunity to fulfill that need; in education, the demand for individual instruction could, for example, be met through infinitely customizable online computer-based instruction.

Sheets (2008) offers that American businesses will increasingly compete on innovation in the global economy and the key factor will be innovation talent. Building innovation talent will require major changes in not only what and how we teach but how we organize and manage learning through public-private partnerships. Creating innovation talent is best done through the performance and simulation of innovation work—focusing on problem-based, cross-functional projects throughout the P-20 pipeline. He continues by stating that innovation is not just about business and the private sector – that it applies to government, the non-profit sector, and education as well; that innovation is not just about business entrepreneurship or science, technology, engineering and mathematics – that it applies to all disciplines and fields; and that innovation is not just about creativity and imagination—it is also about risk-taking and value-creation.

**Educational innovation processes – applications from business.** In his study of the marketplace approach and the Finnish approach to educational innovation, Ellison (2009) suggests that an innovative public education sector is characterized by decentralized decision-making, institutionalized space for risk-taking, and strong support systems to both encourage risk-taking on the part of education actors and to spread innovative ideas throughout the education system. Another example of overlap between the worlds of business and education as it relates to innovation is exposed by Skarzynski & Gibson (2008) through the importance of conversation. They propose that we must
increase the level of conversation and connection between all levels of the organization; that we must bring together people of various genders, race, cultures, ethnicities, and with different skill sets and capabilities. Drucker (1998) agrees that most innovation does not spring from a flash of genius, but is derived from the purposeful collaboration of people searching for innovation opportunities. Such opportunities can be found within unexpected occurrences, incongruities, and process needs.

In 2009, President Barak Obama and Secretary of Education Arne Duncan hailed innovation as one of the important ways to reform our public education system. To meet the 2010 U.S. Department of Education’s focus on innovation demonstrated by the $650 million “Investing in Innovation (i3) Fund” and the $4.3 billion “Race to the Top Fund”, the District Management Council created an Innovation Matrix. The matrix attempts to provide structure to the conversation of breakthrough or high-impact ideas. It also provides a mechanism for assessing different ideas and their level of innovation for people and organizations to converge upon a common understanding of the term – innovation – so they can agree how to allocate resources to new and promising ideas (Smith and Morgan, 2010). Originating from business concepts, the matrix designates degree of change from incremental to breakthrough on the y-axis and degree of impact/scalability from low to high on the x-axis. There are four quadrants in the matrix (clockwise starting in the upper left): Q1 = Inventive, but immature; Q2 = Game-changing; Q3 = Practical, easy to replicate; and Q4 = Uninteresting.

In education, when trying to innovate, a specific, basic set of questions must be asked. Ellis (2005) proposes to ask: How good was the original theory on which the idea is based? How appropriate is the research that advocates the use of this theory in school
settings? What does this theory purport to do that will improve life in classrooms and schools? What claims are made on behalf of the theory as a necessary part of the school curriculum? What are the requisite conditions of the theory for school success? Why would someone want to use the ideas that flow from this theory in school settings?

As we get closer to the classroom level, Schlechty (2001) advises on ways schools can be change-adept organizations. Such organizations are capable of continuous innovation; embrace change as internally-driven before it becomes an externally-driven threat; and mobilizes people in the organization to commit. Schlechty (2001) proposes that by working on the work, teachers can create and sell work that will help students achieve at the levels a standards-based system seeks. And it is only when teachers are working on the work that this can happen. It requires teachers to think of themselves as leaders and inventors rather than performers and clinicians. It requires teachers to view students as volunteers and customers – much like the business sector does. Schlechty (2005) further offers that both sustaining and disruptive innovations are important in education because they can create systemic change so people can carry out critical functions of the organization in dramatically different ways. It is through the six critical systems within the social system of educational organizations that are at the heart of educational innovation; the systems are: recruitment and induction, knowledge transmission, power and authority, evaluation, directional, and boundary. Within these systems, innovation is the responsibility of every leader (Drucker, 1998). If innovation does not aim at leadership from the beginning, it is unlikely to be innovative enough.
Leading Educational Innovations

Reeves (2009, p. 1) metaphorically shares: “Here is a simple recipe for leading change. First, pour a truckload of evidence into an ungreased container. Stir in a crock full of inspirational rhetoric. Add two heaping portions of administrative imperatives. Finally, dump into the mix precisely one ton of fear. Bring to a boil.” Leading educational innovations is essentially leading throughout the change process. During the change process, leaders must always keep others in view in order to continue to focus and refocus from what the leader has in mind to what others have in mind. Often times, the smallest things leaders do have the greatest impact. “Guiding change may be the ultimate test of a leader – no business survives over the long term if it can’t reinvent itself. But, human nature being what it is, fundamental change is often resisted mightily by the people it most often affects: those in the trenches of the business. Thus, leading change is absolutely essential and incredibly difficult (Kotter, 2007, p. 1).”

Distributed leadership. Distributed leadership (DL) is about leadership practice and it is a framework of the interactions between leaders, followers, and their situations such as tool and routines. It shifts the focus from one leader to a collective web of leaders-followers-and their situations. There are three elements that are essential to DL: leadership practice is the central theme that grounds it; leadership practice is generated in the interdependence between leaders, followers, and their situations; and the situation both define leadership practice and is defined through leadership practice. DL offers a productive way to think about leadership for diagnostic and design purposes. DL is a way to celebrate the unnoticed leadership that goes on in our schools every day. It contributes to building the leadership capacity of the school to enhance the overall
academic culture and help it grow. DL continuously readapts to the ever-present changes taking place in our schools. A distributed approach makes it possible for leadership to be manageable.

One resounding message that is stated over and over again in the research is that the fundamental premise for distributed leadership is advanced by those who believe that leadership activities should not exclusively lie in the hands of a sole individual but, on the contrary, they should be distributed between numbers of people in the organization. Frost (2003), Harris (2005), Leithwood (2004), and Storey (2004) all use the term shared leadership interchangeably with distributed leadership as they define what DL is. Frost (2003) also describes DL as enabling others to exercise leadership and how DL is an essential dimension of ‘capacity building’ which is in contrast to traditional notions of leadership because it emphasizes a collective responsibility and collaborative working and can be exercised by anyone in the organization. He further affirms that DL maximizes the intellectual and social capital by allowing teachers the potential to contribute to leading the organizational development and change. Leithwood (2004) express that, at its root, the concept of DL is quite simple: initiatives or practices used to influence members of the organization are exercised by more than a single person and leadership influences are implemented through actions or tasks that are enacted to accomplish functions for the organization. Spillane (2004) certainly agrees with this when he states that DL is not about leaders or what they do, it’s about leadership activity. Moreover, it is the leadership activity, defined or constructed, in the interaction of leaders, followers, and their situation in the execution of particular leadership tasks that makes up the DL perspective (Storey, 2004). This distributed perspective focuses on
how leadership practice is distributed among both positional and informal leaders as well as their followers – thus constituting multiple leaders acting together in a social relationship through interdependent leadership activities. Moller (2005) also substantiates this claim by stating that this perspective on leadership is grounded in activity rather than position or role. Principals, teachers, and students both influence and are influenced by the context in which they work. Hatcher (2005) elaborates that these relationships imply active participation at all levels, which he terms ‘active democracy’, and ‘top down’ direction and institutional hierarchies are antithetical to democracy in action. Therefore, DL incorporates the numerous activities of many individuals in a school who work at the process of instructional change. And it implies a social distribution wherein leadership is stretched over the work of a number of individuals (Harris, 2005). Timperley (2005) adds to this by making the statement that DL is not the same as dividing task responsibilities among individuals who perform defined and separate organizational roles, but rather it comprises dynamic interactions between multiple leaders and followers. However, in order to truly be able to engage in such vibrant relations between multiple leaders and followers, one must believe in the potential of others. Distribution clearly implies an ability to relinquish one’s role as ultimate decision-maker, trusting others to make the right decisions (MacBeath, 2005). DL is, therefore, founded on trust.

Sustainable leadership. Hargreaves and Fink (2006) refer to sustainable leadership (SL) as leaders are able to articulate leadership efforts, capacities and learning processes across space, and connect these to the articulation of leadership actions and
effects over time through effective coordination of short-term and long-range improvement efforts.

SL is anchored in sustaining moral purposes that promote achievement and improvement for all by developing deep learning that spreads and lasts. This is accomplished through:

1. **Depth** – sustaining what matters in terms of a clear and defensible moral purpose,
2. **Breadth** – ensuring that improvements benefit the many across a system, and not just a few exceptional instances within it and that they are a shared and distributed leadership responsibility instead of being dependent on heroic individuals,
3. **Endurance** – over the long term, across and beyond many leaders, not just within snapshot periods under any one leader’s tenure,
4. **Justice** – avoiding harm to and promoting active benefit and assistance for others in the surrounding environment,
5. **Diversity** – so that improvement efforts value, promote and create cohesion within organizational diversity, rather than developing standardized practices that do not allow cross-fertilization of learning and are neither adaptable nor resilient to change,
6. **Resourcefulness** – through prudent use and deliberate renewal of people’s energy so leadership initiatives and improvement efforts do not burn them out, and
7. **Conservation** – which builds on and learns from the best of the past in order to create a better future.

(Hargreaves & Fink, 2006, pp. 18-20)

**School leadership that works.**

Marzano, Waters, and McNulty (2005) provide 21 responsibilities into the nature of school leadership; they are:

1. **Affirmation** – recognize and celebrate accomplishments and acknowledge failures
2. Change Agent – be willing to challenge and actively challenges the status quo
3. Contingent Rewards – recognize and reward individual accomplishments
4. Communication – establish strong lines of communication with and among teachers and students
5. Culture – foster a sense of community and cooperation
6. Discipline – protect teachers from issues and influences that would detract from teaching time and focus
7. Flexibility – adapt leadership behavior to the needs of the current situation and be comfortable with dissent
8. Focus – establish clear goals and keep those goals in the forefront of the school’s attention
9. Ideals/Beliefs – communicate and operate from strong ideals and beliefs about schooling
10. Input – involve teachers in the design and implementation of important decisions and policies
11. Intellectual Stimulation – ensure faculty and staff are aware of the most current theories and practices and make the discussion of this a regular part of the school’s culture
12. Involvement in Curriculum, Instruction, and Assessment – be directly involved in the design and implementation of curriculum, instruction, and assessment practices
13. Knowledge of Curriculum, Instruction, and Assessment – be knowledgeable about curriculum, instruction, and assessment practices
14. Monitoring/Evaluating – monitor the effectiveness of school practices and their impact on student learning
15. Optimizer – inspire and lead new and challenging innovations
16. Order – establish a set of operating procedures and routines
17. Outreach – be an advocate and spokesperson for the school to all stakeholders
18. Relationships – demonstrate an awareness of the personal aspects of teachers and staff

19. Resources – provide teachers with materials and professional development necessary for the successful execution of their jobs

20. Situational Awareness – be aware of the details and undercurrents in the running of the school and use this information to address current and potential problems

21. Visibility – have quality contact and interactions with teachers and students

(Marzano, Waters, and McNulty, 2005, pp. 42-43)

Systems thinking. A learning organization is a place where people are continually discovering how they create their reality and how they can change it. Systems thinking makes understandable the subtlest aspect of the learning organization – the new way individuals perceive themselves and their world. At the heart of a learning organization is a shift of mind - from seeing ourselves as separate from the world to connected to the world, from seeing problems as caused by someone or something ‘out there” to seeing how our own actions create the problems we experience (Senge, 2006).

Senge (2006) describes the Five Disciplines of a learning organization as: 1) Personal Mastery – an individual matter. Organizations cannot learn until their members begin to learn. The skill of continually clarifying and deepening our vision: purpose, reciprocal commitment between the individual and the organization, personal growth and learning, personal vision and enhanced competence and skills. The gap between where one is currently functioning and where one wants to be is referred to as creative tension and the efforts to reduce this gap are referred to as generative learning. 2) Mental Models–bring tacit assumptions and attitudes to the surface so people can explore and
talk about their differences and misunderstandings with minimal defensiveness. Our mental models determine what we see and how we look at the world. In any new experience, most people are drawn to take in and remember only the information that reinforces their existing mental models. Mental models limit or enhance people’s ability to change. Through focusing on mental models we can uncover our internal pictures of the world, to scrutinize them, and to make them open to the influence of others. Mental models are our assumptions, values and beliefs, internal pictures of how the world works; they are surfaced through reflection and through inquiry and advocacy, 3) Shared Vision – a group of people build a sense of commitment together. They develop images of the future we want to create together, along with the values that will be important in getting there and the goals they hope to achieve along the way. Without a sustained process for building shared vision, there is no way to articulate its sense of purpose. Shared vision is the practice of creating shared “pictures of the future” that foster genuine commitment: Vision rooted in individuals’ values, concerns, and aspirations, a common caring, simple and honest consensus that creates community, uplifts, and inspires, 4) Team Learning – to get the people of a team thinking and acting together. The team members do not need to think alike—indeed, it’s unlikely that they ever will. But through regular practice, they can learn to be effective in concert. Team learning is based on the concept of alignment. The most effective practice we know for team learning emerges from dialogue and revelations of personal mastery, mental models and shared vision, and 5) Systems Thinking – the discipline that integrates the other disciplines, fusing them into a coherent body of theory: interrelationships, patterns of change, seeing the whole, integrative skill that weaves the other four disciplines together and interconnectedness. Most schools are
drowning in events. Each event seems to require an immediate response. There’s a chance that each quick fix will do more harm than good in the long run. Reacting to each event quickly, and solving problems quickly as they come up, helps develop a kind of attention-deficit culture in the school system. The discipline of systems thinking is the study of system structure and behavior; it is enriched by a set of tools and techniques that have developed over the past thirty-five years. People who have experience with systems thinking can act with more effective leverage than a short-attention-span culture generally permits.

The path of least resistance. Fritz (1999) offers that energy moves along the path of least resistance. The underlying structure of anything will determine its path of least resistance. We can determine the path of least resistance by creating new structures. He shares that there are seven laws of organizational structure; they are:

1. Organizations either oscillate or advance,
2. In organizations that oscillate, success is neutralized. In organizations that advance, success succeeds,
3. If the organization’s structure remains unchanged, the organizations behaviour will revert to its previous behavior,
4. A change of structure leads to a change of the organizations behavior,
5. Difference between current state and desired state. Knowing what we want to create and knowing where we are in relationship to our goals – is the most powerful force an organization can have. When structural tension dominates an organization, the organization will advance. Due dates are a significant part of the planning process. Through the assignment of dates, you are placing events in time. Structural conflicts are not problems. They are simply structures that are inadequate to accomplish our ends,
6. When structural conflicts dominate an organization, oscillation will result, and
An inadequate organizational structure cannot be fixed; but you can move from an inadequate structure to a suitable structure

(Fritz, 1999, pp. 16-106).

**Leading in a culture of change.** When the goal is sustainable change in a knowledge society, business and education leaders increasingly have more in common. Fullan (2001) presents five essential components that characterize leaders in the knowledge society; they are:

1. **Moral Purpose** – acting with intention of making a positive difference in the lives of employees, customers, and society as a whole,

2. **Understanding Change,**

3. **Relationship Building,**

4. **Knowledge Creation and Sharing,** and

5. **Coherence Making** – a perennial pursuit in a culture of change because disequilibrium is common and valuable provided that patterns of coherence can be fostered.

(Fullan, 2001, pp. 5-7)

**Leading change.** Most major change initiatives – whether intended to boost quality, improve culture, or reverse a corporate death spiral – generate only lukewarm results and many fail miserably. Too many managers don’t realize that transformation is a process, not an event (Kotter, 2007). To give transformation the best chance of succeeding, take the right actions at each stage and avoid pitfalls, Kotter suggests:

1. **Establish a sense of urgency,**

2. **Form a powerful guiding coalition,**

3. **Create a vision,**

4. **Communicate the vision,**

5. **Empower others to act on the vision,**

61
6. Plan for and create short term wins,
7. Consolidate improvements and produce more change, and
8. Institutionalize new approaches.

(Kotter, 2007, p. 21)

**The six secrets of change.** Fullan (2008) contends that his six secrets of change are assumptions and criteria that make up his theory of action. The theory is meant to apply to large-scale reform and is meant to change whole organizations and systems. The six secret set has to be understood as synergistic – each of them feeding on the others. Additionally, they are heavily nuanced and motivationally embedded.

The set of secrets are:

1. Love your employees.
2. Make the same commitments to your employees that you do to your customers.
3. Invest in and enable employees through continuous learning,
4. Connect peers with purpose.
5. Embed strategies that foster purposeful peer interactions,
6. Capacity building prevails

(Fullan, 2008, pp. 11-14).

**Summary**

The ideas, concepts, processes, and theories presented in the literature as they related to the story of how a Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus helped build the theoretical framework for this study. This was accomplished through deliberate scaffolding of the underlying
assumption that reform efforts drive change and change often causes innovations and it requires leadership actions to innovate.

Under the larger umbrella of national and school reform, it is apparent that the United States has been in a consistent and dynamic era of reform for several decades. Throughout the history of American public education, reform has been a means of conceiving and enacting visions of the collective good. However, more recent reform has been centered on accountability for school performance which has dramatically impacted federal, state, and local policies. This has largely come about as a result of America’s continuous decline in overall student achievement results and an increase in high school and college dropout rates compared to other industrialized nations.

During the first decade of the 21st century, a wave of P-16 and P-20 educational reform has spread wide and far across the nation. The increasing popularity of P-16 and P-20 reform efforts originated through the need to align the overall school systems in order to better prepare students for college and careers. As a means to help students navigate the system and provide relevant experiences in their educational endeavors, P-20 reform attempts to eliminate the gaps within the system and provide coherence so greater numbers of students from preschool through postsecondary are better prepared for college and the workforce to compete in a global economy.

Colorado, like most states, has made significant strides in legislating P-20 reform measures to reduce high school dropout rates and strengthen postsecondary and workforce readiness opportunities. Most prominent in its endeavors to align the overall educational system, Colorado created a P-20 Council, Senate Bill 08-212, the Colorado Achievement Plan for Kids (CAP4K), and Individual and Career Academic Plans
(ICAPs). The Colorado Department of Education also played a large role in incorporating the nature of P-20 reform efforts into its strategic plan. Such reform efforts—on any level—bring about change.

The literature review based on the reform model assumption (Figure 2) focused on the next component of change as a result of reform efforts. A review of guiding school change through the role and work of change agents, the new meaning of educational change, and managing transitions were just a few of the change models and concepts highlighted. The assumption then prescribes that change causes or creates innovations.

In the 21st century, education is laden with abundant changes and even more innovations. We do not often associate innovation with education. It is a term more commonly used in the business world. However, innovation is becoming more and more connected with schools and school systems due the desperate measures being taken caused by reform. This then stems from schools trying to break free from their 20th century industrialized designs in order to become more enlightened to meet the needs of 21st century learners. Because innovation has been more prevalent in the business sector, it is important that education learn from certain aspects of innovations; more specifically, sustainable and disruptive innovations, and the innovator’s dilemma. Such aspects from these can be applied to education—as well as catalytic innovations and the particular processes of innovation that are associated with them.

The underlying assumption within this literature review concludes with the requirement of leadership decisions and actions to help educational organizations innovate. Essentially, leadership has to embrace and support the change, provide the
right kind of conditions for the creation of innovations, and provide the means to put the innovations into action. By distributing the leadership throughout and between numbers of people in an organization, a shared sense of responsibility and ownership takes place allowing for greater success in the change process and implementation of innovations. Sustainable leadership, leadership responsibilities, a systems thinking approach to leadership, and several forms of leading change were highlighted throughout the final portion of the literature.
Chapter Three: Methodology

“A case study is expected to catch the complexity of a single case. A single leaf, even a single toothpick has unique complexities – but rarely will we care enough to submit it to case study. We study a case when it itself is of very special interest.”
(Stake R., 1995)

“The Eos Public Schools P-20 Educational Campus will serve as a cutting edge model for public education focused on instructional alignment from preschool through post-graduate education and supported by systemic partnerships. The campus will become the centerpiece for the district’s existing framework of innovation. The campus will incorporate the district’s best practices and choice options that are already in place as well as to become a source for continued innovation and creativity.”
(Eos Public Schools Communication Excerpt, 2009)

Introduction

This case study employed a mixed methods approach and is considered to be a “concurrent triangulation” design (The Mixed Methods Reader, Plano Clark and Creswell, 2008) with collection of both qualitative and quantitative data. This chapter describes the methodology, research design, research questions, and the instruments and procedures used to collect the data. Also described is the chain of evidence as well as rationale related to the information needed and which participants were engaged in helping to provide the information - ultimately to answer the research questions. The case study’s demographics and population were described. A closer look into the conceptual framework employed in this research was reviewed as the units of analysis. Finally, the study’s limitations are discussed.
**Research Questions**

1. What are the product innovations related to the development of a P-20 educational campus?
2. What are the process innovations related to the development of a P-20 educational campus?
3. What are the organizational innovations related to the development of a P-20 educational campus?
4. What are the marketing innovations related to the development of a P-20 educational campus?
5. How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?

**Background and Rationale**

The purpose of this case study was to tell the story of how a Colorado school district approached educational reform by developing a P-20 Educational Campus. The development of the Eos Public Schools P-20 Educational Campus serves as a model for the educational community as one way in which a school district can approach P-20 educational reform. Moreover, the creation of the P-20 Campus was illuminated through the key product, process, organizational, and marketing innovations, which served as the conceptual framework for this case study. By highlighting the key innovations in the creation of the P-20 Campus, leadership decisions and actions were revealed. Figure 3 depicts the overall context, the case, and units of analysis for this case study.
A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2009). Regarding this case study on the development of the EPS P-20 Educational Campus, the real-life phenomenon was essentially the creation of the P-20 Campus and the story was told through specific innovations that were made in the campus’s conception. Understanding the important contextual conditions such as P-20 educational reform efforts was highly relevant to this case. Therefore, a case study research method was complementary with the approach toward this research.

Creswell (2007) shares that an intrinsic case study focuses on the case itself by exploring an unusual or unique situation. Stake (1995) describes the intrinsic case study as one that we are interested in for both its uniqueness and commonality; that we seek to understand it; and that we like to hear its story. Yin (2009) affords a further basis for this case study approach in that the researcher has access to a situation previously
inaccessible to scientific observation, provides an in-depth investigation into a
contemporary phenomenon or event, and writes it in a real-life context. Additionally,
Stake (1995) offers that case study is the study of the particularity and complexity of a
single case, coming to understand its activity within important circumstances because it is
of special interest to the researcher. Thus, this case study exposed the event of the
development of the EPS P-20 Educational Campus as a particular situation formerly
unattainable to the educational community.

Creswell (2007) adds that case study is a qualitative approach in which the
investigator explores a bounded system (a case) over time, through detailed, in-depth data
collection involving multiple sources of information and reports a case description and
case-based themes. The bounded system for this case was the development of the EPS P-
20 Educational Campus and the multiple sources of information of the product, process,
organizational, and marketing innovations came from the review of documents, and
interview and survey responses. Furthermore, a case study method is not just a form of
qualitative research when the researcher chooses to mix qualitative and quantitative
methods. Concerning the research methods specific to this case, a mixed method
approach was selected in order to strengthen both methods of evidence collected.

Quantitative research generally tries to establish generalized knowledge – for
example, knowledge that can be applied to a population based on observations in a
sample randomly drawn from the population (Wolfer, 2007). Stake (1995) asserts that
case study seems a poor basis for generalization. However, a case study’s usefulness
depends not upon such factors as whether or not the case will be able to explain results in
other settings or whether or not it can predict similar results in other settings. The real
business of case study is particularization (Stake, 1995). Case study research allows getting to know a particular case really well, not how it is different from others, but what it is and what it does. Stake (1995) continues that emphasis in case study is on uniqueness which implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself. Wolfer (2007) supports this by asserting that qualitative research is not concerned with generalizability because the potential high validity and detailed understanding of a case study compensates for the lack of generalizability. Therefore, since generalizability is not even a goal of qualitative research, its absence is not a limitation – provided that others using the research understand the goal of the study and do not try to inappropriately use any conclusions (Wolfer, 2007). Consequently, one should not look for generalizations from the research on the development of the EPS P-20 Campus case study; one should rather follow the innovations made, their significance, and leadership actions and decisions made which provided the unique insights to this particular case.

**Research Design**

This case study employed a mixed methods approach and is considered to be a “concurrent triangulation” design (The Mixed Methods Reader; Plano, Clark and Creswell, 2008) while there was concurrent collection of both qualitative and quantitative data. This design was achieved by the triangulation of the qualitative data from a review of the documents involved in the development of the P-20 Campus and the responses from the interviews with the quantitative survey results. Because the majority of data derived were from qualitative sources, it is labeled as ‘QUAL’. The subsequent, complementary quantitative data obtained from the survey results had a minority
presence; therefore, required the label as ‘quan’. Overall, this mixed methods concurrent triangulation design was designated as ‘QUAL/quan’.

The multiple sources of data were collected to provide a rich context and comprehensive picture of this case on the development of the Eos P-20 Campus as well as to increase the construct validity of the entire case study. This wide array of data collected was organized through the use of the conceptual framework to maintain integrity and increase reliability of the results for categorizing and analyzing the innovations involved in the P-20 Campus’s development. Three forms of evidence were collected and kept in a data base for this research. First, documents were selected, categorized through the conceptual framework (product, process, organizational, and marketing innovations) and reviewed by the researcher to provide a broad, yet detailed, overview of the products, processes, organizational methods, and marketing methods that were new or significantly improved upon in the development of the P-20 Campus. Second, interviews were conducted with eight members of district and P-20 Campus leadership to gain individual perspectives on what each person considered to be key P-20 Campus innovations in its development and why he or she felt the innovations were indeed innovative. The coding of the interview responses was also done through the conceptual framework in order to highlight the product, process, organizational, and marketing innovations. The third form of evidence collected came from the administration of an anonymous survey. The information gathered through the researcher’s document review and the responses from the interviews provided the content for the survey questions. The survey was given to district, school, community, and parent groups who were essential to the creation of the P-20 Campus. Moreover, the survey set
out to establish the overall significance of the innovations and provided a means for capturing any product, process, organizational, or marketing innovations that may have been missed through the collection and review of the documents and the interview response data. By maintaining a chain of evidence construct validity was built into the data collection procedures. Figure 4 portrays the steps and sequence of the research design and methodology.
Figure 4. Chain of evidence flowchart

Conceptual Framework Description and Conditions

This case study applied the definition of innovation from *The Organization for Economic Cooperation and Development (OECD) Center for Educational Research and...*
Innovation (CERI). In its Oslo Manual (Organization for Economic Co-operation and Development, 2005), OECD defines innovation as “the implementation of a new or significantly improved product, process, organizational method, or marketing method.”

By using the definition outlined in OECD’s Oslo Manual (2005), CERI blends aspects of innovation in the business world and specifically applies it to education. From the CERI website (Organization for Economic Co-operation and Development, 2010b), the OECD definition of innovation unfolds as: CERI’s project proposes focuses on two main areas: human capital for innovation, and innovation in education and training systems. The harmonized OECD/Eurostat definition of innovation is used for the purposes of this study. There are essentially four types of innovation identified in the Oslo Manual for measuring innovation: product innovation; process innovation; marketing innovation and organizational innovation.

The OECD definition of innovation provided the framework for categorizing the EPS innovation activities through which we can best understand the study data. The framework components are shown in the figure below (Organization of Economic Co-operation and development, 2010a):
### Product Innovation
- Involves goods or services that are new or significantly improved.
- Includes significant improvement in technical specifications, components and materials, incorporated software, user friendliness, or other functional characteristics.
- In education, a product innovation can be a new or significantly improved curriculum, a new educational software, etc.

### Process Innovation
- Involves a new or significantly improved production or delivery method.
- Includes significant changes in techniques, equipment, and/or software.
- In education, this can be a new or significantly improved pedagogy, etc.

### Organizational Innovation
- Involves introducing a new organizational method in the firm's business practices, workplace organization, or external relations.
- In education, this can be a new way of organization of work between teachers, or organizational changes in the administrative area.

### Marketing Innovation
- Involves significant changes in product design or packaging, product placement, product promotion, or pricing.
- In education, this can be a new way of pricing the education service or a new admission strategy.

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**Figure 5.** Innovation: the OECD definition (2010a): There are four types of innovation identified in the OECD Oslo Manual (2005, p. 80) for measuring innovation: product innovation; process innovation; organizational innovation; and marketing innovation.

The Organization of Economic Co-operation and Development (2010b) further states that these innovations can be new to the firm/educational institution, new to the market/sector, or new to the world. Furthermore, these four broad categories/domains of factors/activities relating to innovation were presented as a map or framework that point to areas where policy leverage may be applied to how other school districts can innovate, or to areas that need to be taken into account when policy initiatives are shaped.

Ultimately, the use of this conceptual framework for innovation presented the overall
“innovation landscape” in a generalized way for district or school systems innovation (Organization of Economic Co-operation and Development, 2010b).

Data Collection

As the case of the development of the EPS P-20 Educational Campus existed inside the larger context of P-20 educational reform, changes that EPS made driven by that reformimmerged. The innovations caused by the changes consequently revealed the leadership decisions and actions taken by EPS in the development of the P-20 Campus. By spotlighting the product, process, organizational, and marketing innovations central to the creation of the campus, the information gathered told the story of the development of the campus, and provided details for one way in which EPS addressed P-20 educational reform.

Two areas of information were collected: contextual and theoretical. The contextual information collected included data that described the people, place, time, and innovations. The contextual information was practical and concrete. The theoretical information collected was abstract and included perceptions, opinions, reactions, and relationships. Both forms of information were collected through: document review, interviews, and a survey. Each of these sources of information was specifically employed through the research’s conceptual framework by focusing on the product, process, organizational, and marketing innovations in the development of the P-20 Campus.

Table 1 depicts information needed, the purposes for that information, how theoretical and contextual information were gathered, and participants.
### Table 1

**Overview of information needed and participants**

<table>
<thead>
<tr>
<th>SOURCE OF INFORMATION</th>
<th>OVERVIEW OF INFORMATION</th>
<th>PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Document Review</strong></td>
<td>To provide context,</td>
<td>Director of</td>
</tr>
<tr>
<td>*(The first step</td>
<td>background, history,</td>
<td>P-20 Campus</td>
</tr>
<tr>
<td>conducted by the</td>
<td>values, products,</td>
<td>Development</td>
</tr>
<tr>
<td>researcher)*</td>
<td>services, organizational structures and culture, processes, designs, leadership, staff and site descriptions through the collection of records, documents, and artifacts.</td>
<td></td>
</tr>
<tr>
<td><strong>Interviews</strong></td>
<td>To provide context,</td>
<td>Superintendent; Deputy Superintendent; Chief Academic Officer; Director of Curriculum and Professional Learning; Assistant Director of Curriculum and Pathways Development; P-20 Campus Pathway Directors; and P-20 Campus Director of Operations and Management</td>
</tr>
<tr>
<td><em>(The second step was conducted by an EPS Accountability and Research employee and transcribed by an interview assistant)</em></td>
<td>background, history, values, products, services, organizational structures and culture, processes, designs, leadership, staff and site descriptions - as well as - explanations, perspectives and opinions of the key participants in the development of the case.</td>
<td></td>
</tr>
<tr>
<td><strong>Survey</strong></td>
<td>The information from Steps 1 and 2 provided the content for the survey questions.</td>
<td>Members of the P-20 Advisory Committee; the P-20 Design Team; the P-20 Parent Leaders Group; the P-20 Leadership Team; the Internal Pathways Planning Team; and the P-20 Campus staff</td>
</tr>
<tr>
<td>*(The third step</td>
<td>To describe information about participants - as well as - a quantifiable descriptive statistical analysis of the significance of the innovations or to what degree were the innovations innovative.</td>
<td></td>
</tr>
<tr>
<td>administered anonymously online by the EPS Chief Accountability and Research Officer)*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Instruments

Through the review of documents and the development of interview and survey questions and formats, the researcher took into consideration what he wanted to measure; how he was going to measure it; and where he was going to measure it. The Oslo
Manual (Organization of Economic Co-operation and Development, 2005) deals with innovation at the level of the firm. The manual describes that when firms innovate, they are engaging in a complex set of activities with multiple outcomes, some of which can reshape the boundaries and nature of the firm itself. The problem, then, is to decide which of these activities and outcomes should and can be measured. This problem was addressed through the use of the conceptual framework as to which documents were selected and reviewed by the researcher in the first stage of the research combined with the second stage where the responses of the interviews guided the content of the survey. Moreover, the use of the conceptual framework served as a means of instrumentation in the review of documents and interview responses.

**Document review.** During the first phase of data collection, it was essential to furnish data on such important details as context, background, history, values, products, services, organizational structures and culture, processes, designs, leadership, staff and site descriptions through the collection of records, documents, and artifacts. Yin (2009) shares that documentary information may take many forms and is likely to be relevant to every case study topic. As a source of evidence, documentation or review of documents is stable, unobtrusive, exact, and provided a broad coverage. Yin (2009) states the most important use of documents is to corroborate and augment evidence from other sources and play an explicit, valuable role in data collection in doing case study research. Therefore, documents were selected and reviewed by the researcher to provide an expansive overview of and inferences from the products, processes, organizational methods, and marketing methods that were new or significantly improved in the development of the P-20 Campus in order to expose the overall situation of the
innovations involved in the development of the P-20 Campus. Essentially, the creation of the P-20 Campus was illuminated through these key product, process, organizational, and marketing innovations, which again, serve as the conceptual framework for this case study. Consistency and integrity were built in to this first step of the research by maintaining the OECD’s definition of innovation (Organization of Economic Co-operation and Development, 2010b) and its four types of innovation identified in the OECD Oslo Manual (2005) for measuring innovation: product innovation; process innovation; organizational innovation; and marketing innovation. It is important to note that the critical selection and review of documents by the researcher were performed prior to conducting the interviews.

The source of documents (e.g., specimens, records, artifacts, practices) for selection and review originated through the work of the Eos Public SchoolsP-20 Design Team; P-20 Advisory Committee; the former Pathways Strategy Design and Research Team; the Community Workforce Planning Team; the Internal Pathways Planning Team and; the P-20 Leadership Team. The researcher had access to these documents because of his closeness to and involvement in the work. All documents were de-identified either by concealing or changing titles and/or content to provide a layer of confidentiality.

**Interviews.** Interviews were conducted in the second phase of data collection to furnish data on important details as context, background, history, values, products, services, organizational structures and culture, processes, designs, leadership, staff and site descriptions; as well as descriptions, explanations, perspectives and opinions of key participants in the development of the P-20 Campus. Interviews were conducted with district and P-20 Campus leadership to gain individual perspectives on what was
considered to be the innovations and why the innovations were innovative. Stake (1995) suggests that interviews serve as the ‘main road to multiple realities’ and are so important to the understanding of a case.

The interview process used a standardized open-ended interview approach. The characteristics of this format are: the same interview questions are asked of each participant; the exact wording and sequence of the interview process is determined in advance; and all questions are worded in an open-ended format. Strengths in this approach are: the questions are consistent from interview to interview; the data are complete for each subject; interviewer effects and bias are reduced when several interviewers are used; and it facilitates organization and analysis of data. Inherent weaknesses are: less flexibility in relating the interview to particular subjects and situations; and standardized wording may constrain and limit naturalness and relevance of questions and answers.

Two interview questions were asked of each participant in an open-ended format. The two interview questions were: 1. “What were the innovations made in the development of the P-20 Educational Campus?” and 2. “How were those innovations innovative?” The two questions were consistent from interview to interview.

Eight subjects were invited and were involved in the interviews. The subjects were selected because they had direct experience with the research questions and aspects of the numerous phases and levels of the P-20 Campus development. The interview participants consisted of the Eos Public Schools Superintendent, the Deputy Superintendent, the Chief Academic Officer, the Director of Curriculum and Professional Learning, the Assistant Director of Curriculum and Pathways Development, the P-20
Campus Pathway Directors, and the P-20 Campus Director of Operations and Management.

The interviewer was not the researcher. The researcher selected and guided an employee from the EPS Division of Accountability and Research. Under the direction of the researcher, the interviewer sent each of the eight interviewees an email invitation (Appendix A) which provided a brief background of the research, introduced the interviewer, asked them to reply to the email if they wished to participate in the interview, and alerted them that she would contact them to set up a time to interview in a setting selected by the interviewees. Each interview appointment was scheduled for 30 minutes.

The interviewer furnished each interviewee with an Interview Informed Consent Form (Appendix B) that was issued as an attachment to the email invitation. The interviewer collected the signed consent forms prior to conducting the interviews. As part of the consent form information, participants were asked if they agreed to be audio-taped and whether they wished to receive summary results of the research.

Additional, specific measures were built into the gathering of information from the interview process. Interviewees were assigned randomized numbers and no subject identifiers were recorded. Transmissions of the coded interview audio-taped responses were encrypted. The digital audiotapes were sent to a transcriber hired by the researcher. The transcriber was instructed to code the interview with the same number as the interviewer assigned and to process each interviewee’s exact responses except for anything that would be considered to identify the participant. Upon completion, each transcribed interview was sent to the researcher and subsequently destroyed by the hired
transcriber. The transcriber kept no records of the electronic transcriptions once forwarded to the researcher. All notes taken during the interview by the interviewer and transcriptions made by the transcriber were locked while in their possession and when submitted to the researcher. Only the researcher had access to the information once submitted to him.

Survey. With the purpose of obtaining information about participants and to furnish a quantifiable descriptive analysis of the significance of the innovations or to what degree were the innovations innovative, the third and final step of the research occurred through administering an anonymous, online survey. Once the key innovations surfaced through merging both the results and analysis of the first (the review of documents) and second (interview responses), the researcher funneled the data toward the creation of the survey questions. The survey can be located in Appendix C. The survey was given to district, staff, community, and parent groups who were essential to the creation of the P-20 Campus. The survey looked to establish the overall significance of the innovations and a means for capturing any product, process, organizational, or marketing innovations that may have been missed through the review of the documents and the interview response data.

The survey was created after the data was collected and analyzed from the first two steps of the data collection methods. The researcher specifically intended to fashion the survey questions resulting from the data collected from the review of documents and the interview responses. Once the first and second phase of the data collection was filtered through the conceptual framework, the researcher was able to ascertain quality information regarding the precise product, process, organizational, and marketing
innovations to hone the survey questions. Furthermore, this survey approach involved the collection of data about specific innovations using a rating approach. This started by identifying a list of innovations, on the basis of evaluations through the document selections and review and the interview responses.

The purpose of this approach in collection of the data was to intentionally triangulate the results of the document review and interviews with a larger sample. It is important to note that the researcher had to perform two separate submissions to the University of Denver Institutional Review Board (IRB) for approval – once for approval of the document review and interview portion of the research, and again for the survey segment of data collection.

Once the researcher had the necessary information from the first and second data collections steps, he crafted the survey questions (Appendix E) around a five-point scale in order to rank the survey responses. This approach was done to intentionally collect certain descriptive, quantitative data about the particular innovations involved in the development of the P-20 Campus. The survey questions were designed to specifically measure the range of significance of the innovations or to what degree the innovations were innovative. The survey participants were asked to rate innovations identified from the document review and interview responses on a 4-point scale (1 = Not Innovative, 2 = Somewhat Innovative, 3 = Innovative, or 4 = Highly Innovative). If the participants did not feel as if they had enough knowledge of an item, they were able to select ‘Not familiar enough to rate’. Additionally, participants were asked to include any innovations they felt may have been missing from the survey items.
When designing the layout of the survey, in order to build in a higher potential for item response rates, the researcher also was sure to devote special attention to providing survey participants with clear instructions, definitions, explanatory notes, and examples (Appendix E); as well as making sure that the survey length was manageable so it could be completed easily and in a reasonable amount of time.

Approximately 100 survey subjects were invited to participate in taking the online survey. They included members of the EPS Executive Leadership Team, the P-20 Design Team; the P-20 Advisory Committee; the P-20 Campus Leadership Team; the P-20 Parent Leader Group; the P-20 Campus staff; and the Internal Pathways Planning Team. The reason for selecting these subjects was that they had direct experience with the research questions and aspects of the numerous phases and levels of the development of the P-20 Campus.

Again, because the researcher was closely related the work of the development of the P-20 Campus, there were additional, specific measures built into the gathering of information where he could in no way identify anyone participating in the survey process. Administration of the survey was performed by Eos Public Schools Chief Accountability and Research Officer who sent the survey via email invitation. The invitation to the survey contained the survey informed consent form information (Appendix F) and the link to the “SurveyMonkey” online web tool. Participation in the survey was completely anonymous for no names were recorded and completely voluntary. Additionally, participants had the choice not to answer any question or the entire survey itself without fear of consequence. Only aggregate survey results were sought so that individuals were not identifiable. The survey was taken on any computer selected by the participant and
the researcher had no way of knowing which computer or computer’s IP address to identify a participant.

In both the interview and survey phases of the data collection, the researcher only had access to data necessary to conduct the study. The researcher collected only minimum necessary information from participants. Social security numbers and full birthdates were not collected. No subject identifiers were available to the researcher. Data at all times was kept in secure locations under lock and key in the researcher’s home office. Electronic access to any computer that contained participant responses was limited only to the researcher’s home computer. Backup files of the data were stored online in digital dropbox only accessible by the researcher. No data was stored permanently on portable devices. Again, any breach of confidentiality would be reported to the IRB immediately by the researcher.

**Case Background**

Through the auspicious foresight of an Eos Public Schools superintendent during the late 1970s, EPS parcelled a 100-acre plot of land that was located in the eastern portion of the school district. For decades the land was surrounded by agriculture and farming. During that time the district continued to grow more in a north-south orientation with minimal eastward expansion. However, during recent decades, EPS has steadily grown toward the east. The district had not opened a high school since 1982. At the same time as housing developed and populations grew eastward, the school district was in desperate need of a new high school and another new P-8 site. As the 2008 election season approached, the district strategically rallied the public for passing of both a Bond initiative and a Mill Levy override. EPS had not asked for a Mill Levy override
in sixteen years. The economic conditions during 2008 were grim and the district knew that it needed to do everything it could to campaign the voters to pass both the Bond and Mill. The November, 2008 election results were fruitful for EPS with the passing of both measures and the stage was set for the district to turn its sights upon the 100-acre plot of land.

During 2008, two critical components within the Colorado state legislature and the Colorado State Board of Education (CDE) presented themselves – Senate Bill 212: the Colorado Achievement Plan for Kids (CAP4K) and CDE’s strategic plan, *Forward Thinking*. Among other things, both documents called for alignment of the State’s education system and P-20 educational reform was born. Through the vision of the current EPS superintendent, the 100-acre site was to create a 21st century model for education and leave the disjointed, separate schools model of the 20th century behind. In August of 2009, the district, joined by the Colorado Governor, the Eos Mayor, CDE’s Commissioner, and scores of district, community, and business groups gathered to break ground on the 100-acre site to build a cutting edge model for innovation in public education, focused on instructional alignment of multiple, seamless pathways from pre-school through postsecondary, and supported by systemic partnerships in order to increase student achievement, close the achievement gap, and better prepare students for postsecondary education and workforce opportunities.

The time boundaries for this case study were from August, 2009 through March, 2011. This specific place in time was important in that it encompassed the entire planning period as well as a small portion of the gradual and staggered implementation phase in the development of the EPS P-20 Educational Campus.
Demographics and Population

During the 2009-2010 school year, the district provided educational services to approximately 37,000 students. The ethnic breakdown of the student population was: Native American = 0.9%; Asian = 4.7%; Black = 20.2%; Hispanic = 50.8%; and White = 23.5%. 39% of the students were second language learners who spoke 95 different languages with 89% of this group being Spanish speakers. 63.4% of the students received free and reduced lunch. The EPS graduation rate was 55.3% (four-year cohort) with a dropout rate of 7.4%. There were approximately 4,100 employees in the district supporting the education of the students. Educational services were provided through 55 school locations and 12 support locations. The 55 schools consisted of 2 preschools, 28 elementary schools, 3 K-8 schools, 7 middle schools, 4 comprehensive high schools, 3 Pilot schools, 1 vocational/technical college, 1 gifted and talented K-8 school and 6 charter schools. The annual budget for Eos Public Schools for the 2009–10 school year was $268 million.

The overall population and site for this research was the Eos Public Schools with various sample groups or populations who were directly involved as participants in this research from within the EPS district at-large and its surrounding community. Some members coexist within two or more of the groups. The following Figure 6 describes the sample groups’ contributions toward the development of the P-20 Campus.
<table>
<thead>
<tr>
<th>Group Name</th>
<th>Members</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS Executive Leadership Team</td>
<td>4 members</td>
<td>Ensured that leadership is distributed, lateral, and sustainable to provide the guidance and direction of continuous improvement in instructional practice and alignment of multiple, seamless pathways from preschool through postsecondary educational experiences leading to higher student achievement and increased workforce readiness.</td>
</tr>
<tr>
<td>P-20 Campus Leadership Team</td>
<td>10 members</td>
<td>Ensured fidelity to the P-20 Campus vision; supported educational excellence and student achievement through innovation; provided seamless education preschool through postsecondary; strengthened post-high school and workforce readiness opportunities for students; built effective, collaborative partnerships to forge bonds with CDE, Governor’s P-20 Council, professional networks, higher education, community/business leaders, elected officials and parents.</td>
</tr>
<tr>
<td>P-20 Advisory Committee</td>
<td>10 members</td>
<td>Ensured a seamless continuum of instructional alignment preschool through postsecondary; provided multiple pathways for student engagement and postsecondary and workforce readiness; identified curriculum and instruction aligned with the expectations of CAP4K; ensured 21st century technology supports learning; encouraged innovation as well as established best practices.</td>
</tr>
<tr>
<td>P-20 Design Team</td>
<td>15 members</td>
<td>Coordinated district pathway development; supported the Community Workforce Planning Team; and provided communication avenues for the groups.</td>
</tr>
<tr>
<td>Internal Pathways Planning Team</td>
<td>60 members</td>
<td>Aligned curriculum, instruction, assessment and professional learning around multiple pathways for student learning and engagement; implemented a standards-based system; designed curriculum and instruction to build on innovation; connected technology with instructional planning and delivery; and partnered with higher education and the business community.</td>
</tr>
<tr>
<td>P-20 Parent Leaders Group</td>
<td>15 members</td>
<td>Deepened P-20 understandings in a group of highly-interested group of parents in order to become parent leaders while providing support and feedback to the P-20 campus from a parent lens.</td>
</tr>
<tr>
<td>P-20 Campus Staff</td>
<td>8 members</td>
<td>Guided the work of the EPS strategic plan. Team members represented key instructional and support roles in the organization.</td>
</tr>
</tbody>
</table>

*Figure 6. Sample groups and their contributions*
Data Analysis

Use of the conceptual framework provided the unit of analysis (innovation) and its subunits (products, processes, organizational, and marketing) in which to appraise, filter, and categorize the criteria or purpose of the case. This also provided a means for increasing the internal validity of the case. Differences and commonalities within the data were found by looking for themes and patterns through the analysis of all relevant data. Corbin & Strauss (2008) define this as constant comparisons. As the researcher completed the analysis, the data were reviewed for similarities and differences. This type of comparison is essential because it allowed the researcher to differentiate one category or theme from another and to identify properties and dimensions specific to that category or theme (Corbin & Strauss, 2008). As data were analyzed, patterns were sought as a means for understanding, exploring, explaining, and illuminating the case. Thus, a thorough description that captured the complexities of the case, while evoking personal connections, was provided. Additionally, the researcher developed generalizations from analyzing the data so people can learn from the experiences within the case.

The analysis consisted of making a detailed description of the case. The decisions to triangulate the data were deliberate and purposeful to provide depth from multiple sources. By combining both qualitative and quantitative methods in this research’s concurrent triangulation design, weaknesses inherent in one method were offset by the strengths in the other method – thus viewing the triangulation of the qualitative and quantitative data as complementary rather than rival camps (Clark & Creswell, 2008). Data triangulation confirms the internal validity of the process. Clark & Creswell (2008) share, “the convergence or agreement of the qualitative and quantitative methods
enhances our belief that the results are valid.” The results of both methods were integrated during the interpretation phase. The interpretation may or may not explain the convergence of the data depending on the results of both methods. The analysis of the document review and interview response data combined with the descriptive statistical analysis of the survey results were fruitful in respect to casting light on the product, process, organizational, and marketing innovations and their level of significance in the development of the P-20 Campus.

**Analysis of document review.** By using the study’s definition of innovation and its conceptual framework, the researcher methodically chronicled the product, process, organizational, and marketing innovations that were important in the development of the P-20 Campus. As the researcher extensively reviewed the documents (e.g., specimens, records, artifacts, practices), a word table was created to visually summarize the findings filtered through the uniform conceptual framework so that others can see what the researcher based his conclusions in Table 4 on page 115. The researcher provided a detailed examination of the product, process, organizational, and marketing innovations involved throughout the different stages of the development of the P-20 Educational Campus by merging the descriptions of the documents, supporting details from the interviews, and survey results. This served to further illuminate this case study through the multiple sources of information derived and summarized from the review of documents, interview responses, and survey results spotlighting each innovation. The summary of each item provided not only a description of the product, process, organizational, or marketing innovation, it also furnished a means for evaluation,
explanation, and exploration of the innovations as well as an illumination of the historical components specific to the case of the development of the P-20 Campus.

**Analysis of interview responses.** As in the initial step of the document collection and review through the use of the conceptual framework, the researcher conducted an analysis of the interview responses by meticulously studying each of the interview transcriptions by applying the lens of the product, process, organizational, and marketing innovations to the actual responses. During this second phase of the data analysis, transcribed responses were read and coded using the key terms of the conceptual framework. The product, process, organizational, and marketing innovations stated within each response were tallied together in order to identify areas of emphasis or recurring themes as they related to the overall innovation landscape cited within the interview responses. Additional readings of the transcriptions offered opportunity to consider other aspects that might emerge. Once the key themes emerged, time and attention were given to triangulating these themes within the eight interviews. This was necessary in order to compile and merge both the results and analysis of the first and second qualitative steps to accurately funnel the data toward the creation of the survey questions.

Through the use of the conceptual framework, the constant comparison analysis approach of the interview data allowed the researcher to sort the responses into the key product, process, organizational, and marketing innovations as each interviewee elaborated on the questions 1. “What were the innovations made in the development of the P-20 Educational Campus?” and 2. “How were those innovations innovative?” As the researcher completed the analysis, the data were reviewed for similarities and
differences. Again, as data were analyzed, patterns were sought as a means for understanding, exploring, explaining, and illuminating the case. Thus, a thorough description that captured the complexities of the case, while evoking personal connections, was provided.

An analysis of the interview responses was accomplished by applying the lens of the product, process, organizational, and marketing innovations to each response. The product, process, organizational, and marketing innovations stated within each response were tallied together in order to identify areas of emphasis or recurring innovations as they related to the overall innovation landscape cited within the interview responses. As the researcher compiled results across the interviews, an aggregate of the innovations was tallied, and a table was constructed to provide a visual summary of the coded interview responses (Table 5, p. 117). In a narrative format, the researcher presented further details derived from the interviews by quoting why the interviewees believed the innovations they highlighted were innovative. The researcher provided a detailed examination of the product, process, organizational, and marketing innovations by merging the descriptions of the documents, supporting details from the interviews, and survey results. This served to further illuminate this case study through the multiple sources of information derived and summarized from the review of documents, interview responses, and survey results spotlighting each innovation. The summary of each item provided not only a description of the product, process, organizational, or marketing innovation, it also furnished a means for evaluation, explanation, and exploration of the innovations as well as an illumination of the historical components specific to the case of the development of the P-20 Campus. Again, the summary of the interview responses provided not only a description of the
product, process, organizational, or marketing innovations, it also furnished a means for evaluation, explanation, and exploration of the innovations as well as an illumination of the historical components specific to the case of the development of the P-20 Campus.

**Analysis of survey results.** From the results of the first and second steps of the qualitative portion of the data collection and analysis, the researcher was able to hone in on the specific product, process, organizational, and marketing innovations to compile them and construct the survey questions (Appendix C). By ranking and comparing the descriptive analysis of the survey results, a focus on the degree of significance participants felt about the innovations involved in the development of the P-20 Campus was revealed. It is important to state that significance of the innovations is based on the results of how the participants rated each innovation (Highly Innovative = 4; Innovative = 3; Somewhat Innovative = 2; and Not Innovative = 1). Therefore, significance does not refer to statistical significance in the descriptive analysis data.

The purpose of furnishing a quantifiable descriptive analysis of the significance of the innovations or to what degree were the innovations innovative is critical in providing data for the research question, “How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?”

Once the survey window closed, the final data were saved in an Excel spreadsheet for analysis and data presentation purposes. Once all item data was imported into an Excel spreadsheet, values for each response category were recorded with 1 on the lower end of the response selections and 4 assigned to the highest ranking within each category. The coding of each item was: ‘Highly Innovative’ = 4; ‘Innovative’ = 3; ‘Somewhat Innovative’ = 2 and; ‘Not Innovative’ = 1. The selection of ‘Not familiar enough to rate’
= 0 was also available to help avoid skewed results of the survey due to forcing an opinion.

The quantitative survey item analysis of descriptive data was conducted for the total resulting scores to include the mean, the standard deviation, and the number of respondents who rated each innovation. Additionally, the survey asked several questions pertaining to demographic data. The descriptive analysis derived from this portion of the survey was designed to provide further complementary information to the overall numerical results while painting a more robust picture of all the data.

**Synthesis of the Three Forms of Data Analysis – The Triangulation**

Multiple sources of evidence allow for triangulation of the data resulting from converging lines of inquiry. Stake (1995) proposes to bind the case and conceptualize the object of the study; select phenomena, themes, or issues to emphasize; look for patterns for which to develop the issue; triangulate important observations to clarify interpretations and; develop generalizations or conclusions about the case. He also notes that triangulation is a useful tool in clarifying meaning by looking at multiple experiences from several different viewpoints. According to Stake (1995), data triangulation increases confidence in our interpretation. By combining multiple sources of data within a single case study, we are likely to illuminate or nullify some extraneous influences. Triangulation helps to validate qualitative inquiry and provide a holistic approach to the overall merging of the data.

In this case study, the convergence of the data from the review of documents and themes within the interview responses were complemented with the descriptive statistical analysis of the survey results. The synthesis and convergence steps were: The researcher
(1) distilled the review of documents into product, process, organizational, and marketing innovations and (2) provided a personal rationale why each was selected and (3) an historical background on each document. When this first phase was complete, the researcher thoroughly (4) analyzed the interview transcriptions to (5) identify the named innovations in the responses and (6) coded each of them as product, process, organizational, and/or marketing innovations as well as (7) how often each innovation was brought forth across the interviews and (8) why the interviewee felt that each particular innovation was indeed innovative. This narrative data and the naming of the specific innovations were (9) compared to what the researcher selected, reviewed, and analyzed. This data was then used to (10) provide the material for the survey questions. The overall analysis (11) of both qualitative and quantitative methods led to the convergence of the findings as a way to strengthen the case study. Essentially, the historical experience of the development of the Eos Public Schools P-20 Educational Campus was described through the union of the three forms of data analyzed. The convergence of these multiple sources of evidence and their steps designated above are shown in Figure 7.
Figure 7. Steps taken in the convergence of the multiple sources of evidence

Limitations

Two main areas of possible limitations were evident throughout this study: the role of the researcher and potential forms of bias and assumptions. While the researcher was acutely aware of these limitations throughout each phase of the research, precautions were taken to minimize their impact.

Role of the researcher – bias and ethical considerations. As the researcher and Director of P-20 Campus Development, bias was a potential limitation due to the fact the researcher had a prior relationship with all of the selected interviewees and survey participants. Therefore, it was critical that proactive measures were taken to decrease the
influence of bias within this research. Measures of control included use of protocols for
data collection, analysis, and triangulation. The use of data triangulation as well as the
use of the conceptual framework, the chain of evidence, and the case study protocols all
ensured confidentiality. Additionally, the researcher maintained a solid distance from
both the interview process and survey administration. This was accomplished through
selecting and guiding an interviewer to conduct the interviews, hiring an assistant to
transcribe the taped, unidentifiable interviews, and having the Chief Accountability and
Research Officer administer the anonymous online survey. This research was viewed
through the very specific lens of innovations as a way of assessing and evaluating the
elements of the P-20 reform process.

Other potential forms of bias and possible assumptions. Corbin and Strauss
(2008) share that the thoughtful use of analytic tools fosters awareness of how bias and
assumptions influence the direction of analysis. Bias and assumptions are usually so
deeply ingrained and cultural in nature that analysts are often unaware of their influence
during analysis. It is helpful to acknowledge our biases and experiences and consciously
use experience to enhance the analytic process.

With this said, there was a chance for interview bias – unintentionally inserting
bias into the data gathered. To address this, the interviewer remained neutral and kept
her personal views out of the recorded information. The interviewer could have also
biased the interviews by responding with shock or awe at something a respondent said.
Ultimately, the interviewer tried very hard not to insert her personality into the interview
process. Moreover, there was the potential of additional interview bias if the questions
were poorly crafted and/or articulated; if there were inaccuracies due to poor recall; and/or reflexivity in that the interviewee giving what the interviewer wanted to hear.

During the Document Review portion of the research bias could have appeared within the selection process made by the researcher. However, again, use of the conceptual framework and definition of innovation limited this type of bias. One could also assume that retrievability of documents and/or documents being deliberately withheld could have caused the selection of documents to be incomplete. This did not occur. The researcher had access to all documents and nothing was withheld. All documents were accessible, available and considered. Furthermore, all documents were public record.

Emerging through the use of the conceptual framework, there was a slight possibility of an additional limitation. Innovation activities take place in all parts of an economy: in manufacturing, the service industries, education, public administrations, the health sector and even private households. While the framework indeed provided construct and internal validity as well as reliability to the study, the survey and interview questions could not cover all possible innovation subunits.
Chapter Four: Findings

“Imagine a system of education where every child enters school ready to learn, where all the third graders read at or above grade level, where all students have taken algebra by the end of the eighth grade, where high exit exams test students at the 12th grade level and are aligned with college admissions requirements, where all young people graduate from high school prepared for college or work, and where every student who enters college finishes college.”  
(Van de Water, G. & Rainwater, T. 2001, p. 5)

“If we are looking to innovation as a means of reforming public education, the definition of innovation must encompass the ability to impact significant numbers of students or teachers or yield significant financial results that ultimately will help us do more with less. Ideas/programs with the potential to affect large numbers will ultimately be more game-changing even if the idea/program itself only represents incremental change. Ideas/programs that cannot be replicated simply will not move the needle for the system no matter how new or enticing the concept may be.”  
(Smith, G. M. & Morgan, N. P., 2010, dmcouncil.org)

Introduction

The purpose of this case study was to tell the story of how a Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. This case study was told through examination of the establishment and importance of specific innovations. The researcher hoped that a better understanding of this case would allow educators to proceed from an informed perspective toward their efforts in educational alignment to establish a more connected, cooperative system of public education from preschool to the achievement of postsecondary or professional degrees as well as the critical nature of establishing partnerships between the various levels of the educational system and the workforce.
This chapter presents the findings from the document reviews, interviews and survey results related to this case study as well as the themes revealed throughout the data. Findings were organized by the categories of product, process, organizational, and marketing innovations related to this study’s research questions:

1. What are the product innovations related to the development of a P-20 educational campus?
2. What are the process innovations related to the development of a P-20 educational campus?
3. What are the organizational innovations related to the development of a P-20 educational campus?
4. What are the marketing innovations related to the development of a P-20 educational campus?
5. How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?

These five research questions were largely satisfied by the findings presented in this chapter which reports, analyzes, synthesizes, and interprets the findings. This study uncovered many innovations in all categories. As an attempt to increase the comprehensibility of this chapter, the findings are presented by beginning with the convergence of the data sources and the themes that emerged through the identification of the convergence.

The chapter is organized in four main sections: Overall Convergence of Qualitative and Quantitative Data; Identification of Themes; Findings According to Stage of Research; and Triangulation of Innovations. The first and second sections of the chapter aim specifically to answer research question #5 first: “How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?”
This chapter begins by looking at the overall convergence of findings related to the innovations and large-scale reform illustrated by this case study. By presenting the sequence for how the innovations were synthesized, a distillation of the most significant innovations was uncovered. In the Identification of Themes section of this chapter, interpretations of the significant innovations are provided through a thematic approach. The themes are presented through the researcher’s revelations of the underlying ideas and notions found within the synthesis of each step of the data analysis. A direct link to how the significant innovations support the themes in order to address P-20 reform efforts is made. The third section of this chapter provides a presentation of the data results and analysis methods within each stage of the methodology presented in Chapter 3. A detailed examination of the product, process, organizational, and marketing innovations involved throughout the different stages of the development of the P-20 Educational Campus is presented in the final portion of this chapter. The final section serves to further illuminate this case study through the multiple sources of information derived and summarized from the review of documents, interview responses, and survey results spotlighting each innovation. The researcher’s interpretations linking back to the themes and interview responses are also found embedded within each of the summary paragraphs of the product, process, organizational, and marketing innovations.

This chapter illustrates the use of the conceptual framework; describes, through thematic interpretations, how the innovations address the larger context of P-20 reform; and provides a detailed summary, through multiple sources, of the innovations within the real-life context of the development of the P-20 Educational Campus.
Overall Convergence of Qualitative and Quantitative Data

The cumulative results were made by cross-referencing all procedures and a convergence of the evidence to address concern for construct validity and reliability of the case study. Aiming to specifically answer research question #5 first: “How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative”, the details in the method and rationale for bringing all the data together are described.

Within the Document Review stage (Table 4, p. 115) of the data analysis, four of the innovations crossed more than one category of product, process, organizational, or marketing innovations (each of which is a vehicle for aligning the educational system):

- **Academic and Career Pathways:** an integrated collection of programs and services intended to: develop students’ core academic, technical and employability skills; provide students with continuous education and training; and place students in high-demand, high-opportunity jobs.

- **P-20 Curriculum and Coursework aligned around Access, Explore, Prepare toward PWR:** Preschool through postsecondary curriculum and coursework focusing on the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy.

- **Seamless, Aligned P-20 Campus System:** a system in which expectations for student knowledge and skills are aligned throughout preschool, elementary, secondary and postsecondary levels.

- **P-20 Campus Plans of Study:** A visual communication tool that demonstrates the link between high school academic and CTE courses to college programs and careers.

Of the 47 innovations highlighted through the Document Review, 37 of them matched what the interviewees specifically stated during their interviews – this equates to a 78.7% match rate. Three innovations, not identified in the document review, emerged
from the interview process: Actualizing Legislation; the Building Design; and the Bell/Master Schedule. The innovations that scored highest (4 – 8, which is a minimum of half of the interviewees responding to a particular innovation within a category or across multiple categories; therefore, appearing in the narratives minimally four times) in a combination of the Document Review and Interview results are shown in Table 2.

Table 2

<table>
<thead>
<tr>
<th>INNOVATION TYPE</th>
<th>INNOVATION NAME</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Academic and Career Pathways</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>World Languages</td>
<td>6</td>
</tr>
<tr>
<td>Process</td>
<td>Introduction of New Instructional Technologies</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Seamless, aligned P-20 Campus System</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Fluid Movement</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Hiring Practices</td>
<td>4</td>
</tr>
<tr>
<td>Organizational</td>
<td>Leadership Model</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Seamless, Aligned P-20 Campus System</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Campus System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partnerships/CWPT</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Professional Learning</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 7 on page 125 displays the survey results ranked by the mean. The innovations that ranked the highest through the results of the Survey were:

Partnerships/CWPT (3.63); Seamless, Aligned P-20 Campus System (3.57); Academic and Career Pathways (3.43); World Languages (3.41); and Choice Offerings linked to PWR (3.40). Each of these items also had a high or fairly high response rate out of the total number of 73 participants who completed the survey. Moreover, Partnerships/CWPT had the highest average of 3.63 and the most consistency in the responses with a standard deviation of .55; and Seamless, Aligned P-20 Campus System
with the second-highest average of 3.57 also had the second-highest indicator of consistency with a standard deviation of .61. Still more, 5\textsuperscript{th}-highest ranking innovation of Choice Offerings linked to PWR with an average of 3.40 had the third-highest indicator of consistency with a standard deviation of .61. Conversely, the innovation of the Bell/Master Schedule had the lowest mean of 1.96 and the Building Design’s mean of 2.75 was third from the bottom – both of which were not innovations selected by the researcher. However, the innovation of Actualizing Legislation brought forth through the interviews and not through the Document Review had the 10\textsuperscript{th}-highest mean of 3.33.

Throughout each stage of the data analysis, the innovations that emerge as the most significant are: Partnerships/Community Workforce Planning Team (CWPT); Academic and Career Pathways; and a Seamless, Aligned P-20 Campus System – with World Languages making the fourth strongest appearance. Table 3 also displays all innovations that made the strongest, consistent appearance across the data.
Table 3

*Overall Convergence of Qualitative and Quantitative Data*

<table>
<thead>
<tr>
<th>INNOVATION TYPE</th>
<th>INNOVATION NAME</th>
</tr>
</thead>
</table>
| Product         | *Academic and Career Pathways*  
|                 | *World Languages*  
|                 | P-20 Curriculum and Coursework/Access, Explore, Prepare, and PWR  
|                 | P-20 Plans of Study  
| Process         | *Academic and Career Pathways*  
|                 | *Seamless, Aligned P-20 Campus System*  
|                 | Introduction of New Instructional Technologies  
|                 | Fluid Movement of Students  
|                 | P-20 Curriculum and Coursework/Access, Explore, Prepare, and PWR  
|                 | P-20 Plans of Study  
| Organizational  | *Partnerships/CWPT*  
|                 | *Seamless, Aligned P-20 Campus System*  
|                 | Leadership Model  
|                 | Choice, Postsecondary Options, and PWR  
| Marketing       | *Seamless, Aligned P-20 Campus System*  
|                 | *Academic and Career Pathways*  

Innovations that emerge as the most significant designated in **bold, italicized** letters

**Summary of significant innovations.** The prevailing findings surround the following innovations in order of most significant across each stage of the research; they are:

- **Seamless, Aligned P-20 Campus System:** Spanned three categories in the document review (Process, Organizational, and Marketing innovations); highlighted in 75% of the interview responses; and had a mean of 3.57 and standard deviation of .61 from the survey results.

- **Academic and Career Pathways:** Spanned all categories in the document review (Product, Process, Organizational and Marketing innovations); highlighted in 87% of the interview responses; and had a mean of 3.43 from the survey results.

- **Partnerships / Community Workforce Planning Team (CWPT):** Presented once in the document review (Organizational innovation); highlighted in 50% of the interview responses; and had a mean of 3.63 and standard deviation of .55 from the survey results.
- **World Languages**: Presented once in the document review (Product innovation); highlighted in 75% of the interview responses; and had a mean of 3.41 from the survey results.

The following findings had a strong reoccurrence across the research; they are:

- **Aspects of Postsecondary and Workforce Readiness (PWR)**: Spanned across three categories in the document review (Product, Process, and Organizational innovations); fared well in the interview responses; and had a 3.40 mean from the survey results in the organizational innovation category and a 3.30 mean from the survey results in the product innovation category.

- **Introduction of New Instructional Technologies**: Presented once in the document review (Process innovation); highlighted in 100% of the interview responses; and had a mean of 3.36 from the survey results.

- **The Leadership Model**: Presented once in the document review (Organizational innovation); highlighted in 100% of the interview responses; and had a mean of 3.31 from the survey results.

- **Fluid Movement of Students**: Presented once in the document review (Process innovation); highlighted in 62% of the interview responses; and had a mean of 3.30 from the survey results.

- **Plans of Study**: Spanned two categories of the document review (Product and Process innovations); and had a mean of 3.32 from the survey results.

**Identification of Themes**

The analytic categories of product, process, organizational, and marketing innovations were coded in the case study. The themes emerged as a result of the data and were underlying ideas and notions found within the synthesis of each step of the data analysis. The presentation of the themes will be described through the most significant innovations presented above.

The overall findings related to significant innovations and large-scale reform, as illustrated by this case study, are found within the following themes:
**Alignment and coherence.** P-20 educational reform requires systemic reform. Rochford (2005) shares that P-20 reform is a community philosophy and a series of strategies requiring alignment of multiple systems, organizations, programs, toward the common goal of graduating students from high school fully prepared to succeed in postsecondary education and meaningful, productive careers. In simplest form, P-20 reform has the potential to create one educational system and the reform efforts must be made comprehensively to all components within the P-20 system. Therefore, alignment refers to making sure that the components are arranged in agreement with one another. Thus, within this theme, alignment means the entire educational system is grounded in preparing students for the workforce to meet global competition. Coherence simply refers to whether or not there is overall agreement of understanding or sense-making within the system. Through alignment and coherence of the P-20 system, students are able to better navigate their educational endeavors and gaps within the system would be eliminated.

Within its process and organizational innovation features, a seamless, aligned P-20 Campus system addresses both alignment and coherence. Alignment is directly linked to the Campus’s inherent and intentional design based on being one educational system. It has been built to be one unit, not separate entities. Some ways in which the Campus tries to ensure this alignment is through how students are arranged; how staff come together across the spectrum from preschool to postsecondary; how decisions are made; how they market themselves; and how staff and students are linked to postsecondary institutions and industry partners. Moreover, to complement the very nature of the P-20 Campus system, the Academic and Career Pathways act as a mechanism to align the
different educational entities with one another as well as provide a vehicle to align with economic and workforce development.

Aspects of Postsecondary and Workforce Readiness (PWR) also appear within the theme of alignment and coherence. The Campus aligned itself around the state language of access, explore, and prepare stages where elementary students are presented with a world of possibilities in the terms of careers; then in middle school, students begin to explore careers more deeply. In high school, students hone in on their career and academic interests to select coursework to prepare them for the college system and careers. This is intended to create a seamless aligned pipeline.

As a process innovation, fluid movement of students also creates more of a prospect to align the P-20 system by meeting students where they are academically and developmentally. As the Campus begins to open its perspective to the possibilities within not putting students in grade level boxes, they are finding ways to meet students at their area of competency. As the P-20 system becomes more aligned and coherent, fluidly moving students will begin to happen more easily and more frequently.

The organizational innovation surrounding the creation of the Community Workforce Planning Team (CWPT) also provides evidence surrounding alignment. By no longer working in isolation, the P-20 Campus talks to higher education and industry to ensure that the decisions surrounding coursework, contextual learning experiences, and industry certifications are directly linked to what higher education and industry value and are engaged in. The CWPT is an important resource for ensuring alignment and coherence of pathway and partnership development. These provide the mechanisms for
connecting the district and Campus with postsecondary, community, economic, and workforce institutions.

**Choice.** Choice refers to making sure the student is at the center of his or her learning. It means personalizing the learning. As more choice is provided, students take more ownership of their opportunities and are more apt to be motivated to succeed. Choice is essentially about seeing students as individuals and making sure that there is a strong relationship between the teacher, the student, the home, and the community.

Academic and Career Pathways are a significant way in which choice is provided to students. By linking with a student’s Individual and Career Plan (ICAP), students have the ability to make choices rather than be placed in programs and tracks. The sense of personalizing education by providing choices for students within Pathways allows for relevancy and high-interest while establishing a real-world context toward college and careers.

The theme of choice was also found within the curriculum around access, exploration, and preparation toward postsecondary and workforce readiness (PWR). In order to provide more relevant choices that are linked to PWR, the Campus continues to push up against old paradigms in order to provide appropriate PWR experiences. However, within providing more choice for students, the Campus continues to be certain that the curriculum and coursework is challenging and engaging, and offer resources and materials within students’ experiences to complement the very nature of postsecondary and workforce readiness.

**Connections.** While connections or connectedness are closely associated with alignment and stem from coherence, Van de Water & Rainwater (2001) state that such
connectedness must have a grounded and detailed operating standard. Within P-20 systems, specific global components such as well-articulated objectives that connect all levels of the system must be present. Established benchmarks and assessments, and monitoring system outcome in order to provide college access and advance economic growth and prosperity are critical ingredients toward overall connectedness.

As a process innovation supporting this theme, a seamless, aligned P-20 Campus system was designed from its inception around the goal of ensuring integration and connections with other schools, sites and divisions within EPS as well as with the work of the Governor’s P-20 council, the overall community, local industry, and higher education. This made it essential that some forms of organizational innovation took place. To do this required involvement and connections with multiple constituencies in order to ensure that ownership for the campus was created and fostered so that there was a commitment to the success of the P-20 campus.

The idea of connections is also prevalent in how students on the Campus are able to make connections through their learning and experiences within a real-world, relevant context. The Campus firmly believes that as students make connections with what they are doing in class to their next academic steps – from grade to grade to postsecondary, the connections will be relevant and more engaging to them. In all forms of innovation, Pathways provide such connections for students. Academic and Career Pathways connect the P-12 system with higher education and the workforce. Each of the pathways and institutes are articulated not just to the postsecondary side, they are also articulated in terms of industry standards. Academic and Career Pathways in their simplest form are a way of connecting education with economic development. The idea of pathways as a
way of alignment by making connections within the overall educational system as well as with the workforce is also a way of preparing students for a global economy.

Connectedness can also be seen within the aspect of articulation. The seamless, aligned Campus system innovation has clear articulation from elementary to middle school, middle school to high school, and then the high school to the postsecondary side in terms of the articulation of programs and agreements. This is designed around specific coursework that articulates to the postsecondary portion of the system.

**Opportunities.** It is the belief of the Campus that opportunities must provide equitable access for all students. College access, especially for minority and low income students, is front and center so more students and parents are aware of the need for college. The notion of not only attending college, but completing college, provides further opportunities toward economic growth and prosperity is a notion at the core of the Campus. This also strengthens students’ postsecondary and workforce readiness.

The innovation of an aligned Campus system supports the idea of opportunities through its intrinsic quality of potentially offering students their educational experiences in one place. By eliminating the transitions between trying to navigate different levels of the school system, students are afforded a greater chance of not falling through the cracks and getting lost within a more traditional disjointed school system. Teachers also have added opportunities within a P-20 Campus system. There are opportunities for horizontal planning and vertical articulation where teachers from all levels come together. This ultimately provides for more seamless alignment across the system.

Plans of Study, as a product innovation, provide choice within the specifications and components of the curricula embedded in each plan. The Campus created its Plans of
Study through its beliefs that every student should be on a path that leads to career success, through seamless plans of study fostering academic and technical achievement, to develop a globally competitive workforce for Colorado. The Campus offers increased opportunities by more easily affording middle school students with high school credit and high school students with college credit. Furthermore, within a process sense, the delivery of pathways – especially the elective courses – impact and create the overall the high school pathway experience of both choice and additional opportunities for students. Opportunity of acquiring college credit, industry certifications, service learning experiences, rigorous curriculum, internships, etc are all example of added opportunities students have access to.

**Partnerships.** Partnerships are essentially one or more combinations of school, university, community, political and business alliances designed to strengthen student achievement. P-20 alignment must build a greater urgency for 21st century teaching and learning through strategic partnerships. The Colorado Department of Education (2010b) states that we must accelerate improvements within the P-20 system through strategic public and private partnerships that prepare an increasing number of college students for an economically and socially vibrant Colorado.

The purpose and work of the Community Workforce Planning Team (CWPT) has the primary responsibility of guiding how partnerships disseminate in and throughout the district and P-20 Campus. This organizational innovation plays a critical role in bringing industry, economic development, workforce development, higher education, and EPS together. EPS determined that aligning with partners and aligning the education is what is required to meet the needs of global competition and an ideal way to combat *The*
**Colorado Paradox.** Essentially the district looked at community workforce development through the vehicle of education. It determined that a community’s competitiveness in today’s global economy is dependent on one universal currency – talent. Through a collaborative effort between community stakeholders, industry, economic and workforce development, and higher education, EPS wants to leverage its strengths to grow talent and provide the human capital pipeline for the community to retain its talent for economic strength and well-being. Partnerships are also an elemental component of Academic and Career Pathways. Partnerships with higher education and industry are essential parts of what constitutes pathways and institutes. Pathways provide a means of connecting education and the economy through the importance of establishing partnerships.

**21st century learning.** 21st century learning presents the skills, expertise and content knowledge needed to be competitive in the 21st Century. This also strengthens PWR by building a greater urgency for 21st century teaching and learning. 21st century learning should address the whole child through individualized instruction which provide opportunities for multidisciplinary, integrated, project or problem-based learning. 21st century learning or skills often include such components as critical thinking and problem solving, collaboration, adaptability and flexibility, initiative, creativity and invention, effective communication, imagination, and the ability to access, analyze, and synthesize information. 21st century learning requires opportunities for: critical reflection where students see the world from multiple points of view and imagine alternative outcomes; empirical reasoning where students test hypotheses from observable data and; collective intelligence where students recognize and accept a shared responsibility to thinking
collectively to solve problems. What is more, 21st century learning repeatedly includes aspects of technology and digital literacies. All of this is usually linked to learning environments that help prepare students for success in a global economy.

Through aspects of PWR, the Campus innovated around its goals for all students so they build relationships with others to pose and solve problems collaboratively and cross-culturally; design and share information for global communities to meet a variety of purposes; manage, analyze and synthesize multiple streams of simultaneous information; create, critique, analyze, and evaluate multi-media texts; attend to the ethical responsibilities required by these complex environments; and develop proficiency with the tools of technology. These PWR goals are literacies that are multiple, dynamic, and malleable. This supports the flexible and fluid nature of the Campus. Keeping postsecondary and workforce readiness center within all contextual learning experiences for students, allows the Campus to remain rooted in 21st century learning. The P-20 Campus also believes that in order to prepare students for the demands of an increasingly global economy, speaking a second language is an essential 21st century skill. Therefore, all students are able to take either Spanish or Chinese through the use of new instructional technologies and Web 2.0 tools.

The process innovation of new instructional technologies supports this theme by providing P-20 campus staff and students through its commitment to afford a 21st century education to all students. It is the belief that students need access to 21st century tools, platforms and computers in order to fulfill this commitment to ensure that students are prepared for a 21st century workplace. The Campus did so by looking at 21st century skills – to create, to invent, to collaborate, to research effectively, and so on then looked
at how technology could complement such learning. The Campus also believes that
through the use of instructional technologies they are able to engage students, to push
them to the next level, to bring the outside world into the Campus.

Academic and Career Pathways also provide increased opportunities for 21st
century learning. As a product innovation, Academic and Career Pathways offer specific
coursework, curriculum, embedded industry certifications, and a variety of contextual
learning experiences that are all aligned to 21st century thinking and learning.

Findings According to Stage of Research

This section answers the first four research questions of this study:

1. What are the process innovations related to the development of a P-20 educational campus?

2. What are the organizational innovations related to the development of a P-20 educational campus?

3. What are the marketing innovations related to the development of a P-20 educational campus?

4. How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?

This section begins with a presentation of the data results within each stage of the research design presented in Chapter 3, a rationale for how the data were analyzed and why the researcher made explicit decisions in how the data were combined and converged for each step, and a detailed analysis of the product, process, organizational, and marketing innovations involved throughout the different stages of the development of the P-20 Educational Campus.

Document review results. Forty-seven documents pertaining to the P-20 initiative were reviewed. Each document was analyzed and categorized as representative
of product, process, organizational, and marketing innovations. On the following page, Table 4 summarizes these findings.

Coding of both the review of documents and interview responses used the conceptual framework definitions: 1) Product innovations embrace technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics such as a new or significantly improved curriculum, a new educational software, etc.; 2) Process innovations encompass production or delivery methods. This includes significant changes in techniques, equipment and/or software. In education, this can for example be a new or significantly improved pedagogy; 3) Organizational innovations surround organizational methods in the firm’s business practices, workplace organization or external relations. In education, this can, for example, be a new way of organizing the work between teachers, or organizational changes in the administrative area; and 4) Marketing innovations engage a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. In education, this can, for example, be a new way of pricing the education service or a new admission strategy (Organization of Economic Co-operation and development, 2010a).
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<thead>
<tr>
<th><strong>Product Innovations</strong></th>
<th><strong>Process Innovations</strong></th>
<th><strong>Organizational Innovations</strong></th>
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<tr>
<td>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</td>
<td>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</td>
<td>P-20 Advisory Committee</td>
<td>Pathway Branding Rationale</td>
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<tr>
<td>PWR goals for all students</td>
<td>P-20 Plans of Study linked to Colorado Higher Education Admissions Requirements</td>
<td>P-20 Campus Design Team</td>
<td>P-20 Education and Pathways Websites</td>
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<td>P-20 Campus Plans of Study</td>
<td>Use of Web 2.0 tools and platforms</td>
<td>P-20 Campus Focus Groups</td>
<td>P-20 Campus Brochures, Placards, and Posters</td>
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<td>Individual Career and Academic Plans (ICAPs)</td>
<td>P-20 Campus instructional approaches</td>
<td>P-20 Campus Parent Leaders Group</td>
<td>Academic and Career Pathways Booklets and Online Booklets</td>
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<td>Online Books</td>
<td>Fluid movement of students</td>
<td>Choice, Postsecondary Options, and PWR</td>
<td>Pathway Planning Guide</td>
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<tr>
<td>Online Portfolios</td>
<td>P-20 Campus student experiences</td>
<td>Community Workforce Planning Team</td>
<td>‘Pathway Palooza’</td>
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<tr>
<td>Physics First</td>
<td>Hiring Practices</td>
<td>Internal Pathways Planning Team (formerly Pathways Strategies, Design, and Research Group)</td>
<td>Use of Digital Signage</td>
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<td>Music Programs</td>
<td>‘Request for Information’ proposal to potential higher education partners</td>
<td>Pathways Advisory Committees</td>
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<tr>
<td>Health and Wellness Programs</td>
<td>Introduction of new instructional technologies</td>
<td>P-20 Campus Leadership Model</td>
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<td>‘Honors’ embedded into core academic offerings</td>
<td>Challenge Based Learning</td>
<td>P-20 Campus Culture Matrix aligned with Leadership Model</td>
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<tr>
<td>World Languages (Spanish and Mandarin) across all grades</td>
<td>Strategic Planning Process</td>
<td>P-20 Campus Operational Leadership Team</td>
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<td>EPS Pathways Implementation and Evaluation Matrices</td>
<td>P-20 Campus Learning Labs and Student Achievement Learning Teams Use of Instructional Spaces, Learning Commons and Flex Spaces</td>
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Interviews results. On the following page, Table 5 provides the results and scoring based on what the researcher exposed in the review of documents combined with what was revealed through the interview as well as what the researcher discovered through the constant coding comparison and analysis of the interview responses. By using Table 4 as a way to synthesize what the researcher brought forth in the document review, Table 5 depicts what was revealed by the interviewees. Through the use of the conceptual framework, the coding method in Table 5 can be understood by the following rationale:

1. Innovations in **bold, italic** letters matched what the researcher highlighted in the document review in Table 1. The number below the innovation represents how many different interviewees stated the specific innovation during their individual interviews. If an interviewee referred to the innovation more than once during the interview, the innovation was represented only once; therefore, because there were eight individuals interviewed, the number of matching responses will not total more than eight.

2. Innovations listed in **bold, CAPITAL** letters represent innovations not explicitly detailed in the document review, or not necessarily identically referenced in the same way as a product, process, organizational, or marketing innovation by both the researcher and interviewees, or not selected at all by the researcher in the document review. The number below the innovation represents how many different interviewees stated the specific innovation during their individual interviews. If an interviewee referred to the innovation more than once during the interview, the innovation was represented only once; therefore, because there were eight individuals interviewed, the number of interviewee responses will not total more than eight.

3. Innovations left over from Table 1 are in plain text. These innovations were selected by the researcher only and did not match to any of the interviewee responses.
Table 5

Interview Responses of P-20 Educational Campus Product, Process, Organizational, and Marketing Innovations

<table>
<thead>
<tr>
<th>Product Innovations</th>
<th>Process Innovations</th>
<th>Organizational Innovations</th>
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<tbody>
<tr>
<td><strong>Academic and Career Pathways Framework</strong></td>
<td><strong>ACTUALIZING LEGISLATION</strong></td>
<td><strong>BUILDING DESIGN</strong></td>
<td><strong>P-20 Education, P-20 Educational Campus System, and Pathways Messaging</strong></td>
</tr>
<tr>
<td><strong>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</strong></td>
<td><strong>SEAMLESS, ALIGNED P-20 CAMPUS SYSTEM</strong></td>
<td><strong>BELL/MASTER SCHEDULE</strong></td>
<td><strong>Pathway Branding Rationale</strong></td>
</tr>
<tr>
<td><strong>PWR goals for all students</strong></td>
<td><strong>Academic and Career Pathways</strong></td>
<td><strong>SEAMLESS, ALIGNED P-20 CAMPUS SYSTEM</strong></td>
<td><strong>P-20 Education and Pathways Websites</strong></td>
</tr>
<tr>
<td><strong>P-20 Campus Plans of Study</strong></td>
<td><strong>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</strong></td>
<td><strong>P-20 Campus System and its Communication Constituencies</strong></td>
<td><strong>P-20 Campus Brochures, Placards, and Posters</strong></td>
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<tr>
<td><strong>Individual Career and Academic Plans (ICAPs)</strong></td>
<td><strong>P-20 Plans of Study linked to Colorado Higher Education Admissions Requirements</strong></td>
<td><strong>P-20 Advisory Committee</strong></td>
<td><strong>Academic and Career Pathways booklets and online booklets</strong></td>
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<td><strong>Online books</strong></td>
<td><strong>Use of Web 2.0 Tools</strong></td>
<td><strong>P-20 Campus Design Team</strong></td>
<td><strong>Pathway Planning Guide</strong></td>
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<tr>
<td><strong>Online portfolios</strong></td>
<td><strong>P-20 Campus instructional approaches</strong></td>
<td><strong>P-20 Campus Focus Groups</strong></td>
<td>‘Pathway Palooza’</td>
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<td><strong>Physics First</strong></td>
<td><strong>Fluid Movement of Students</strong></td>
<td><strong>P-20 Campus Parent Leaders Group</strong></td>
<td><strong>Use of Digital Signage</strong></td>
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<td><strong>Music Programs</strong></td>
<td><strong>P-20 Campus student experiences</strong></td>
<td><strong>Choice, Postsecondary Options, and PWR</strong></td>
<td><strong>PARNTERSHIPS</strong></td>
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<td><strong>Health and Wellness Programs</strong></td>
<td><strong>Hiring practices</strong></td>
<td><strong>Community Workforce Planning Team or PARNTERSHIPS</strong></td>
<td><strong>GOVERNANCE STRUCTURE</strong></td>
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<td><strong>‘Honors’ embedded into Core Academic Offerings</strong></td>
<td><strong>‘Request for Information’ proposal to potential higher education partners</strong></td>
<td><strong>Internal Pathways Planning Team (formerly Pathways Strategies, Design, and Research Group)</strong></td>
<td><strong>GOVERNANCE STRUCTURE</strong></td>
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<td><strong>World Languages (Spanish and Mandarin) across all grades</strong></td>
<td><strong>Introduction of new instructional technologies</strong></td>
<td><strong>Pathways Advisory Committees</strong></td>
<td><strong>GOVERNANCE STRUCTURE</strong></td>
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<tr>
<td><strong>EPS Pathways Implementation and Evaluation Matrices</strong></td>
<td><strong>Challenge Based Learning</strong></td>
<td><strong>P-20 Campus Leadership Model or GOVERNANCE STRUCTURE</strong></td>
<td><strong>GOVERNANCE STRUCTURE</strong></td>
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<td><strong>Strategic Planning Process</strong></td>
<td><strong>P-20 Campus Culture Matrix aligned with Leadership Model</strong></td>
<td><strong>20 Campus Operational Leadership Team</strong></td>
<td><strong>GOVERNANCE STRUCTURE</strong></td>
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According to the numerical values presented in Table 5, the most frequent results offered by the interview data (frequency is determined by a minimum of half of the interviewees responding to a particular innovation within a category or across multiple categories; therefore, appearing in the narratives minimally 4 times) are (not in any specific order or magnitude):

1. Academic and Career Pathways
2. Seamless, Aligned P-20 Campus System
3. World Languages
4. Bell/Master Schedule
5. Fluid Movement of Students
6. Hiring Practices
7. Introduction of New Instructional Technologies
8. Challenge Based Learning
9. P-20 Curriculum and Coursework aligned around Access, Explore, and Prepare toward PWR
10. Community Workforce Planning Team / Partnerships
11. P-20 Campus Leadership Model / Governance Structure
12. P-20 Campus Learning Labs and SALTs / Professional Learning

Survey results. Table 6 displays the specific innovations selected to populate the survey questions. By merging the data from Tables 4 and 5, the researcher elected to base the selection of which specific innovations to include in the survey on the following criteria:
1. In order to be included in the survey, no innovation could stand alone.

2. The survey only included innovations that were brought forth by the researcher in the Table 1 through the document review that matched with at least one interview response – OR – by two or more interview responses.

The purpose of furnishing a quantifiable descriptive analysis of the significance of the innovations or to what degree were the innovations innovative is critical in providing data for the research question, “How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?” It is important to state that significance of the innovations is based on the results of how the participants rated each innovation (Highly Innovative = 4; Innovative = 3; Somewhat Innovative = 2; and Not Innovative = 1). Therefore, significance does not refer to statistical significance in the descriptive analysis data.
Table 6

*Merged Innovations from Document Review and Interview Responses sorted by Product, Process, Organizational, and Marketing Innovations*

<table>
<thead>
<tr>
<th>Product Innovations</th>
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</thead>
<tbody>
<tr>
<td><strong>Academic and Career Pathways</strong></td>
<td><strong>Actualizing Legislation</strong></td>
<td><strong>Building Design</strong></td>
<td><strong>Pathway Branding Rationale</strong></td>
</tr>
<tr>
<td>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</td>
<td>Seamless, Aligned P-20 Campus System</td>
<td>Bell / Master Schedule</td>
<td>Academic and Career Pathways booklets and online booklets</td>
</tr>
<tr>
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<tr>
<td>‘Honors’ embedded into Core academic offerings</td>
<td>‘Request for Information’ proposal to potential higher education partners</td>
<td>Partnerships and the Community Workforce Planning Team</td>
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<tr>
<td>World Languages (Spanish and Mandarin) across all grades</td>
<td>Introduction of new instructional technologies</td>
<td>P-20 Campus Leadership Model (Governance Structure)</td>
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<tr>
<td><strong>Challenge Based Learning</strong></td>
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<tr>
<td><strong>Strategic Planning Process</strong></td>
<td>P-20 Campus Learning Labs and Student Achievement Learning Teams (Professional Learning) Use of Instructional Spaces, Learning Commons and Flex Spaces</td>
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</tbody>
</table>

Table 7 (p. 126) represents the survey results ranked by mean order. The mean represents the average of all responses within a single item. The mean is based on the survey’s four-point scale (Highly Innovative = 4; Innovative = 3; Somewhat Innovative = 2; and Not Innovative = 1; and participants were able to select: ‘Not familiar enough to rate’ which had no value within the overall results). The standard deviation value
represents consistency, agreement, or a sense of consensus in the variability of the survey responses. The count represents the percentage of respondents who answered the question and did not select ‘Not familiar enough to rate’; therefore, it is the actual number of responses who gave the item a 1, 2, 3, or 4 rating. While the count of those participants who rated the innovations on the survey varied from 47 to 72, it is important to note that the overall survey results yielded an approximate 73% response rate (the survey was sent to approximately 100 people). A count of 51 or lower was chosen as the bottom threshold for individual item response rates because 51 is approximately less than 2/3 of those who responded who felt they didn't know enough about the item in order to rate it. The innovations with the lowest response rates were:

- The Strategic Planning Process (46 or 63%);
- The ‘Request for Information’ (47 or 64%);
- The P-20 Parent Leaders Group (48 or 66%);
- The P-20 Campus Focus Groups (49 or 67%); and
- The Bell/Master Schedule (51 or 70%).

Additionally, because the survey was based on a 4-point scale, a standard deviation of .75 or lower was selected to establish a threshold for the item responses that had the most consistency. Innovations that had the most consistency or less variability in how all participants rated the item were:

- Partnerships/CWPT (.55);
- Seamless, aligned P-20 Campus System (.61);
- Choice Offerings linked to PWR (.63);
- The ‘Request for Information’ (.64);
The P-20 Campus Focus Groups (.69);
The P-20 Design Team (.71);
The P-20 Plans of Study (.72); and
Academic and Career Pathways (.73).

On the opposite end of the variations in respondents’ ratings, the innovation of the Music Programs had a standard deviation of 1.05. While the ‘Request for Information’ and the P-20 Campus Focus Groups had some of the highest consistency in the responses, they also were two of the innovations with the lowest response rates; therefore, less than 2/3 of the respondents felt they were not familiar enough with these items in order to rate them.

According to the results, 26 of the 37 innovations on the survey were rated with a mean of 3.0 and higher (the majority of participants rated these innovations as ‘innovative’ or ‘highly innovative’). Eleven innovations scored between 3.0 – 3.24; thirteen between 3.25 – 3.49; and two scored higher than 3.50. No innovations were rated higher than 3.63. Ranking the highest were:

- Partnerships/CWPT (3.63);
- Seamless, aligned P-20 Campus System (3.57);
- Academic and Career Pathways (3.43);
- World Languages (3.41); and
- Choice Offerings linked to PWR (3.40).

Each of these items also had a high or fairly high response rate out of the total number of 73 participants who completed the survey. Moreover, Partnerships/CWPT had the highest average of 3.63 and the most consistency in the responses with a standard
deviation of .55; and Seamless, Aligned P-20 Campus System with the second-highest average of 3.57 also had the second-highest indicator of consistency with a standard deviation of .61. Still more, the 5th-highest ranking innovation of Choice Offerings linked to PWR with an average of 3.40 had the third-highest indicator of consistency with a standard deviation of .61. Conversely, the innovation of the Bell/Master Schedule had the lowest mean of 1.96 and had a high variability in the responses with a standard deviation of .98.
Table 7

Survey Results Ranked by Mean Order – Innovation Item, Mean, Standard Deviation, and Count

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Rank</th>
<th>Innovation Name</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Count (% Responded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>1</td>
<td>Partnerships / CWPT</td>
<td>3.63</td>
<td>0.55</td>
<td>92</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>Seamless, aligned P-20 Campus System</td>
<td>3.57</td>
<td>0.61</td>
<td>93</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>Academic and Career Pathways</td>
<td>3.43</td>
<td>0.73</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>World Languages</td>
<td>3.41</td>
<td>0.80</td>
<td>97</td>
</tr>
<tr>
<td>27</td>
<td>5</td>
<td>Choice Offerings linked to PWR</td>
<td>3.40</td>
<td>0.63</td>
<td>89</td>
</tr>
<tr>
<td>17</td>
<td>6</td>
<td>The ‘Request for Information’ (RFI)</td>
<td>3.36</td>
<td>0.64</td>
<td>64</td>
</tr>
<tr>
<td>18</td>
<td>7</td>
<td>Introduction of New Instruction Technologies</td>
<td>3.36</td>
<td>0.78</td>
<td>90</td>
</tr>
<tr>
<td>15</td>
<td>8</td>
<td>P-20 Educational Experiences</td>
<td>3.36</td>
<td>0.76</td>
<td>99</td>
</tr>
<tr>
<td>19</td>
<td>9</td>
<td>Challenge Based Learning</td>
<td>3.34</td>
<td>0.79</td>
<td>85</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Actualizing Legislation</td>
<td>3.33</td>
<td>0.71</td>
<td>82</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>Plans of Study</td>
<td>3.32</td>
<td>0.72</td>
<td>93</td>
</tr>
<tr>
<td>29</td>
<td>12</td>
<td>P-20 Campus Leadership Model / Governance Structure</td>
<td>3.31</td>
<td>0.79</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>P-20 Curriculum and Coursework aligned around Access, Explore, Prepare toward PWR</td>
<td>3.30</td>
<td>0.85</td>
<td>95</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>Fluid Movement</td>
<td>3.30</td>
<td>0.80</td>
<td>92</td>
</tr>
<tr>
<td>7</td>
<td>15</td>
<td>Health and Wellness Programs</td>
<td>3.27</td>
<td>0.85</td>
<td>86</td>
</tr>
<tr>
<td>33</td>
<td>16</td>
<td>Pathway Branding Rationale</td>
<td>3.22</td>
<td>0.74</td>
<td>75</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>Hiring Practices</td>
<td>3.16</td>
<td>0.91</td>
<td>58</td>
</tr>
<tr>
<td>30</td>
<td>18</td>
<td>P-20 Campus Operational Leadership Team (OLT)</td>
<td>3.16</td>
<td>0.83</td>
<td>75</td>
</tr>
<tr>
<td>13</td>
<td>19</td>
<td>Use of Web 2.0 Tools</td>
<td>3.15</td>
<td>0.79</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>Physics First</td>
<td>3.10</td>
<td>0.94</td>
<td>84</td>
</tr>
<tr>
<td>24</td>
<td>21</td>
<td>P-20 Design Team</td>
<td>3.07</td>
<td>0.71</td>
<td>78</td>
</tr>
<tr>
<td>37</td>
<td>22</td>
<td>Use of Digital Signage</td>
<td>3.06</td>
<td>0.90</td>
<td>89</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>Online Portfolios</td>
<td>3.05</td>
<td>0.84</td>
<td>89</td>
</tr>
<tr>
<td>25</td>
<td>24</td>
<td>P-20 Campus Focus Groups</td>
<td>3.02</td>
<td>0.69</td>
<td>67</td>
</tr>
<tr>
<td>35</td>
<td>25</td>
<td>Pathway Planning Guide</td>
<td>3.02</td>
<td>0.80</td>
<td>73</td>
</tr>
<tr>
<td>36</td>
<td>26</td>
<td>‘Pathway Palooza’</td>
<td>3.02</td>
<td>0.82</td>
<td>81</td>
</tr>
<tr>
<td>6</td>
<td>27</td>
<td>Music Programs</td>
<td>2.98</td>
<td>1.05</td>
<td>79</td>
</tr>
<tr>
<td>26</td>
<td>28</td>
<td>P-20 Parent Leaders Group</td>
<td>2.94</td>
<td>0.84</td>
<td>66</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>Individual Career and Academic Plans (ICAPs)</td>
<td>2.92</td>
<td>0.89</td>
<td>89</td>
</tr>
<tr>
<td>8</td>
<td>30</td>
<td>Honors embedded into core curriculum</td>
<td>2.91</td>
<td>0.96</td>
<td>93</td>
</tr>
<tr>
<td>20</td>
<td>31</td>
<td>Strategic Planning Process</td>
<td>2.89</td>
<td>0.88</td>
<td>63</td>
</tr>
<tr>
<td>23</td>
<td>32</td>
<td>P-20 Advisory Committee</td>
<td>2.87</td>
<td>0.76</td>
<td>73</td>
</tr>
<tr>
<td>34</td>
<td>33</td>
<td>Pathway Booklets</td>
<td>2.85</td>
<td>0.92</td>
<td>82</td>
</tr>
<tr>
<td>32</td>
<td>34</td>
<td>Use of Instructional Spaces</td>
<td>2.76</td>
<td>0.91</td>
<td>86</td>
</tr>
<tr>
<td>21</td>
<td>35</td>
<td>Building Design</td>
<td>2.75</td>
<td>0.91</td>
<td>92</td>
</tr>
<tr>
<td>31</td>
<td>36</td>
<td>Professional Learning Structures</td>
<td>2.71</td>
<td>0.91</td>
<td>78</td>
</tr>
<tr>
<td>22</td>
<td>37</td>
<td>Bell / Master Schedule</td>
<td>1.96</td>
<td>0.98</td>
<td>70</td>
</tr>
</tbody>
</table>
Demographic data from the survey participants can be found in Appendix EE.

**Triangulation of Innovations**

This section serves to further illuminate this case study through the multiple sources of information derived and summarized from the review of documents, interview responses, and survey results spotlighting each innovation. The researcher’s interpretations as well as information resulting from the interviews narratives are provided to complement the details of the innovations. Table 8 lists the specific innovations that will be detailed within this portion of the analysis.

**Table 8**

*P-20 Educational Campus Product, Process, Organizational, and Marketing Innovations*

<table>
<thead>
<tr>
<th>Product Innovations</th>
<th>Process Innovations</th>
<th>Organizational Innovations</th>
<th>Marketing Innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</td>
<td>Seamless, Aligned P-20 Campus System</td>
<td>Bell / Master Schedule</td>
<td>Pathway Branding Rationale</td>
</tr>
<tr>
<td>P-20 Campus Plans of Study</td>
<td>P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR)</td>
<td>P-20 Campus System and its Communication Constituencies</td>
<td>P-20 Campus Brochures, Placards, and Posters</td>
</tr>
<tr>
<td>Individual Career and Academic Plans (ICAPs)</td>
<td>P-20 Plans of Study linked to Colorado Higher Education Admissions Requirements</td>
<td>P-20 Advisory Committee</td>
<td>Academic and Career Pathways booklets and online booklets</td>
</tr>
<tr>
<td>Online books</td>
<td>Use of Web 2.0 Tools</td>
<td>P-20 Campus Design Team</td>
<td>Pathway Planning Guide</td>
</tr>
<tr>
<td>Online portfolios</td>
<td>P-20 Campus instructional approaches</td>
<td>P-20 Campus Focus Groups</td>
<td>‘Pathway Palooza’</td>
</tr>
<tr>
<td>Physics First</td>
<td>Fluid Movement of Students</td>
<td>P-20 Campus Parent Leaders Group</td>
<td>Use of Digital Signage</td>
</tr>
<tr>
<td>Product Innovations</td>
<td>Process Innovations</td>
<td>Organizational Innovations</td>
<td>Marketing Innovations</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>---------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Music Programs</td>
<td>P-20 Campus student experiences</td>
<td>Choice, Postsecondary Options, and PW</td>
<td></td>
</tr>
<tr>
<td>Health and Wellness Programs</td>
<td>Hiring practices</td>
<td>Partnerships / Community Workforce Planning Team</td>
<td></td>
</tr>
<tr>
<td>‘Honors’ embedded into Core Academic Offerings</td>
<td>‘Request for Information’ proposal to potential higher education partners</td>
<td>Internal Pathways Planning Team (formerly Pathways Strategies, Design, and Research Group)</td>
<td></td>
</tr>
<tr>
<td>World Languages (Spanish and Mandarin) across all grades</td>
<td>Introduction of new instructional technologies</td>
<td>Pathways Advisory Committees</td>
<td></td>
</tr>
<tr>
<td>EPS Pathways Implementation and Evaluation Matrices</td>
<td>Challenge Based Learning</td>
<td>P-20 Campus Leadership Model or Governance Structure</td>
<td></td>
</tr>
<tr>
<td>Strategic Planning Process</td>
<td>P-20 Campus Culture Matrix aligned with Leadership Model</td>
<td>P-20 Campus Operational Leadership Team</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P-20 Campus Learning Labs and Student Achievement Learning Teams / Professional Learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of Instructional Spaces, Learning Commons and Flex Spaces</td>
<td></td>
</tr>
</tbody>
</table>

Each innovation in Table 8 is presented below first by the innovations that span two or more categories. They are highlighted together in order to provide a cohesive summary of the item as well as better alignment toward the story of the case study. Additionally, innovations with a similar focus across the categories are brought together to provide further coherence. Remaining innovations within each category are then presented. A detailed examination of the innovations is provided through a consistent summary template. Each summary template reveals the following components of the innovation: Description of innovation: Why it was classified as a particular type(s) of innovation; Impact of innovation around thematic interpretations; Innovative rating from survey; Why it is important; and Role it played in the development of the Campus.
Narratives from the interview responses are fused within the summary analysis of the innovations to support the essence of the innovation.

**Innovations spanning two or more categories and those with a similar focus.**

During the analysis, several documents contained more than one type of innovation. The documents that met these criteria are:

- Academic and Career Pathways (Product, Process, Organizational and Marketing).
- P-20 Curriculum and Coursework aligned around Access, Explore, Prepare toward PWR (Product and Process).
- Seamless, Aligned P-20 Campus System (Process, Organizational, and Marketing).
- P-20 Campus Plans of Study (Product and Process).

Each of these innovations are described, classified and analyzed. The analysis of the innovation includes impact, rationale for its innovation category(ies), survey rating, importance and role in the development of the Campus.

**Academic and Career Pathways (Product, Process, Organizational, and Marketing).** Description of innovation: Academic and Career Pathways are an integrated collection of programs and services intended to: develop students’ core academic, technical and employability skills; provide students with continuous education and training; and place students in high-demand, high-opportunity jobs. In addition to accumulating credits through standard courses and curriculum, students are able to earn industry certificates that show potential employers a student’s understanding or mastery of a specific program or process to provide them with continuous education and employability credentials in order to place them in high-demand and high-opportunity jobs.
jobs. All students have access to multiple experiences supporting their journey in discovering which path is best suited for them. Appendix E depicts the overall components that comprise Pathways and provides further description. Furthermore, pathways are aligned with the Colorado Community College Systems (2010a) Career and Technical Education definitions of access, exploration, and preparation. As part of the overall process of social, emotional, behavioral, and intellectual growth of all students, learning experiences within pathways provide embedded 21st century skills while developmentally allowing students to:

Access (P-5): Foundational academic core learning and exposure to broad categories of occupations in the career cluster system.

Explore (6-8): Extended learning opportunities to provide relevance and real work context and investigate careers with similar skills or common industry groupings.

Prepare (9-12): Extended learning opportunities to provide relevance and real work context; further examine career opportunities within the cluster; and arrange postsecondary learning for career specialties in specific occupations.

Pathways are also linked to the Colorado Career Cluster Model (Appendix K). This allows for “their program offerings to be connected to the college in high job growth areas so kids could find jobs they are interested in” (Interviewee ID 71).

Why it was classified as a particular type(s) of innovation: As a product innovation, Academic and Career Pathways offered specific coursework, curriculum, embedded industry certifications, and a variety of contextual learning experiences. “We decided if we are going to look like a 21st century school aligned with our vision and philosophy, and show that we are cutting-edge 21st century, then our product needs to
match that…business has been doing such cutting edge things for a while but school districts sometimes take time to catch up with all that stuff” (Interviewee ID 71). The Academic and Career Pathways are also a process innovation since they describe the delivery and the overall impact on student experiences – especially at the high school level because of the specific pathway elective courses (See Plans of Study in Appendices F, G, H, I). This process is characterized by the ability of students to make choices rather than be placed in programs and tracks. Marketing innovations spawned from the overall creation of the components and delivery of Pathways. Branding of Pathways and the way in which they are packaged and presented offer a variety of new promotional aspects.

Impact of innovation around thematic interpretations: The idea of pathways as a way of alignment by making connections within the overall educational system as well as with the workforce lies inside “considering the global economy and what might best prepare our students for it is a major component of our pathways [to create] a sense of preparing education with a purpose” (Interviewee ID 89). “We believe strongly that as kids make the connections of what they are doing in class with what their next steps are – from grade to grade to postsecondary, the connections will be relevant to them – then it’s more engaging for them” (Interviewee ID 25). “[Pathways are] the connection between what I consider the 3-legged stool – P-12 education, higher education and workforce development. Each of the career pathways is articulated not just to the postsecondary side, they are also articulated in terms of industry credentials or certifications that students are able to obtain based on their pathway and they are aligned with workforce development with what the labor department says locally, statewide, and nationally what the hot careers are” (Interviewee ID 71). Academic and Career Pathways also provide
students the opportunity to access multiple experiences supporting their journey. Moreover, students have the opportunity to enter and exit pathways at multiple points.

With an emphasis at the Campus’s philosophical level, 21st century learning is at its core. “The Campus really said, ‘Hey we’re here, we are 21st century, and we mean business” (Interviewee ID 71). Pathways are a critical component that fuels the engine of 21st century learning.

The sense of personalizing education by providing choices for students can also be found in that pathways “at the high school level or even at the middle school level really try to bring the real world into classrooms which allows students to experiment and try different things on without spending tons of money in college trying to figure that out later” (Interviewee ID 57) and “that there are multiple pathways and multiple paths so I might take a business course and realize it isn’t for me – therefore, I’m going to try Health Sciences. All of this is again fluid and flexible and a student is never stuck in a pathway” (Interviewee ID 89). A student can say “I’m going to be able to take all my core content and get even more specific outside my core content by looking through the lens of the profession – then I can think of pursing it as an undergraduate or a graduate student and later as a professional” (Interviewee ID 57).

The aspect of partnerships surrounds Pathways. “We’ve got four pathways as a district that we can develop with our partners from the community” (Interviewee ID 63). “They are creating the institutes that are unique to the Campus some of which are so new that the community college wasn’t teaching all the courses – and now guess what, they are going to teach the courses which challenges the partners to work differently with them” (Interviewee ID 72).
Innovative rating from survey: A mean of 3.43 / 4.00.

Why it is important: The concept of academic and career pathways is seen across all forms of innovation in the development of the P-20 Campus. EPS Academic and Career Pathways connect and coordinate the overall educational system from preschool through postsecondary experiences with economic development and demand and market-based considerations. A network of Pathways can be compared to a roadmap that provides students with clearly, articulated routes toward successful lives as adults.

Within the connection between education and economic development, partnerships are critical. Academic and Career Pathways are at the center of creating such meaningful partnerships. The advance of Pathways has impacting influence on leadership roles and decisions as well as creating organizational changes within district and P-20 Campus structures.

Role it played in the development of the Campus: The Campus is essentially built around the notion of ‘multiple academic and career pathways.’ “The P-20 Educational Campus continues to be an interesting phenomenon. It gave us the opportunity to build four distinct pathways that developed before [and within] the creation of the Campus” (Interviewee ID 63). Pathways are a foundational element to decisions made in the overall design of student experiences, coursework, and curricula. It is the Campus’s goal to expose students to a variety of academic and career opportunities in order to prepare them to make informed choices. Ultimately all students will be Postsecondary and Workforce Ready (PWR).

*EPS Pathways Implementation and Evaluation Matrices (Product).* Description of innovation: Each matrix is comprised of standards and indicators within each standard.
The elementary, K-8, and middle school standards for pathway implementation and evaluation are: Linkage; Articulation; Pathway Outcomes; School Culture; Coordinated and Consistent Communications and Marketing Plan for the Entire Pathway; Pathway Financial Stability; Pathway Program Stability; and Pathway Evaluation/Return on Investment. The high school matrix adds the following standards: Higher Education Articulation Agreements; and Student Enrollment and Selection Process. Each standard within the matrices has one or more indicators that further describe and define how to meet the standard. Each matrix also has a continuum in which to evaluate the level of completeness in meeting each indicator within the standards. The ratings are: Preparing, Progressing, Refining, Sustaining, and a column for documenting the evidence.

Why it was classified as a particular type(s) of innovation: The Pathways Implementation and Evaluation matrices provide improvements within the technical specifications and components of Pathways allowing for more user-friendliness as leaders across the district and on the Campus implement and maintain Pathways and Institutes.

Impact of innovation around thematic interpretations: Through the use of these matrices, this product innovation attempts to help link the existing EPS schools across the P-20 spectrum in providing relevancy and real-world connections throughout P-20 education. In the attempt to ensure alignment, the matrices offer agreement within the components of developing Pathways. Thus, alignment, connectivity, partnerships, and opportunities for students are all included in the use of this product.

Innovative rating from survey: Not applicable.

Why it is important: The matrices provide a way in which to make sure that there is coherence across the P-20 educational system, through ensuring that the
implementation and evaluation of pathway development is monitored and purposeful so that the vital components of Pathways are being addressed and nurtured.

Role it played in the development of the Campus: Initiated through its previous collaboration with an outside consultant, as a product innovation, EPS adopted and adapted matrices for elementary, K-8, middle, and high school levels in order to provide support, direction, guidance, and a means to implement and evaluate pathways across the district. The P-20 Educational Campus was instrumental in the creation of the matrices because of the very nature of providing multiple academic and career pathways within its campus system. The need arose to ensure that not only such innovation in developing Pathways for the Campus, but was also to make certain these efforts were taking place across the district. There was a simultaneous creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district.

**Internal Pathways Planning Team (Organizational).** Description of innovation:
The EPS Internal Pathway Planning Team (IPPT) is made up of members of directors from different divisions as well as members of the EPS Leadership Team and is charged with meeting monthly to:

1. Support the work of the Community Workforce Planning Team (including providing the Community Workforce Planning Team (CWPT) with analysis of needed personnel, training, materials, and resources required to develop pathways)

2. Coordinate and maintain existing academic and career pathways within the district (Health Sciences, STEM, P-20 Educational Campus)

3. Ensure ongoing and consistent communications for pathway development

4. Provide an analysis of the Community Workforce Plan that identifies available human and financial resources to support the five-year pathway development plan (cost analysis, deliverables and time line)
Why it was classified as a particular type(s) of innovation: Within the overall EPS organizational structure, the IPPT was newly created as an integral part of leading the internal efforts of the district in pathway development as well as external relations with postsecondary education, community, economic, and workforce development.

Impact of innovation around thematic interpretations: Through its essential leadership role within the district’s organizational structure, the IPPT is an important means for ensuring alignment and coherence of pathway development. This provides the mechanisms for connecting the district and Campus with postsecondary, community, economic, and workforce institutions. The IPPT is critical in its role as the link to guiding how partnerships disseminate in and throughout the district and P-20 Campus.

Innovative rating from survey: Not applicable.

Why it is important: As an integral leadership group within the EPS organizational structure, the IPPT serves as an agent for ensuring that the development of Pathways and Institutes across the district and on the P-20 Campus is equitable, sustainable, purposeful, and meets the standards set forth by linking education and the economy.

Role it played in the development of the Campus: The IPPT was formerly known as the Pathways Strategies, Design, and Research Group which, in some ways, came into existence because of the creation of the P-20 Campus while coordinating efforts within the district system. Again, the need arose to ensure that not only such innovation in developing Pathways for the Campus, but was also to make certain these efforts were taking place across the district. There was a simultaneous creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district.
Description of innovation: EPS realized that they had many gifts in their neighborhood such as: numerous small businesses, a major health science center and hospitals, key engineering and aerospace corporations, and institutions of higher education. During the 2009-10 school year, EPS contracted with a consulting firm to provide the initial direction around how the school district could effectively rally its partners in linking education and economic development. This required bringing industry, economic development, workforce development, higher education, and EPS together. EPS determined that aligning with partners and aligning the education is what is required to meet the needs of global competition and an ideal way to combat *The Colorado Paradox*. Essentially the district looked at community workforce development through the vehicle of education. It determined that a community’s competiveness in today’s global economy is dependent on one universal currency – talent. Through a collaborative effort between community stakeholders, industry, economic and workforce development, and higher education, EPS can leverage its strengths to grow talent and provide the human capital pipeline for the community to retain the its talent for economic strength and well-being. “The district is taking on this Community Workforce Planning Team which is looking at workforce planning and bringing together all of the stakeholders and talking about how the school district can be a leader in terms of bringing all those folks together” (Interviewee ID 89). In June, 2010, EPS invited members from the neighboring community, industry, workforce development, economic development, and higher education to form the Community Workforce Planning Team. The purpose, vision,
mission, and transformational goals of the CWPT can be reviewed in Appendices X and Y.

Why it was classified as a particular type(s) of innovation: Within the overall EPS organizational structure, the CWPT was newly created as an integral part of leading the internal efforts of the district in pathway development as well as external relations with postsecondary education, community, economic, and workforce development.

Impact of innovation around thematic interpretations: “With our Community Workforce Planning Team, we are going to develop a plan that will primarily be worked at the P-20 Campus but that plan – made up of the four groups of people that contribute from education including higher education, the Chamber of Commerce, the Eos Economic Development Council, from industry partners, and the state Department – those groups of people targeted to align academic and economic development to take on the Colorado Paradox…when we have that plan, we will be able to have a clear focus on how we can engage people in the future and on the P-20 Campus” (Interviewee ID 3).

In addition to partnerships, the CWPT provides both alignment and coherence within the overall system by ensuring that the different levels of education are linked to economic and workforce development.

Innovative rating from survey: A mean of 3.63 / 4.00.

Why it is important: “We can’t work in isolation; we have to talk to higher education institutions; we have to talk to industry about what are the trends – what are the needs that they see forthcoming; we have to examine the literature to say what is in terms of projected growth for certain industries. We have to ask what makes sense so we’re not preparing students for jobs that are not in demand” (Interviewee ID 89). The CWPT is an
important resource for ensuring alignment and coherence of pathway and partnership development. These provide the mechanisms for connecting the district and Campus with postsecondary, community, economic, and workforce institutions. The CWPT is critical in its role as the link to guiding how partnerships disseminate in and throughout the district and P-20 Campus.

Role it played in the development of the Campus: “I think partnerships will be fully developed at the P-20 Campus – community partnerships that accompany the pathways…from a community standpoint, it’s a more accessible kind of mentality and intellectually for people to say ‘ah, here’s how it works…here’s how my partnership with this campus will really be powerful” (Interviewee ID 25). Again, the need arose to ensure that not only such innovation in developing Pathways for the Campus, but was also to make certain these efforts were taking place across the district. There was a simultaneous creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district.

Pathways Advisory Committees (Organizational). Description of innovation:

Based on the recommendations and requirements from the Colorado Community College System’s Guidelines for Career and Technical Education Advisory Committees (2010b), EPS and the P-20 Campus are in the process of establishing these program advisory committees. These committees are a representative group of individuals whose experience and abilities represent a cross section of a particular occupational area. The primary purpose of the local program advisory committee is to assist educators in establishing, operating, and evaluating programs which serve the needs of students,
business and industry, and to provide expertise pertaining to technological change (Colorado Community College System, 2010b). Committees are needed:

1. to provide an opportunity for discussion among people in education, business
2. and industry
3. to focus on how to improve Career and Technical Education (CTE) and make
4. the most of the community resources that are available
5. to strive to improve the relationships between CTE, business and industry
6. to provide expertise to the program by reviewing curriculum, facilities, budget,
7. to reinforce student competencies, student placement in related occupations

The EPS Internal Pathway Planning Team (IPPT) set out details (Appendix CC) inviting CWPT members or others from the business, industry, and higher education communities to become a member of one of the Pathway Advisory Committees (PACs). PACs will ultimately help Eos Public Schools design, develop, implement and maintain academic and career pathways throughout the district.

The following Figure 8 depicts how the three groups – The Community Workforce Planning Team, The Internal Pathway Planning Team, and the Pathways Advisory Committees interact within this new organizational model.
Figure 8. Community workforce planning communication constituency groups
Furthermore, Figure 9 displays how the Community Workforce Planning Team, the Internal Pathways Planning Team, the Pathways Advisory Committees, the EPS Technical College and its Technical Advisory Committees interact within specific overarching lines of communication. In addition, Appendix DD provides details of the roles and responsibilities of each of the groups shown in Figure 9.

Figure 9. Pathway Advisory Committees Lines of Communication

Why it was classified as a particular type(s) of innovation: Within the overall EPS organizational structure, the Pathway Advisory Committees were newly created as an integral part of leading the internal efforts of the district in pathway development as well as external relations with postsecondary education, community, economic, and workforce development.
Impact of innovation around thematic interpretations: In addition to partnerships, the Pathway Advisory Committees provide both alignment and coherence within the overall system by ensuring that the different levels of education are linked to economic and workforce development.

Innovative rating from survey: not applicable.

Why it is important: Because schools and institutions that operate CTE programs receive state and federal funds, they are required by the Career and Technical Act to establish and operate Pathway Advisory Committees.

Role it played in the development of the Campus: Again, the need arose to ensure that not only such innovation in developing Pathways for the Campus, but was also to make certain these efforts were taking place across the district. There was a simultaneous creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district.

Pathway Branding Rationale (Marketing).

Description of innovation: As a marketing innovation, the branding of their academic and career pathways and institutes within them, the Eos Public Schools effectively aligned with Colorado’s Career Cluster model (Appendix K), in the following way:

1. Names of Pathways are coordinated to match as best as possible the name or a portion of the name of the career cluster. EPS currently offers: Arts and Communication; Business; Health Science; and STEM.

2. Arts and Communication, Business, Health Sciences, and STEM pathways are best matched to the supply and demand confirmed by the Consultant Group’s environmental scan and study. The district supports these four pathways as broad apertures based on the Colorado Career Cluster model.
Within these apertures, the district narrows its focus using Institutes that require fluidity and flexibility driven by market needs.

3. Institutes are coordinated to match the specific occupational grouping within a career cluster. Such initial institutes are: Visual and Design Arts; Diagnostic and Therapeutic Services; Engineering; Teaching; and Business Administration.

4. Each Institute is comprised of rigorous academic and career courses; a gateway course; industry certifications; postsecondary credit; and state standards.

Why it was classified as a particular type(s) of innovation: Branding of a product is a necessary part of promoting it. Pathways and institutes are essentially ‘packaged’ through this purposeful and specific branding and rationale strategy.

Impact of innovation around thematic interpretations: In the sense of alignment, the branding of Academic and Career Pathways is directly linked to the Colorado Career Clusters model. Partnerships with postsecondary institutions naturally develop through such specific alignment to the Colorado Community College system as a way of connecting the concurrent enrollment coursework from high school to postsecondary education.

Innovative rating from survey: A mean of 3.22 / 4.00.

Why it is important: By making sure that the branding of Pathways is linked to the Colorado Career Clusters model, EPS strategically blends the rationale for how educational experiences within Pathway and Institutes are branded with economic development and the Colorado Community College system.

Role it played in the development of the Campus: Again, the need arose to ensure that not only such innovation in developing Pathways for the Campus, but was also to
make certain these efforts were taking place across the district. There was a simultaneous creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district.

*P-20 Education and Pathways Websites (Marketing). Description of innovation:* On its main P-20 Education webpage, EPS offers links to Pathways; CAP4K; Forward Thinking; CTE; and PWR as well as providing answers to questions such as:

1. What is P-20 Education?
2. What is the goal of P-20?
3. What are P-20 Academic and Career Pathways?
4. Where are P-20 Academic and Career Pathways in the Eos Public Schools?

Under the Pathways tab, EPS displays the P-20 Educational Campus’s Pathways eBooks created through issuu.com. Within both the CAP4K and Forward Thinking tabs, online users can find information thoroughly explaining what they are and how they impact Colorado’s families and students. The CTE link on the website supplies background information on the Colorado Career Cluster Model. The PWR tab furnishes a complete Colorado Department of Education definition and descriptions of postsecondary and workforce readiness.

There is a wealth of information and video resources within the EPS Academic and Career Pathways website. Cleverly, the online user can click on each of the pathways and they are furnished with information on what the pathway is and the careers in that pathway. Video testimonials of students explaining their experience in the pathway are also available. EPS offers links to ‘Why Pathways?’ and ‘How do they
work?’ The CWPT tab takes you to all the background information on the Community Workforce Planning Team, its executive summary, and its 5-Year Plan and transformational goals. The Testimonials tab provides a variety of selections on student, staff, parents, and partner video testimonials. There are extensive resources under the Related Links tab and a host of questions can be answered within the FAQ link.

The P-20 Educational Campus also offers an internal website through Google Applications that provides easy accessibility while streamlining and synthesizing the professional learning opportunities for the Campus. There is a wealth of information surrounding the numerous professional learning activities staff has engaged in. Such links include: 21st century learning skills; CBL; Moodle; Google Docs, Domain, Calendar, and Email; and a host of additional resources. Additional links include: Assessment; Climate & Culture; Access/Explore/Prepare; Administrative Leadership Team Feedback; BEST Training; Bully Proofing; Equity and the Equity Toolkit; P-20 Campus Core Tenants; ILT/OLT; Instructional Rounds; OLT Feedback Form; School Improvement Plan (SIP); Backwards Planning; Learning Cube; Literacy Constructs; Learning Outcomes and Success Criteria; National Education Technology Standards (NETS); Orientation Trainings; Polycom; Prezi; PWR; Standards Based Grading; Video Library; Response to Intervention (RtI); Staff Handbook; Classroom & Office Assignments; Classroom Rituals and Routines;; Master Schedule; P-20 Campus Structures; Policy & Procedure; Roles & Responsibilities; and P-20 Campus Norms.

Why it was classified as a particular type(s) of innovation: EPS and the P-20 Educational Campus have launched a massive online marketing campaign heralding aspects of P-20 education, pathways, and numerous sources of information relating to
postsecondary and workforce readiness. This is an innovation in the way Pathways are promoted.

Impact of innovation around thematic interpretations: Through the nature of communicating about P-20 education and Academic and Career Pathways, EPS provides a way of making providing information on the connections between the overall district’s efforts surrounding P-20 education.

Innovative rating from survey: Not applicable.

Why it is important: Such prevailing communication of the importance of P-20 education and Pathway development affords the district a means to make public its leadership decisions within its Strategic Plan.

Role it played in the development of the Campus: An organic creation of this innovation for the development of the P-20 Campus Pathways and Pathways across the district happened simultaneously.

*Academic and Career Pathways booklets and online booklets (Marketing).*

Description of innovation: Marketing their pathways, the P-20 Educational Campus innovated upon its approach in the way in which it provided information of its pathways and institutes. The Academic and Career booklets were designed to engage students – from the graphics they include, to their language, to their size – all of it intentionally created to be used by students and catch their attention. Online versions of the booklets were created through the Web 2.0 tool issuu.com. The overall intent was to be sure that while providing students with valuable information relating to careers in Arts and Communication, Business, Health Sciences, and STEM-related fields, the booklets also portrayed that education can be progressive as well as informative.
Why it was classified as a particular type(s) of innovation: The booklets and online forms of the booklets were significant changes in the overall design and packaging of the product of Pathways.

Impact of innovation around thematic interpretations: The Pathway booklets provide an attractive and contemporary approach to appeal to students’ interest in choice and personalization of their educational experiences.

Innovative rating from survey: A mean of 2.85 / 4.00.

Why it is important: By appealing to students, the Pathway booklets are more suitable for students to access the information provided within them. The information makes connections between the choices they have within their Pathway experiences by providing relevancy toward specific career opportunities.

Role it played in the development of the Campus: As a means to advertise its multiple Academic and Career Pathways, the Campus needed to ensure that its students and parents were well informed of the foundational element of Pathways within the context of the P-20 Campus.

*Pathway Planning Guide (Marketing).* Description of innovation: The P-20 Campus made the decision to innovate this marketing resource by creating a Pathway Planning Guide designed around its multiple academic and career pathways, ICAPs and milestones, and how they are connected and interrelated. The size of the Guide was purposeful so that students could easily stick in their pockets or backpacks. The Campus decided that ‘less is more’ and paired down the information it contains to just what is essential for students and parents to know. The Pathway Planning Guide was also created electronically online through the Web 2.0 tool, issuu.com.
Why it was classified as a particular type(s) of innovation: The Pathway Planning Guide and online version were significant changes in the overall design and packaging of the product of Pathways.

Impact of innovation around thematic interpretations: The Pathway Planning Guide provides a user-friendly approach to appeal to students’ interest in choice and personalization of their educational experiences.

Innovative rating from survey: A mean of 3.02 / 4.00.

Why it is important: The traditional student high school planning guide has been large, cumbersome, dense, and in many ways not utilized by students and parents. It has been outdated. The Pathway Planning Guide is an important tool to inform students and parents about their choices toward high school coursework and postsecondary education as well as career preparation.

Role it played in the development of the Campus: As a means to advertise its multiple Academic and Career Pathways, the Campus needed to ensure that its students and parents were well informed of the foundational element of Pathways within the context of the P-20 Campus. “They changed the traditional high school program planning guide to be around pathways so parents and students are very clear about what a pathway experience looks like” (Interviewee ID 71).

‘Pathway Palooza’ (Marketing). Description of innovation: In their support of incoming 9th grade students onto the P-20 Campus, the P-20 Campus Leadership Team initiated an event affectionately called ‘Pathway Palooza.’ This marketing innovation was created to provide students with the information to make informed decisions around their Individual Career and Academic Plans (ICAPs) as they pertain to specific academic
and career pathways. This format also provided students and parents with the awareness of classes available for registration.

Why it was classified as a particular type(s) of innovation: The ‘Pathway Palooza’ was a new way of promoting Pathways and the unique nature of the P-20 Campus.

Impact of innovation around thematic interpretations: As a strong focus on highlighting the next step in a high school student’s life, postsecondary and career personnel were invited to participate in the ‘Palooza’ to make the connection to college and careers. ‘Pathway Palooza’ also provides students with the opportunities available to them as they make important decisions of what they will take during their high school years based on their ICAPs in order to become PWR.

Innovative rating from survey: A mean of 3.02 / 4.00.

Why it is important: The event provided the opportunity to showcase how education and careers come together as well as create a sense of community for incoming students within a P-20 educational system.

Role it played in the development of the Campus: It is the belief this fosters motivation about what is possible in a students’ futures and how to get involved with course selection linked to students’ ICAPs. “They branded the concept of ‘Pathway Palooza’ to kick off the concept of pathways and get a feel for how many students were interested in pathways so they could gauge their capacity ahead of time” (Interviewee ID 71).

\textit{P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR) (Product and}
Description of innovation: The EPS P-20 Educational Campus made certain to adhere to district curricula guidelines such as: using pacing guides and alignment to adopted curricular resources; being standards-based and having embedded P-12 standards and 21st century skills; being research-based; meeting the needs of all learners; and being innovative (not different for different sake). “From a curricular standpoint, we wanted to move away from the industrial era where rote memorization and completion of automated tasks without error are gone by providing alignment toward access for younger students, exploration for our middle level students, and preparation for the older students” (Interviewee ID 16). In addition to this, the Campus embedded features of providing students with experiences to access, explore, and prepare depending upon what is developmentally appropriate for their particular age group. Appendix M displays the list of ways the Campus complements the P-20 spectrum of curriculum and coursework. The Campus also determined how to provide support for teachers around the developmental stages of access, explore, and prepare through specific resources that will help students make real-life connections; vertical/horizontal planning; and an overall consciousness by asking, “How does your grade-level curriculum support what your kids have learned and/or experienced in the past, what they're learning and/or experienced this year, what they'll learn and experience next school year, and what they'll do for a profession?”

Why it was classified as a particular type(s) of innovation: The Campus made a conscious decision to innovate its product by embedding aspects of career development into its curriculum frameworks. As a process innovation, the P-20 Educational Campus expanded the Colorado Community College System’s definitions of access, explore, and prepare to connect them to postsecondary and workforce readiness (PWR). It asked,
“What does it mean for our elementary students to access, our middle school students to explore, and our high school students to prepare for PWR?” Appendix N presents the expanded definitions of access, explore, and prepare.

Impact of innovation around thematic interpretations: The themes of alignment and choice of and within the curriculum around access, exploration, and preparation toward postsecondary and workforce readiness (PWR) are present. “Because of what they want to do on the Campus has now pushed policy and regulations – like the Campus curriculum is pushing against some of the old paradigms in order to provide different experiences for kids across the system” (Interviewee ID 72). “It was innovative on their part to align the Campus on access, explore, and prepare stages – so the elementary part focuses on access to provide students opportunities to become aware of the world of possibilities in the terms of careers

Why it is important: Use of Colorado’s definition of Postsecondary and Workforce Readiness (PWR) adopted June 30, 2009, was also highly considered when designing the instructional experiences for students. According to the Colorado State Board of Education and the Colorado Commission on Higher Education, “Postsecondary and workforce readiness” describes the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy (Colorado Department of Education, 2010c). To be designated as postsecondary and workforce ready, secondary students shall demonstrate that content knowledge and learning and behavior skills have been achieved without the need for remedial instruction or training. This demonstration includes the completion of increasingly challenging, engaging, and coherent academic work and experiences, and
the achievement of proficiency shown by a body of evidence including postsecondary and workforce readiness assessments and other relevant materials that document a student’s postsecondary and workforce readiness (Colorado Department of Education, 2010c).

Role it played in the development of the Campus: Through its strong P-20 PWR focus to provide all students such opportunities, the Campus made sure to embed dual credit and offer concurrent enrollment so students earn college credit starting in 9th grade. Decisions surrounding curricula and coursework along with the experiences student must have in order to be postsecondary and workforce ready were central to initial stages of development of the Campus.

Postsecondary and Workforce Readiness (PWR) Goals for All Students (Product). Description of innovation: To complement the definition of PWR and students’ ICAPs, the P-20 Educational Campus established its own PWR goals (Appendix O) that all students should acquire. Such goals are embedded within daily campus life. In summary of these goals, all students will: build relationships with others to pose and solve problems collaboratively and cross-culturally; design and share information for global communities to meet a variety of purposes; manage, analyze and synthesize multiple streams of simultaneous information; create, critique, analyze, and evaluate multi-media texts; attend to the ethical responsibilities required by these complex environments; and develop proficiency with the tools of technology.

Why it was classified as a particular type(s) of innovation: The product essence of this innovation is demonstrated through an improvement to the technical specifications of postsecondary and workforce readiness.
Impact of innovation around thematic interpretations: These PWR goals are literacies that are multiple, dynamic, and malleable. This supports the flexible and fluid nature of the Campus. Keeping postsecondary and workforce readiness center within all contextual learning experiences for students, allows the Campus to remain rooted in 21st century learning.

Innovative rating from survey: Not applicable.

Why it is important: The PWR goals for students are critical in embedding aspects of postsecondary and workforce readiness into all aspects of the campus.

Role it played in the development of the Campus: By complementing the definition of PWR and students’ ICAPs, the PWR goals that all students should acquire are embedded within daily campus life.

Choice, Postsecondary Options, and PWR (Organizational). Description of innovation: The following portions of the 2015 Eos Strategic Plan describe the goals, objectives, and actions around its choice, postsecondary, and PWR endeavors:

Goal 3 – Increase choice offerings, access to postsecondary options and postsecondary/workforce readiness (PWR)

Obj. 1 – Implement multiple academic and career pathways in all schools

Action 1 – Provide all students access to one or more career pathways by 2015
Action 2 – Implement the P-20 Educational Campus with four academic and career pathways that develop students’ academic, technical and employability skills by 2012
Action 4 – Develop Community Workforce Plan to guide district-wide pathways development by August 2011

Obj. 2 – Expand choice options for students to stay engaged and excel in learning

Action 4 – Develop a plan to guide district-wide choice options by 2011
**Obj. 3** – Increase postsecondary options and workforce readiness of EPS graduates to support meaningful choices about their future education and careers

**Action 8** – Revise graduation requirements for the class of 2015 to include industry certificates based on career pathways where appropriate

Why it was classified as a particular type(s) of innovation: The overall organization continues to mobilize around the 2015 Eos Public Schools Strategic Plan.

Impact of innovation around thematic interpretations: “The way the P-20 Campus did this was to put it all together from the start so that the choice of courses is fully aligned right into the postsecondary and the path is very clear” (Interviewee ID 71).

Innovative rating from survey: A mean of 3.40 / 4.00.

Why it is important: Use of Colorado’s definition of Postsecondary and Workforce Readiness (PWR) adopted June 30, 2009, was also highly considered when designing the instructional experiences for students. According to the Colorado State Board of Education and the Colorado Commission on Higher Education, “Postsecondary and workforce readiness” describes the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy (Colorado Department of Education, 2010c). To be designated as postsecondary and workforce ready, secondary students shall demonstrate that content knowledge and learning and behavior skills have been achieved without the need for remedial instruction or training. This demonstration includes the completion of increasingly challenging, engaging, and coherent academic work and experiences, and the achievement of proficiency shown by a body of evidence including postsecondary and workforce readiness assessments and other relevant materials that document a
Role it played in the development of the Campus: Decisions surrounding curricula and coursework along with the experiences student must have in order to be postsecondary and workforce ready were central to initial stages of development of the Campus. “We want our students at a high school level to take a high school course and at the same time also get concurrent enrollment college credit…this will help bridge the path to student success in postsecondary” (Interviewee ID 57). “If students work hard they can finish or almost finish the entire AA by the time they leave high school” (Interviewee ID 71).

**Seamless, Aligned P-20 Campus System (Process, Organizational, and Marketing).** Description of innovation: By its very nature and inherent structure to purposefully and meaningfully align the educations system, “The P-20 concept that we have on this campus with preschoolers all the way through a P-8 building, then a high school building and into the future we hope to add a 3rd building which will be a satellite college…so in essence staff and students can go through a P-20 system all on one campus – all aligned with a common vision so much so that we have a common name, a common mascot” (Interviewee ID 57).

EPS’s former 2010 Strategic Plan, which also laid groundwork for the creation of the P-20 Campus, the district stated:

To prepare students for success in life from preschool to graduate school and/or work in the 21st century by identifying, in partnership with all stakeholders, system approaches that support, cultivate, and/or sustain a collaborative, seamless system of education.
Goal: Develop a shared plan that builds a statewide network for increased collaboration, information sharing and cooperation across all levels of education and business and industry by:

Objective 1 – Identifying the current capacity within the system.

Objective 2 – Identifying the knowledge, skills and dispositions needed for the 21st century and the learning activities that support the needs of the workforce and industry.

Objective 3 - Aligning high academic standards and teaching and learning practices for Pre-K -12 students with post-secondary education and with business and industry standards.

Objective 4 – Assessing the skills, knowledge and dispositions needed for success within the next level of education/work.

Specifically aligning itself with CDE’s *Forward Thinking*, EPS announced that the P-20 Educational Campus must:

1. not sort students according to their perceived probable destinies
2. help students achieve their dreams to become more than they initially thought they could be
3. promote high standards for all
4. maximize talent, not reinforce advantage
5. enhance performance and eliminate gaps
6. build capacity of our staff
7. provide choice so parents can match programs to the needs of their students
8. create partnerships
9. ensure that all children have quality instruction
10. continue to expect high standards and academic rigor
11. graduate college- and/or workforce-ready high school students
This also served to balance with Governor Ritter’s Colorado Promise 2006; to:
close achievement gaps in schools; double the number of degrees and certificates earned
by Colorado students; and cut the high school dropout rate in half. On August 24, 2009,
EPS broke ground on the P-20 Educational Campus. Hundreds of people attended, as
well as, Governor Ritter and a host of other political and economic leaders. August 24,
2009 was designated, by the State of Colorado Proclamation, as Eos Public Schools P-20
Campus Day. Appendix L displays the proclamation.

Why it was classified as a particular type(s) of innovation: As a process
innovation, an aligned P-20 Campus system must have seamless education preschool to
graduate school, multiple pathways to learning, small learning communities, and be a
district-wide resource for innovation, best practices and pathways. In planning for the
design, development, and implementation of the overall P-20 campus system, the goal
was to create innovations at this new campus. At the same time, EPS needed to ensure
integration and connections with other schools, sites and divisions within EPS as well as
with the Governor’s P-20 council, the overall community and higher education. This
made it essential that some forms of organizational innovation took place. To do this
required involvement and connections with multiple constituencies in order to ensure that
ownership for the campus is created and fostered so that there is a commitment to the
success of the P-20 campus. Appendix P displays the communication constituencies and
some ways in which EPS reorganized itself to accommodate the feedback in and between
these newly-formed groups in the development of the P-20 Educational Campus to ensure
the integrity of organizationally creating a P-20 Campus system. Additionally, EPS
began putting certain P-20 Campus sound bites together to complement its early marketing of the Campus:

Eos Public Schools is embarking on an exciting, innovative educational venture to ensure we meet the goals of the EPS Strategic Plan, the Governor's SB 212-CAP4K, and CDE's Forward Thinking by breaking ground in building a unique P-20 campus that will be comprised of a P-8, high school, and future university building!

P-20 education is a solid commitment to 21st century knowledge and skills through career pathways from pre-school through postsecondary and work force readiness all delivered and experienced within one campus system!

The P-20 campus will serve as a cutting edge model for innovation in public education, focused on instructional alignment of multiple, seamless pathways from pre-school through post-graduate, and supported by systemic partnerships in order to increase student achievement and close the achievement gap.

The P-20 campus system will fully integrate EPS's Portfolio of Choice within our district's existing system all on one campus so that students have to opportunity of accessing, exploring, concentrating on, and preparing for career and postsecondary experiences through pathways of their choice.

Impact of innovation around thematic interpretations: Such themes surround alignment and opportunities. “The Campus is pushing against traditional boxes by providing more seamless alignment” (Interviewee ID 72). “They have developed clear articulation from elementary to middle school, middle school to high school, and then the high school to the postsecondary side in terms of the articulation of programs – coursework that then articulates to the postsecondary side so they are able to create that path for kids more strategically and purposely. “We have to always consider the seamless alignment on the Campus to be sure that teachers and students can come together across the spectrum from preschool through high school” (Interviewee ID 57).

Alignment is directly linked to the Campus’s design based on being ‘one system.’ “They are not looking at the Campus as just a P-8, high school, or college – they are looking at
it as one component, one P-20 system” (Interviewee ID 72). “It is a P-20 concept and I don’t think that’s been done anywhere around the nation. I know there are P-8’s, and there are 6-12’s, are there are some P-12’s, but it’s the development of the whole postsecondary side that makes it truly innovative” (Interviewee ID 71). “We’ve built it as one unit…so we don’t advertise the Campus as separate entities, but as one complete P-20 unit” (Interviewee ID 3). The alignment and articulation around one campus system also provides opportunities. “Opportunities for kids is that most often they go to elementary school in one place; then they go to another school with all new students and teachers and systems; and then high school and again a whole other system that they have to navigate, and the interesting thing to me besides the benefit to the students is also the benefit to the teachers. There are opportunities for horizontal planning and vertical articulation….so teachers of all levels are coming together” (Interviewee ID 71). “The Campus system offers teachers and students a wide spectrum of opportunities – for example, teachers can teach across grade levels which break down certain barriers and allows for the system to be more seamless” (Interviewee ID 25).

Innovative rating from survey: A mean of 3.57 / 4.00.

Why it is important: “The P-20 Campus eliminates those transitions between what we know are the critical junctures” (Interviewee ID 71). Pertaining to the overall P20 Campus system, there are/were numerous ways in which EPS designed and redesigned its products, processes, and organization to market P-20 education, the P-20 Educational Campus, and Pathways to ensure the elimination of transitions. To begin with the present, the current P-20 Educational Campus vision statement is:
To ensure every student who enters the P-20 Educational Campus graduates with a high school diploma, college credits and/or degrees, industry credentials and certifications in order to be successful in postsecondary and workforce experiences.

The current P-20 Educational Campus philosophy statement is:

Education must be real-world and relevant, innovative and connected; where staff and students thrive with choice and responsibility; to cultivate creativity and invention.

These statements evolved over the time during the development and opening of the P-20 Campus. The original vision statement to market the original and temporarily-named ‘P-20 CAP4K Campus’ was:

To serve as a cutting edge model for innovation in public education, focused on instructional alignment of multiple, seamless pathways from pre-school through post-graduate, and supported by systemic partnerships in order to increase student achievement and close the achievement gap.

This statement served along with the initial P-20 Campus mission statement both of which created the first mental images of the P-20 Campus which was initially based on a coalition of the essence of SB 212 – CAP4K, CDE’s Forward Thinking, and the EPS Strategic Plan:

Successful engagement of EPS in P-20 Education is expected to result in the following outcomes:

1. Supported through a solid commitment to 21st century skills and career pathways, students who graduate with a disposition for “P-20 thinking” will have the ability to access numerous industry clusters within the working community.

2. EPS visibility as a “go to” organization across the state for P-20 issues by Colorado’s policymakers, school district leaders, and by some national leaders (foundations, think tanks, other academic institutions, etc.).

3. An increase in funding for P-20 projects conducted by EPS staff and especially an increase in inter- and multi-disciplinary research efforts, which will enable a more sustainable P-20 effort over time.
4. Improvement in educational issues that stem from equity and access problems within the P-20 system, helping to address the “Colorado Paradox” (Colorado has one of most highly educated pops, but consistently low in sending kids who grow up here to college).

5. A measurable increase in media awareness of EPS as an institution that leads P-20 education.

6. An impact on the quality of P-20 Education and its ability to transform the lives of those educated in this state and beyond.

7. An increase in business and community partnerships that support career pathways and community workforce needs.

Role it played in the development of the Campus: “From the get-go, we decided that this campus would be designed so that it followed as few of the traditional K-12 education structures as possible. We tried to hold ourselves accountable for doing business outside of that box” (Interviewee ID 63). It is the foundational and fundamental element that establishes the overall nature and essence of the P-20 Campus in which most decisions were made.

**P-20 Campus Plans of Study (Appendices F, G, H, I) (Product and Process).**

Description of innovation: The progression of the courses within each Plan of Study ensures that students will be PWR. A student’s Plan of Study may or may not be part of a specific academic and career pathway (Arts and Communication, Business, Health Sciences, and STEM). A student who is not in an academic and career pathway essentially creates a liberal arts path from the menu of course offerings. A student’s Individual Career and Academic Plan (ICAP) will help guide students in being sure they are reaching their individual educational and career goals through their Plan of Study.
Why it was classified as a particular type(s) of innovation: The product innovation of Plans of Study lies within the technical specifications and components of the curricula embedded in each plan. Within a process sense, the delivery of pathways – especially the elective courses – impact and create the overall the high school pathway experience.

Impact of innovation around thematic interpretations: By aligning with the Colorado Career & Technical Education (CTE), the Campus created its Plans of Study in its beliefs that every student should be on a path that leads to career success, through seamless plans of study fostering academic and technical achievement, to develop a globally competitive workforce for Colorado. The theme of student opportunities is found in, “Middle school students getting high school credit – it’s a fascinating conversation in this district and then what does that mean for graduation requirements and so on – and so this whole idea that the Campus really pushed on what a Plan of Study is going to look like for a student. They are going to be the early implementers of this” (Interviewee ID 72). “We aligned our pathway plans of study and graduation requirements with what are recommended for higher education because we believe that even if students don’t choose to go to college right away they might change their mind later – and they have to have a rigorous enough experience so they can get into the workforce” (Interviewee ID 89).

Innovative rating from survey: A mean of 3.32 / 4.00.

Why it is important: It is believed that we can no longer place some students on a college-preparatory track, but must provide opportunity for all students to enroll in rigorous curriculum. This means four years of grade-level English and mathematics; minimally three years of science courses with labs and social sciences; minimally two
years of a world language; as well as, career and technical courses throughout. Use of this model will enhance Colorado’s ability to grow a globally competitive workforce. As many courses for college credit as possible should be offered so students can graduate with both a high school diploma and an Associate in Arts degree.

Role it played in the development of the Campus: In the design of its Plans of Study for secondary-age students, the P-20 Educational Campus predetermined that all students must have access to classes that will enable them to be ready for college and careers. “Students have the opportunity of earning college credit starting in the 9th grade in their Plans of Study. The Plans of Study that the Campus worked on align right into postsecondary with a clear path” (Interviewee ID 71). In their initial design, the P-20 Campus Plans of Study deviated from the EPS graduation requirements. No longer could students be required to specific elective courses to provide them with general education electives such as Physical Education, Practical Arts, Technology, etc. In order to build specific coursework so students could earn college credit and industry certificates, a movement toward an elective ‘bucket’ had to be made. As another deviation from district graduation requirements, it was also decided that the delivery of required core academic courses must match the 2003 Admission Standards Policy modified minimum academic coursework requirements, otherwise known as the Colorado Higher Education Admission Requirements (CHEAR). This minimally requires students to take an additional year of a Math, an additional half-year in a Science, and two years of a World Language. The state requires that effective with applicants who graduate from high school in spring 2010 or later, in-state and out-of-state freshmen must meet the institution’s index standard and have completed the required pre-collegiate curriculum (if
applicable) to meet CCHE’s freshmen admission standards (Colorado Department of Higher Education, 2010):

Table 9

**CCHE Freshmen Admission Standards**

<table>
<thead>
<tr>
<th>Academic Area*</th>
<th>2008/2009 Graduates</th>
<th>2010+ Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4 years</td>
<td>4 years</td>
</tr>
<tr>
<td>Mathematics (Must include Algebra I, Geometry, Algebra II or equivalents)</td>
<td>3 years</td>
<td>4 years</td>
</tr>
<tr>
<td>Natural/Physical Sciences (two units must be lab-based)</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Social Sciences (at least one unit of U.S. or world history)</td>
<td>3 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>not required</td>
<td>1 year</td>
</tr>
<tr>
<td>Academic Electives</td>
<td>2 years</td>
<td>2 years</td>
</tr>
</tbody>
</table>

(Coloredado Commission on Higher Education (CCHE) Agenda Item II, E; July 10, 2008 Page 3 of 6 Action Item)

**Remaining product innovations.**

**Individual Career and Academic Plans (ICAPs).** Description of innovation: The Colorado State Board of Education requires all Colorado school districts to establish standards for Individual Career and Academic Plans (ICAPs) for all students. Legislation ordering the ICAPs is known as SB09-256. The intent of this law is to ultimately decrease dropout rates and increase graduation rates by assisting students in developing a personalized postsecondary path. An Individual Career and Academic Plan must be designed to assist a student and his or her parent or legal guardian in exploring the postsecondary career and educational opportunities available to the student, aligning course work and curriculum, applying to postsecondary education institutions, securing financial aid and ultimately entering the workforce. EPS also refers to its ICAP as the
‘Milestones’ students must complete at each grade level. The P-20 Educational Campus opened its doors with this policy and practice in place. Appendix J depicts the overall contents of the Eos ICAPs.

Why it was classified as a particular type(s) of innovation: ICAPs are a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness. As a tool to assist a student and his or her parent or legal guardian in exploring the postsecondary career and educational opportunities available to the student, aligning course work and curriculum, applying to postsecondary education institutions, securing financial aid and ultimately entering the workforce.

Impact of innovation around thematic interpretations: ICAPs are a means for harboring student choice and providing personalization of the student experiences while they help align students’ academic and contextual learning experiences to the college and careers.

Innovative rating from survey: A mean of 2.92 / 4.00.

Why it is important: The Eos Public Schools established that, beginning in the 6th grade, all students will have an ICAP that sets goals for the student based on academic and career interests and identifies required academic courses, electives, and contextual and service learning opportunities aligned to student’s postsecondary and career goals.

Role it played in the development of the Campus: “The Campus is going to be the early implementers with the legislation of Individual Career and Academic Plans and how they are connected with the pathways” (Interviewee ID 72) and “students’ electronic
portfolios go hand in hand with their ICAPs” (Interviewee ID 71) with the use of technology so students and teachers can monitor them” (Interviewee ID 57).

**Online Books (eBooks).** Description of innovation: As electronic publishing matures, research and academic libraries are beginning to supplement their print books with electronic publications.

Why it was classified as a particular type(s) of innovation: eBooks are a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: Choice and personalization are both prevalent within the selection of eBooks for students.

Innovative rating from survey: Not applicable.

Why it is important: Electronic books (eBooks) provide substantial advantages to all parties. Both parties benefit from 24/7 access, simultaneous user access, wider selection and immediate updates. The Campus benefits from other efficiencies such as lack of storage requirements reduced maintenance costs, greater security, reduced book loss/damage, better value-for-money for acquisition budged, easier cataloguing, enhanced collection/development planning and reduced staffing time for physical handling and processing of print books. Students and staff also benefit from availability, convenience, content freshness, and navigation and search capabilities. Users have increased functionality with eBooks such as multimedia additions, hyper linking, and searching within or among documents. In addition, eBooks can be referenced from home, the classroom or anywhere else which allows students to complete work from anywhere and at anytime. In terms of electronic textbooks, the Campus will reap the same benefits
while ensuring that students have the most up to date knowledge especially in the rapidly-changing science disciplines where books must be updated quickly and frequently.

Role it played in the development of the Campus: The P-20 Campus has chosen to supplement its print book selections in the learning commons area with electronic books.

**Online Portfolios.** Description of innovation: All P-20 Campus students will have an individualized online portfolio that is aligned/interfaced to/with students’ postsecondary and career goals in order to chronicle service and contextual learning, and progress toward showing what they know and are able to do.

Why it was classified as a particular type(s) of innovation: Online portfolios are a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: Alignment and coherence as well as a way of providing personalization for students are apparent in the impact this innovation has. “On the assessment side of things, they have talked a lot about and begun work on electronic portfolios as a body of evidence to collect not just summative assessments, but performance-based assessments as well. This provides a bigger picture of what a student can do and allows the student to really contribute to and choose what goes into the portfolio – this goes hand-in-hand with a student’s ICAP as well” (Interviewee ID 71).

Innovative rating from survey: A mean of 3.05 / 4.00.

Why it is important: It was established that the online or e-portfolio is essential to the student’s resume (more at the secondary level) and a way to monitor knowledge for K-6 students.
Role it played in the development of the Campus: The P-20 Campus decided to start small and allow the use of e-portfolios to grow in a grass roots manner. Online portfolios must provide students the ability to upload their own work and they need to be flexible depending on the audience.

**Physics First.** Description of innovation: Physics First can best be described in terms of the implementation of the physics-chemistry-biology sequence. The belief is that biology requires a foundation of both chemistry and physics, and chemistry requires a foundation of physics. By breaking away from the traditional sequencing of science, through this science sequence, the Campus also supports higher levels of math achievement as math is embedded in the Physics 9 course. Students are provided multiple opportunities to experience a practical application of their algebra and geometry content in their science courses.

Why it was classified as a particular type(s) of innovation: Physics First is a significantly improved curricular approach. Therefore, it is a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: In a global sense, Physics First can be seen as a refined means toward 21st century learning in that it provides a research-based approach to the sequencing of science curriculum. The 20th century approach to teaching science was haphazard in the sense that there was no specific rationale for the why certain science courses were taught in specific grades.

Innovative rating from survey: A mean of 3.10 / 4.00.
Why it is important: It is the principle idea that Physics provides the fundamental building blocks and dynamics that underlie the more complex structures that students will study in chemistry and biology. Another belief is that the Physics 9 course will introduce students more directly to the logic and practice of experimentation and scientific inquiry. Additionally, the Physics 9 course would extend introductory physics to all students, not just the more traditional mind-set of just the science-oriented or college-bound students.

Role it played in the development of the Campus: The EPS P-20 Educational Campus initiated a progressive science initiative titled Physics First. After a year of conversation with district science experts, higher education partners and through extensive research, the Campus made the decision to implement a physics-chemistry-biology sequence.

Music Programs. Description of innovation: Within the music portion of the arts, the Campus made the decision to offer guitar and keyboard in grades 3 – 5 in addition to the vocal, recorder, and percussion portions of the K-5 curriculum. This was done in order to prepare students throughout all grades on the Campus. Students should be involved in real musical experiences that include movement and an introduction to music software. In addition to band, strings, and vocal programs for grades 6 – 8, students also integrate guitar and keyboard into these programs, as well as, explore music software so they can begin to compose and arrange music and learn about music theory. 9th – 12th grade students begin to specialize. Guitar and keyboard are used by students to accompany vocal groups. Students build upon their own music and begin to use it across content areas. Music production and recording can become a focus for interested students. P-20 Campus music students develop their skills toward real-world applications.
of music. Small music ensembles such as jazz, rock, pop, mariachi, country are formed around students’ interests where they have the opportunity for greater responsibility for their part in the music. They also have greater opportunities to improvise and collaborate around music composition. Moreover, the traditional band does not exist at the upper grades. It is the P-20 Campus’s belief that concert bands are a closed system. Students must be engaged in real world music experiences. Therefore, students participate in the formation of a symphony orchestra as they progress with their musical talents. Symphony orchestras have existed for centuries in the real world and every musical instrument can be heard in a symphony orchestra.

Why it was classified as a particular type(s) of innovation: The music programs are a significantly improved curricular and curricular-sequencing approach. Therefore, it is a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: “Their music programs are even innovative…they wanted to go more the 21st century view of music with electronic equipment and instead of a marching band, they are going to have a symphony orchestra” (Interviewee ID 71). “Students have choice in pulling together small musical ensembles as opposed to just having to do orchestra or band” (Interviewee ID 89).

Innovative rating from survey: A mean of 2.98 / 4.00.

Why it is important: The P-20 Educational Campus believes that the arts sensitize us to our environment; deepen our reservoirs of awareness and expression; and make us more, more capable human beings. Students must be engaged in real world music experiences.
Role it played in the development of the Campus: Based on the belief that all students should be involved in real musical experiences that include movement and an introduction to music software, the P-20 Campus matched its decisions in what and how it offered music experiences to students to match the real world in order to provide relevancy.

**Health and Wellness Programs.** Description of innovation: The physical fitness program instills awareness and the importance of health choices. At the primary grades, students are provided with foundational physical fitness skills. In the secondary grades, students have choices based on those foundational skills in order to meet health and wellness requirements. K-5 students are enrolled in a P.E. class that follows the EPS pacing guide. Skills taught include fitness, rhythms, locomotor movements, body and special manipulatives. 6th –12th grade students will all be assigned a health and wellness trainer. 300 minutes of physical activity per week (P.E. class, athletics, clubs, play, etc.) is required. These minutes must be recorded in the students’ ICAP, a health and wellness journal must be updated, and a certified person must sign off (coordinator, coach, club sponsor, parent, outside agency, etc.). All students must take the Fitness Gram pre-assessment at the beginning of the year. For those who pass, they must meet requirements above. For those who do not pass, they must meet with their health and wellness trainer to go over feedback and next steps. After meeting with trainer, the student will take the assessment a 2nd time within a designated time period. If failed a second time, the student must enroll in a Physical Education class. Additionally, the Campus will partner with outside agencies to provide ongoing opportunities.
Why it was classified as a particular type(s) of innovation: The health and wellness programs are a significantly improved curricular and curricular-sequencing approach. Therefore, it is a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: The notion of choice and personalization as well as 21st century learning is heard in, “We’ve moved beyond traditional PE where our PE teachers are moving toward the role of being a personal trainer so they can be mentors to students and help them develop wellness plans based on their interests” (Interviewee ID 57).

Innovative rating from survey: A mean of 3.27 / 4.00.

Why it is important: The P-20 Campus believes that health and wellness are life-long goals and should be embedded across the curriculum. The physical fitness program instills awareness and the importance of health choices. “We find too many students who hate dressing out for PE and we have lots of students who do a lot of physical activities at home and on the weekend. If we give them hourly credit for such activities we begin to motivate them. You don’t have to go to a class everyday – and for many secondary students PE is a barrier to graduating because they don’t like to dress out, but they’ll go home and go swimming” (Interviewee ID 89).

Role it played in the development of the Campus: “This notion of PE in the real world, going back to our philosophy, is that as adults we have goals and set a plan. We work sometimes with a personal trainer or do our research on the Internet or download fitness and diet applications on our phones that help us with yoga or whatever depending on our goals” (Interviewee ID 89).
**Honors embedded in Core Curriculum.** Description of innovation: Every student should be given the opportunity for honors credit within specific courses. Differentiation for individual students will occur through instruction. Students who meet specific criteria within the course will receive honors credit. High school English, Math, Physics, Chemistry, Biology, Geography, Humanities, US History, and Civics will be differentiated so that students can receive honors credit. Honors criteria are woven into the content. This also determines whether students receive the weighted grade. The determination for honors credit will be granted by using a body of evidence. A body of evidence may include student portfolios, teacher recommendations, work samples, interim assessments, Colorado Student Assessment Program (CSAP) course assessment results, and performance based assessment results.

Why it was classified as a particular type(s) of innovation: Embedding honors in the core curriculum is a significantly improved curricular approach. Therefore, it is a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: “I think it’s extremely innovated that the Campus decided early on to provide equity in every student having access to honors courses by embedding honors into core classes” (Interviewee ID 71). “Why not give all kids access to honors and raise the rigor of what we’re doing in all classes” (Interviewee ID 16). Within these narratives, it is evident that embedding honors in the core curriculum provides students with choice and a way personalizing their educational endeavors.

Innovative rating from survey: A mean of 2.91 / 4.00.
Why it is important: The P-20 Campus emphasizes that ALL students are fully capable of obtaining honors credit. All students on the Campus are exposed to a rigorous learning experience. Honors coursework will greatly enrich and deepen student’s understandings in content areas and give an opportunity to apply new learning in innovative and inventive ways.

Role it played in the development of the Campus: “At the P-20 Campus, based on established criteria, standards, and teachers knowing what advanced performers are, every student can choose to receive an honors grade if they wish. Teachers let students know what students have to demonstrate and what level they have to perform in order to get the honors grade. The Campus started that from the very beginning which is easier than transforming a traditional high school schedule and instruction” (Interviewee ID 25).

World Languages (Spanish and Mandarin) Across All Grades. Description of innovation: The P-20 Educational Campus ascertains that in order to prepare students for the demands of an increasingly global economy, speaking a second language is as an essential 21stcentury skill. The Campus offers a Language Development (LD) block for all students enrolled K-7 on a daily basis. During the LD block students may elect to learn Spanish, Mandarin or Academic English if they are English Language Learners (ELLs). “It’s language development time for everyone in our building” (Interviewee ID 57).

Starting in 8thgrade students may or may not choose world language as one of their electives. The Campus has taken an approach in which 1 full-time Spanish and 1 full-time Mandarin teacher support World Language with general educators and the online Rosetta Stone software. The world language teachers lead planning for world language instruction for the whole school, provide direct instruction, pull small groups
and monitor student progress on *Rosetta Stone*. In addition, educators who are explicitly trained proved Academic English instruction for our English Language Learners. *Rosetta Stone* supports world language acquisition by recreating the environment in which language is acquired naturally, enabling learners at any age to achieve proficiency in a new language. Genuine immersion teaching methods with interactive digital technologies replicate the environment in which learners naturally acquire new language. Through learning strategies supported by extensive research, students are engaged in the learning process and predict linguistic meaning from visual and conceptual clues. Learner’s responses are elicited and *Rosetta Stone* provides instantaneous feedback, confirming comprehension has taken place. Students develop communicative and listening skills in Spanish or Mandarin.

Why it was classified as a particular type(s) of innovation: World languages across all grades levels is a significantly improved curricular and curricular-sequencing approach. Therefore, it is a product innovation in that they are significant improvements in technical specifications and components to enhance user-friendliness.

Impact of innovation around thematic interpretations: Choice and personalization as well as 21st century learning are best described by, “You have to the technological infrastructure to offer, for example, a web-based world language curriculum…so we are pushing the infrastructure and pushing what we believe kids should be involved in on a daily basis” (Interviewee ID 72). To do this, “they’re looking at a language block for everybody…language acquisition for everybody, not just English language acquisitions for some. If you’re an English speaker, you have a choice to take Spanish or Chinese –
and if you need to learn English, then you learn English during the same time.

Everybody in the school is learning a second language” (Interviewee ID 71).

Innovative rating from survey: A mean of 3.41 / 4.00.

Why it is important: “So one of the things that we’ve said to our community is when your child leaves the P-20 Campus as a graduating senior that they will have these different experiences through the pathways, the certificates, the college credits, but also your child will speak a second, or another language” (Interviewee ID 57).

Role it played in the development of the Campus: “We’re teaching world language from Kindergarten through 12th grade...and because we are using technology to help us teach it through a hybrid-sort-of-class, it frees up TE (Teacher Equivalency) allowing us to do things differently” (Interviewee ID 16). “It’s really hard to figure out how to leverage the resources to make this possible for the whole school and that’s something we’re really proud of” (Interviewee ID 89).

Remaining process innovations.

Actualizing Legislation. Description of innovation: How the Campus was designed around the specific legislation is best stated in an early sound bite that EPS publicized about the formation of the P-20 Campus:

“Eos Public Schools is embarking on an exciting, innovative educational venture to ensure we meet the goals of the EPS Strategic Plan, the Governor's SB 212-CAP4K, and CDE's Forward Thinking by breaking ground in building a unique P-20 campus that will be comprised of a P-8, high school, and future university building!”

Why it was classified as a particular type(s) of innovation: Bringing legislation to life requires improved delivery methods; therefore, within a production sense, the
development of the P-20 Campus based on actualizing legislation is a significant in
technique – thus, deeming it a process innovation.

Impact of innovation around thematic interpretations: “They are putting it
together in a unique and innovative way” (Interviewee ID 72) and based on the basic
need to align the overall educational system as well as provide more coherence to it,
provides the sense of one educational system.

Innovative rating from survey: A mean of 3.33 / 4.00.

Why it is important: “The concept of the P-20 Campus is in support of CAP4K by
the governor and also ‘Forward Thinking’ by the commissioner” (Interviewee ID 3) to do
so meet the needs of providing a P-20 aspect to education by bridging the gaps between
and within the overall system – as well as confront The Colorado Paradox.

Role it played in the development of the Campus: “The Campus actualized Senate
Bill 212 – CAP4K – legislation…for the first time requiring P-12 education to really talk
to higher education. They did this along with bringing to life pieces of the district’s
strategic plan and the work of the Governor’s P-20 Council…so aligning all those pieces
on the Campus is the bottom line” (Interviewee ID 89).

Use of Web 2.0 Tools and Platforms. Description of innovation: The P-20
Educational Campus has integrated technology into all aspects of the student’s instruction
and views technology as a fundamental tool for communication. The Campus
incorporates Web 2.0 technologies as a social web which consists of a number of online
tools and platforms where students can share their perspectives, opinions, thoughts and
experiences. Students are encouraged to participate in daily instruction through
podcasting, blogging, social networking, wikis, and a variety of other 21stcentury
applications. In addition to the student use, all staff is expected to know and use Web 2.0 technologies as part of their daily routine and for communication purposes. Some examples of such tools and platforms are Moodle; Ning; and Google Applications; Prezi; Glogster, Animoto; issuu.com; and Skype. Students and staff engage with these Web 2.0 technologies on a daily basis for instructional collaboration in forums, feedback, events and calendars, blogs and discussions, information repositories, resources, meeting agendas and minutes, and much more.

Why it was classified as a particular type(s) of innovation: The use of Web 2.0 tools involves a new or significantly improved production or delivery method – in this case how staff and students access information and engage in instruction and learning. Such technologies also include significant changes in techniques, equipment, and/or software.

Impact of innovation around thematic interpretations: Use of Web 2.0 technologies and tools provide both staff and students with access to practice 21st century skills while engaging the 21st century learner. “The use of Moodle and Google documents really provides different ways for us to collaborate and share with each other online” (Interviewee ID 71). “So right from the start when we hired staff, we tried to model using Web 2.0 tools that we would hope they would use with their students – such as blogging, or Animoto or Glogster. They actually got to engage in all those tools and to think about what it takes to prepare a 21st century learner” (Interviewee ID 89).

Innovative rating from survey: A mean of 3.15 / 4.00.

Why it is important: The use of Web 2.0 tools and platforms provides students and teachers immediate access to resources anytime, anywhere. The P-20 Campus made
the commitment that this is one method in how they operate professionally – that they can socially construct ideas, collaboratively, in-the-minute. Their use allows them to meld collective thinking while they share ideas that influence each other dynamically across space and time. Additionally, through social media technologies, meetings are held in the same room with greater efficiency and staff and students are able to provide each other with immediate feedback. They have the ability to poll each other, then disaggregate and manipulate data instantaneously. Their use provides participants to evaluate and synthesize data, promote higher-level thinking, and extend the learning.

Role it played in the development of the Campus: “We continue to push the limits of the technological infrastructure through our use of web-based applications which ultimately pushes up against the limit of what the district level can provide” (Interviewee ID 72).

**P-20 Educational Campus Instructional Approaches**. Description of innovation:

In addition to the host of EPS instructional expectations and constructs, the P-20 Campus made the decision to innovate its instructional approaches as a priority for teachers (Appendix Q).

Why it was classified as a particular type(s) of innovation: The use of P-20 Campus instructional approaches involve a new or significantly improved production or delivery method – in this case how staff and students engage in instruction and learning. This requires some significant changes in instructional techniques.

Impact of innovation around thematic interpretations: Such enhancement in instructional techniques requires that both staff and students undertake 21st century skills while engaging the 21st century learner.
Innovative rating from survey: Not applicable.

Why it is important: Additionally, the P-20 Campus asked, “How will we support teachers to embed critical thinking, problem solving, content, and innovation into existing best practices?” The list can be seen in Appendix R.

Role it played in the development of the Campus: The P-20 Campus declared, “It is believed that ultimately, the ‘what’ (content) of teaching will never change, the ‘how’ (process) is what we will have the opportunity to influence at the P-20 Campus. The ‘where’ and the ‘when’ (communicating, monitoring, planning, feedback, etc.) are going to look different at the P-20 campus as well.”

**Fluid Movement of Students.** Description of innovation: By its inherent innovative nature of having students from preschool through postsecondary experiences, the P-20 Campus put together guidelines for how staff will move students more fluidly across and within the system (Appendix S).

Why it was classified as a particular type(s) of innovation: Meeting students where they are requires a significant change in the production and delivery method of how classify and categorize students.

Impact of innovation around thematic interpretations: “The other piece to sorting kids is in the systemic boxes that kids are in. Grade levels are a construct made by people and really has nothing to do with what kids know and are to do other than it keeps things neat and clean and organized. We have to consider this idea of fluid movement and having classes that meet students’ needs at their area of competency not their grade level just so we can match the box that we’ve created for the kids” (Interviewee ID 16). Alignment, coherence, connections, opportunities, and choice encompass this innovation.
Innovative rating from survey: A mean of 3.30 / 4.00.

Why it is important: “Forever in education we’ve defined student grade levels by age and never taking into account the emotional or academic level of students so that’s another innovation – in that, we wanted kids to be able to fluidly move and not just be tied to grade-level boxes…well, that’s very nice in theory, but before you move students you need to think about the implications and be sure teachers have a common understanding of what it means to recommend student to move ahead” (Interviewee ID 89).

Role it played in the development of the Campus: “The P-20 Campus curriculum and instruction, etc. are pushing against some of those old paradigms. Students not being locked into boxes as in the idea of seat time is another way that it’s pushing on the system in how we evaluate them and how they can move on to where they need to be at anytime based on their learning needs” (Interviewee ID 72).

**P-20 Campus Student Experiences.** Description of innovation: Experiences on the P-20 campus will be the same as all EPS students in that the educational experiences will be inquiry-based for all content areas. However, experiences on the P-20 campus will be the different in that:

1. students will self monitor learning
2. they will be varied
3. they will be systemic and strategic
4. they will build students resumes
5. they will be 24/7/365
6. they will be across time zones and in real time
7. Technology will be used to enhance and provide multiple experiences

Student experiences on the P-20 Campus are further defined in Appendix T.

Why it was classified as a particular type(s) of innovation: By describing the kinds of experiences students should have on the P-20 Campus, a new or significantly improved production or delivery method is created.

Impact of innovation around thematic interpretations: Linked to 21st century learning, students have increased opportunities and choice in what they experience on a daily basis.

Innovative rating from survey: A mean of 3.36 / 4.00.

Why it is important: Through the descriptions of the kinds of experiences students should have on the P-20 Campus, real world applications and relevancy to learning are provided.

Role it played in the development of the Campus: “When we designed the campus we started with students in mind at first and determined what kind of experiences we wanted students to have over just thinking so programatically – really thinking through the students’ lens in the 21st century” (Interviewee ID 16).

**Hiring Practices.** Description of innovation: Hiring teachers is done strategically on the P-20 Campus. For example, at the secondary level, having a master’s degree in the content (or accumulation of required credit hours in the content) is highly preferred (and when necessary a time line for specific completion of that master’s or accumulation of hours will be expected) in order for teachers to be considered for adjunct faculty status. Additionally, seeking teaching staff with CTE licensure and industry experience is also necessary.
In the hiring of staff for the P-20 Campus, an innovative 3-tiered hiring process is utilized to ensure personnel encompasses the values, skill, and will to transform education for the 21st Century. “They went through a three-tiered process to really look beyond people who may just look good on paper” (Interviewee ID 71). Each tier addresses specific components of the Campus’s vision and philosophy:

Tier 1: Group challenge

Potential candidates from multiple disciplines are placed in a room and given a challenge: What should a day in the life of a student on the P-20 Campus look like? Candidates are given a laptop, many artsy resources, and 30 minutes to provide an answer to the challenge. Each team member must contribute to the presentation. Teleconferencing technology is used to monitor the groups from a secondary location which enables the interviewers to notice and name strengths & issues as they arise in the teams work session.

Tier 2: Formal Interview

This emulates the traditional interview format, but the questions are intentionally designed to address the Campus’s core tenets.

Tier 3: Demonstration Lesson

Hiring instructional staff can’t just take place ‘around a table’. Given 80% of a teachers work day is in front of children, it is essential to assess a teacher’s ability to isolate a specific teaching point, plan for the learners using data, provide the necessary supports and rigor, and carry through on that objective. Teachers are asked to engage in a 20- minute lesson with some planning support provided by the host classroom teacher. If there is uncertainty to whether a candidate is the right fit stemming from Tier 1 and 2, Tier 3 completely helps with this.

Why it was classified as a particular type(s) of innovation: Significant changes in the production method in the process of hiring staff were accomplished – as well as changes in the hiring techniques were made.

Impact of innovation around thematic interpretations: Through intentional leadership decisions and actions, “We put all of our staff members through a really
rigorous process that was sort of two- or three -pronged in a sense that they came in for the traditional oral interview, but either we went and saw them teach or they sent us video because we really felt that we couldn’t hire someone around the table and we really wanted to see them teach because is what we were hiring them for” (Interviewee ID 89).

Innovative rating from survey: A mean of 3.16 / 4.00.

Why it is important: Innovation in hiring practices is defined through qualifications needed by personnel and the process developed in hiring them. “We decided to look at what are they going to be asked to do, what do we value most, and then design a process based on our core values and based on that objective.” (Interviewee ID 16).

Role it played in the development of the Campus: “Teachers have to be able to work in the career and technical education system and be an adjunct professor in the community college system and be able to teach secondary students 9-12th grade” (Interviewee ID 72). “Teachers need to be CDE licensed as well as have a CTE credential and a Masters in the content area so they have the ability to be adjunct faculty status for the postsecondary side and then highly qualified of course in their content” (Interviewee ID 71). “All we did was say we are going to make it an expectation that if a secondary teacher does not already have a master’s degree in their content area, then they’ll agree to get it” (Interviewee ID 16).

‘Request for Information’ Proposal to Potential Higher Education Partners.

Description of innovation: The goal of the Request for Information (RFI) proposal to Colorado higher education institutions was to solicit how the institutions would offer high quality postsecondary education opportunities for students, EPS staff and others on the P-
20 Campus. Each institution was asked to address key elements within their proposal to
EPS (Appendix U).

Why it was classified as a particular type(s) of innovation: In the sense of a
production and delivery methods along with significant changes in the techniques of
establishing postsecondary partners, this innovation also was critical in helping to align
and provide more coherence between the P-12 and postsecondary levels of education.

Impact of innovation around thematic interpretations: The outcome of the
proposal was to confirm a partnership with institutions of higher education.

Innovative rating from survey: A mean of 3.36 / 4.00.

Why it is important: The goal of establishing partnerships was to support a
variety of postsecondary programs and academic and career pathways for high school
students and professional advancement opportunities for EPS administrators and teachers
that include a master’s program and principal licensure to be housed at the P-20
Educational Campus in Colorado.

Role it played in the development of the Campus: This RFI was the first time
EPS engaged such an endeavor to engage in partnerships with postsecondary institutions
for the P-20 Campus.

**Introduction of New Instructional Technologies.** Description of innovation: In
order to make the best decisions on which instructional technologies to provide staff and
students, the P-20 Campus built a framework around its vision and philosophy on which
to base decisions. This innovative framework can be reviewed in Appendix V.
Moreover, the Campus is committed to providing a 21stcentury education to all students
which is evidenced by the allocation of resources for one-one computing. Although the
Campus does not currently provide a netbook for every student; it remains a top priority for future expansion and growth. It is the belief that students need access to 21st century tools, platforms and computers in order to fulfill our commitment to ensure that students are prepared for a 21st century workplace. Additionally, staff and students have access to a large, stationary Polycom unit and a small, mobile Polycom unit to engage in highly-advanced video teleconferencing.

Why it was classified as a particular type(s) of innovation: The use of new instructional technologies involves a new or significantly improved production or delivery method – in this case how staff and students access information and engage in instruction and learning. Such technologies also include significant changes in techniques, equipment, and/or software.

Impact of innovation around thematic interpretations: Use of new instructional technologies and tools provide both staff and students with access to practice 21st century skills while engaging the 21st century learner. “By taking into account the needs of the Digital Generation, we had to determine how we integrate technology…we had to push against the technology infrastructure in terms of being innovative; so if part of conducting 21st century learning is integrating technology as part of what we do on a daily basis, we have to have the infrastructure to do that” (Interviewee ID 72). All of this requires “a leadership development area for technology…so as we are working with industry to be able to bring the latest leading-edge technology that is proven and can work, into this campus-microcosm to see how it could be applied to the rest of the school district” (Interviewee ID 3).

Innovative rating from survey: A mean of 3.36 / 4.00.
Why it is important: “There’s a really heavy emphasis on 21\textsuperscript{st} century learning on the Campus and the use of technology was purposeful and strategic…it wasn’t for the sake of using technology for technology sake, it was about using it for instruction and strategically using that technology for instructional purposes” (Interviewee ID 71 “We started out with really looking at 21\textsuperscript{st} century skills – to create, to invent, to collaborate, to research effectively, and so on then looked at how technology could complement these” (Interviewee ID 16). “We’re really using instructional technologies to engage students, to push them to the next level, to bring the outside world into our building and not necessarily having to always take students off-campus to do so” (Interviewee ID 89).

Role it played in the development of the Campus: “We’re able to deliver pathways in a manner that is state of the art to some because of the video teleconferencing capacity that we are going to have for kids…where they might be in a pathway and might want to talk to students who are working on a market-based project in another country” (Interviewee ID 63). “We have student portfolios and digital signage, video conferencing screens – where students can interact with medical professionals or doctors while they’re sitting in class and really see what’s going on during a surgery or see what’s going on in a hospital or work with an engineer” (Interviewee ID 57).

Challenge Based Learning. Description of innovation: Challenge based learning (CBL) is a constructivist student-centered instructional strategy in which students collaboratively solve problems and reflect on their experiences. The learning is driven by challenging, open-ended, ill-defined and ill-structured problems, challenges, and/or scenarios. Students generally work in collaborative groups and teachers take on the role as "facilitators" of learning. The CBL framework consists of the Big Idea: Essential
Questions; A Challenge; Guiding Questions, Activities, and Resources; Solutions and Actions; Assessment; and Publishing.

Why it was classified as a particular type(s) of innovation: By offering these kinds of contextual, relevant, and real world experiences for students on the P-20 Campus, a new or significantly improved production or delivery method is created.

Impact of innovation around thematic interpretations: CBL positions students in simulated real-world working and professional contexts which allows them to see how their learning in content areas is relevant and of sound purpose. CBL provides a focus on authentic connections with universal challenges and local solutions, an opportunity to develop 21st century skills, and the use of Web 2.0 tools for organizing, collaborating, and publishing. “This is a way we could personalize the work for students” (Interviewee ID 16). “Students can come together in different content areas to work on a challenge – a real world challenge that’s being developed so students see the connection between their classes” (Interviewee ID 57).

Innovative rating from survey: A mean of 3.34 / 4.00.

Why it is important: CBL engages teachers and students in a multidisciplinary approach to teaching and learning and encourages the use of technology to solve real-world problems.

Role it played in the development of the Campus: “They took project-based learning, challenge-based learning, and problem-based learning and synthesized these to become P-20 Campus-based learning to bring relevancy in the classroom…then they really focused on 21st century skills and postsecondary workforce readiness, so that
students are thinking, evaluating, synthesizing, creating in their form of challenge based learning” (Interviewee ID 72).

**Strategic Planning Process.** Description of innovation: The P-20 Campus delivers its overall planning through a unique form of strategic planning designed by Robert Fritz for business called structural tension charting (Fritz, 1999) which is seen in Figure 10. It starts by generating a professional objective (desired state/what we want). A look at current reality as it relates to this vision (your strengths, stretches, resources, etc) is performed next. The tension created between the current reality and the desired state provides the opportunity to develop action steps that allows movement closer to the objectives. A list of the person or persons who support the actions and a completion date are then determined. Acting upon what is stated in the strategic plan is critical; however, when the actions are too lofty or unattainable, action generally does not occur.

Why it was classified as a particular type(s) of innovation: Significant changes in the production method in the process of strategically planning were accomplished – as well as changes in the strategic planning techniques were made.

Impact of innovation around thematic interpretations: This process empowers the Campus to have a laser like focus on its vision and at the same time the actions are directly correlated with its current reality. It is the belief that writing of strategic plans can often become static and monolithic – that by having the proximity of being closer to the vision, not just the tasks, the strategic plan becomes more open, dynamic, centered, and doable. This fosters alignment and coherence of goals toward actions.

Innovative rating from survey: A mean of 2.89 / 4.00.
Why it is important: The vision becomes clearer and more measureable by being honest and open in establishing the current reality. The structural tension charting allows people to hone in on the key facets, demands responsibility for actions, prioritizes the work, and establishes agency. Ultimately, staff is able to get to the minutia of tasks while keeping the big picture in mind. This process used by the P-20 Campus is depicted in Figure 10.

Role it played in the development of the Campus: “In planning for the campus we really developed a strategic plan that we have been following and trying to implement so it’s not hap-hazard and there are not all these different things happening that we are not aware of so we are really able to go going back to that strategic planning…always focused on the end in mind (our vision and philosophy), then look at where are we now and what are the means that will get us there and then, what are the steps or actions that make all of the pieces fall into place” (Interviewee ID 89).

(Fritz, 1999; p. 36)

*Figure 10. Structural tension charting*
Remaining organizational innovations.

**Building Design.** Description of innovation: “This is the first LEED-certified (Leadership in Energy & Environmental Design – from the United States Green Building Council) building in our district and its design is 21\textsuperscript{st} century” (Interviewee ID 63).

Why it was classified as a particular type(s) of innovation: The way the building is designed dictates the overall organization of the learning and work.

Impact of innovation around thematic interpretations: 21\textsuperscript{st} century learning can be heard in, “Sending a message about how you care about the environment with your building was also big innovation. A lot of the stuff we have around here is recycled materials – and we have the skylights in the ceiling which light the whole upstairs floor. Our monitor in the lobby isn’t there to be flashy, it’s a tool that kids can look at and see how much energy we’ve been using on a daily basis. We can use it as an instructional tool so kids can see what they do has an impact on the environment around them” (Interviewee ID 16).

Innovative rating from survey: A mean of 2.75 / 4.00.

Why it is important: A sense of flow, flexibility, community, and less boundaries between all age groups is apparent throughout the building.

Role it played in the development of the Campus: “The way the building is laid out, it has created small learning communities for us…so math, science, literacy, humanities, are all next to each other in their own learning lab. All the doors are connected” (Interviewee ID 71).

**Bell / Master Schedule.** Description of innovation: “We have the flexibility in the master schedule that allows for a student to move to an appropriate classroom if they
need additional support or challenges because everyone on our campus is on the same bell schedule” (Interviewee ID 57).

Why it was classified as a particular type(s) of innovation: A new way of organizing the practices and movement of staff students as well as a new way of organizing the school day are seen in this innovation.

Impact of innovation around thematic interpretations: Alignment and connections are provided through looking at the overall school system as a community, not separate schools.

Innovative rating from survey: A mean of 1.96 / 4.00.

Why it is important: Traditionally, teachers across the various levels of elementary, K-8, middle school, and high school have different amount of contact times with students and different amounts of plan time. The bell/master schedule provided equity across these different groups of teachers.

Role it played in the development of the Campus: “The Campus schedule has been innovative in that it isn’t the schedule of an elementary school, it isn’t the schedule of a K-8, it isn’t the schedule of a high school – it’s a schedule that works to ensure that staff members who come to work on this campus are able to move from one grade level with one group of students to another without being hindered by schedules that aren’t created in unison” (Interviewee ID 63).

**P-20 Advisory Committee.** Description of innovation: The newly-established P-20 Educational Campus Advisory Committee was formed to advise the P-20 Design Team and was charged with the following in the development of the P-20 Campus:
1. Ensure fidelity to the vision for the P-20 Campus to support educational excellence and student achievement by fostering and supporting innovation, providing seamless education preschool through post-secondary, and strengthening post-high school and workforce readiness opportunities for students.

2. Identify and help build effective, collaborative partnerships in order to forge bonds with CDE, Governor's P-20 Council, professional networks, foundations, non-profits, higher education, Eos community/business leaders, elected officials and parents.

3. Coordinate work with recommendations from Governor's P-20 Council.

4. Provide periodic updates to the EPS Board of Education.

Why it was classified as a particular type(s) of innovation: The P-20 Advisory Committee created a significantly new organizational method and had a deep impact on the organizational practices – as well as a new way of working with external relations.

Impact of innovation around thematic interpretations: “They really have built it from the inside out with the help of community partners” (Interviewee ID 72).

Innovative rating from survey: A mean of 2.87 / 4.00.

Why it is important: “The Advisory Committee which was comprised then of some folks from higher education, from industry, from local businesses, from the community, and some district folks…that was the group saying this is what the Design Team is proposing and then asked the Advisory group what do they see from their lens or from the bigger picture or larger community level…so we got great feedback from them about what they were seeing in terms of trends at the higher education level or at an industry level or a business level or the community. We were not working in isolation in designing the Campus which was an innovation because of bringing all those people to the table and getting all their best thinking and really capturing it” (Interviewee ID 89).
Role it played in the development of the Campus: The P-20 Advisory Committee ensured fidelity to the vision for the P-20 Campus to support educational excellence and student achievement from preschool through postsecondary experiences.

**P-20 Campus Design Team.** Description of innovation: The newly-established P-20 Campus Design Team was very instrumental of the creation of the P-20 Educational Campus and was charged with the following:

1. Ensure there is a seamless continuum of instructional alignment preschool through post-secondary.
2. Provide multiple pathways for student engagement and success that support post-secondary and workforce readiness.
3. Identify curriculum and instruction aligned with the expectations of CAP4K and HSDIC Task Force.
4. Align with 2010 goals to maximize resources and coordinate with the Division of Instruction.
5. Develop small learning communities.
7. Encourage innovation as well as established best practices.
8. Provide on-going progress reports to the P-20 Advisory Council and the District Leadership Team.

In order to take on the large amount of work in designing the EPS P-20 Educational Campus, the Design Team prioritized its actions (Appendix W). Furthermore, Figure 11 displays how each of these groups within the organization coexisted.

Why it was classified as a particular type(s) of innovation: The P-20 Design Team created a significantly new organizational method and had a deep impact on the EOS internal organizational practices in the creation of the P-20 Campus.
Impact of innovation around thematic interpretations: “In designing the P-20 Campus, there were intentional action plans, committees, parent input, a design team…and from the beginning the Design Team stayed focused on what is going to make this campus 21st century learning” (Interviewee ID 72). Providing alignment and coherence, opportunities, and leadership were all critical for this group.

Innovative rating from survey: A mean of 3.07 / 4.00.

Why it is important: “The Design Team and worked with various groups throughout the state in this design to determine the career clusters, what are the trends in Colorado where businesses and people are going to be looking for employees 5 years from now, 10 years from now, 20 years from now…so the Design Team as well as district personnel made sure that we are on the cutting edge” (Interviewee ID 57).

Role it played in the development of the Campus: “We had a lot of people involved in the design of this campus so the design really took everybody’s best thinking” (Interviewee ID 89).
Figure 11. Coexistence of Critical P-20 Campus Groups

**P-20 Campus Focus Groups.** Description of innovation: The P-20 Campus Teacher Focus Groups: Over the course of several months, the P-20 Campus Leadership Team conducted a series of Focus Groups in order to gather teacher feedback on aspects inherent to an aligned P-20 educational system. The team organized small groups of teachers pertaining to specific topics such as how to provide students access to pathways at the elementary level; feedback on the music programs; and feedback on the health and wellness programs.

Why it was classified as a particular type(s) of innovation: The P-20 Focus Groups created a new organizational method and was effective in gathering information,
establishing relevancy within decisions being made about organizational practices – as well as a new way of working with external relations.

Impact of innovation around thematic interpretations: Connecting with others was key to gathering feedback to put back into the system of creating the Campus.

Innovative rating from survey: A mean of 3.02 / 4.00.

Why it is important: Collaborating with others across the district helped to build relationships with others not involved in the development of the Campus as well as empowering folks to provide input – ultimately making the Campus more public and less isolated to the rest of the district.

Role it played in the development of the Campus: “We worked with focus groups which were other groups that were involved. They were groups of teachers and other staff members in the district that helped us define things such as what does access at the elementary level look like – as well as provided us with input” (Interviewee ID 89).

**P-20 Campus Parent Leaders Group.** Description of innovation: As the P-20 Educational Campus leadership team members materialized, they soon set out on conducting numerous meetings with the surrounding neighborhoods, the different communities, and specifically formed and P-20 Parent Leader Group. Outside of the traditional ways of working with parents, the group met monthly to:

1. Understand and support the P-20 Educational Campus vision and philosophy
2. Organize parent initiatives to support students in developing innovation skills; critical-thinking and problem-solving skills; communication and collaborative skills; social and cultural awareness and civic engagement; initiative and self-direction; flexibility; productivity; and accountability
3. Ensure transparent accountability for P-20 initiatives
4. Act as a feedback group to the Campus staff
5. Collaborate with P-20 Campus leadership
6. Disperse information and help to dispel myths

Why it was classified as a particular type(s) of innovation: Connecting with parents and building their leadership capacity were critical to gathering feedback and empowering them in the endeavor of developing the Campus.

Impact of innovation around thematic interpretations: Connecting with others was key to gathering feedback to put back into the system of creating the Campus. Additionally, distributing the leadership was an important stance to be taken.

Innovative rating from survey: A mean of 2.94 / 4.00.

Why it is important: Collaborating with parents helped to build relationships as well as empowering folks to provide input – ultimately making the Campus more public and less isolated especially because the mere nature of a P-20 educations system is a very concept for parents.

Role it played in the development of the Campus: “They worked for months with their parent groups and because of their legwork that they did ahead of time, I think they diffused potential parent concerns and issues that might have become problematic, but they were proactive in the way they did that…so they were able to diffuse P-20 concerns before they ever became an issue. I think that was to their benefit” (Interviewee ID 71).

**P-20 Campus Leadership Model.** Description of innovation: Early on, EPS Leadership decided that in order to support its vision for a P-20 Campus ‘system’, they had to think differently about the Campus’s leadership model and the way it is organized.
Initially, a Director of P-20 Campus Development was hired. (Again, it is important to mention that the Director of the P-20 Educational Campus Development is also the researcher). Additionally, instead of hiring traditional principals to lead staff and students on the campus, another new role was created; the Pathway Director. “We wanted to stay away from the name principal, because of what that implies” (Interviewee ID 25). In addition to these new positions, it was decided to move all management duties and responsibilities away from the Pathway Directors and create another new role; the Director of Operations and Management. Definitions of the roles and responsibilities can be in Appendix Z. Furthermore, Appendix AA displays the leadership model and how it is purposefully connected with the Campus’s Culture Matrix (Marzano, et. al., 2005). Through the influence of specific educational leaders and authors such as Fritz, (1999), Fullan, Hill, and Crevola, (2006), Marzano, Waters, and McNulty (2005), Senge (1994), and Spillane, Halverson, and Diamond, J. (2004), the P-20 Educational Campus Leadership Team created a vision and description of the overall Campus leadership model. The accretion of these authors’ influence is presented through the vision and leadership model description can be found in Appendix .

Why it was classified as a particular type(s) of innovation: Organizationally, leadership is practiced quite differently internally and with external relations. “We think of it as a medical model where we don’t have a traditional site principal – we have Pathway Directors and a Director of Operations and Management…so we have people specialized in instruction who are the lead learners in instruction and need to be immersed fully instructional responsibilities and we have someone else taking care of budgeting, safety and security, discipline, budgeting, athletics, activities – all the kind of
things that pull the traditional principal out of the classroom. This person makes sure the school is a functioning facility and has the policies and rituals in place to free the Pathway Directors to be solely immersed in instruction and work with teachers on a regular basis side by side as those lead learners in the classroom” (Interviewee ID 57).

Impact of innovation around thematic interpretations: “The leadership model or governance structure of the Campus is highlighted through the interview responses in the way the roles are defined and the way in which it is compared to a hospital model. “I have truly never heard of that concept before where on one campus, preschool through at least high school you have one administrator who is overseeing kids in that kind of a breath. The governance structure allows everything to flow from an instructional standpoint, from a programming standpoint, from a personnel standpoint; we are always thinking through the leadership model that there are no specific levels like elementary, middle, or high school” (Interviewee ID 25). “They’re engaged in responsibilities that allow them to transcend a geographical building and take on responsibilities of a pathway that eventually will be not only for a P-8 building, a high school building, but also eventually for a college building. Their responsibilities are going to be developed as we go along here because if we have four pathways, we have four Pathway Directors who are licensed as principals and we’re seeing how that works with a Director of Operations and Management on the Campus – we have a pretty good idea of how that’s going to work; however, the proof is in the testing of it. We have to make sure we have four people who get along and be able to function on the vision of the P-20 Campus. I think it will be interesting to watch” (Interviewee ID 3).

Innovative rating from survey: A mean of 3.31 / 4.00.
Why it is important: “It’s like the medical model in the sense that you have chiefs of instruction who really focus on the teaching and learning of the school…and the idea is that we aren’t stretched so thin that we can’t really develop the kids and the teachers and the partnerships that we need to within those pathways. Then the Director of Operations and Management who is like the chief of staff in a hospital; who handles everything outside of instruction and we know these things don’t work in isolation but the idea is that if we have more specialized roles” (Interviewee ID 89).

Role it played in the development of the Campus: “Not having principals, but having directors over the pathways so they are actually seeing groups of students P through 20 in that system through those pathways…so they are not looking at it as P-8, high school, college, but having to look at leadership that is combined instructional leadership and pathway leadership” (Interviewee ID 72). “Because we have pathway directors and a director of operations and management, the traditional sense of asking a principal to wear all of those hats doesn’t exist” (Interviewee ID 63).

**P-20 Campus Operational Leadership Team (OLT).** Description of innovation:
Following the organizational structure of the P-20 Campus’s Instructional Leadership Team, because of its separation of instructional and operational/managerial capacities, the Campus leadership decided to create an Operational Leadership Team (OLT). The OLT Mission is:

To create a positive, safe and equitable work environment where staff members are supported in order to innovate and thrive.

The purpose of the OLT is described as:
1. Establish and integrate a true P-20 system
2. Build relationships and create a forum where staff can celebrate together
3. Staff appreciation - ways to recognize the achievements of staff members
4. Create a positive vibe and culture on the P-20 Campus
5. Adults model positive social skills
6. Build P-20 Campus staff traditions
7. Create a support system for staff - knowing the learning curve is tremendous
8. Ensure staff is able to model the P-20 Campus Philosophy Statement - “Education must be real world and relevant, innovative and connected; where staff and students thrive with choice and responsibility; to cultivate creativity and invention.”
9. Equity - model for students how we treat each other regarding race, poverty, disability, etc.

Why it was classified as a particular type(s) of innovation: The OLT created a significantly new organizational method and is an important leadership group the organizational practices of the P-20 Campus.

Impact of innovation around thematic interpretations: The OLT provides alignment and coherence as well as builds leadership capacity among staff.

Innovative rating from survey: A mean of 3.16 / 4.00.

Why it is important: The Instructional Leadership Team is a critical component to the instructional side of the Campus operation and fully supports the roles and responsibilities of the Pathway Directors, a balance on the operational aspect of the campus is critical to developing capacity of this management side of the organizational structure of the Campus.
Role it played in the development of the Campus: “We have our ILT team, our Instructional Leadership Team, which is not unique, but what is unique is that we also have our OLT, our Operations Leadership Team – its goal is more on the adults making sure to have a successful school we have to have staff members who are learning, staff members who have their needs met, so our Operational Leadership Team looks at equity, looks at different policies, budgeting, looks at climate and culture” (Interviewee ID 57).

**P-20 Campus Student Achievement Learning Teams and Learning Labs.**

Description of innovation: Due the inherent nature of bringing teachers together for professional learning opportunities across the P-12 spectrum while trying to maintain both a horizontal and vertical approach, the Campus instituted two new professional learning organizational structures. Student Achievement Learning Teams (SALT) are content specific teams that meet on an ongoing basis to engage in the Collaborative Coaching and Learning (CCL) model combined with the Data Team process – essentially known as the ‘SALT process’. SALT also includes time to work on common assessments, scoring interims, and short-term and long-range planning. Teams also generate a common (short-term) planning matrix to align planning across the grade level team or learning lab. At times P-9 SALT teams may be combined to engage in vertical articulation by content area. In addition to SALT professional learning time, staff also meets in learning labs. Learning labs are a multi-disciplinary team that meets as needed and may plan for instruction, and focuses on common classroom expectations, culture, Response to Intervention (RtI), students, parents, English Language Development (ELD), pedagogy, and reading and writing through the content areas. “They have a common P-20
planning time so every teacher is available to meet together for campus-wide professional
development – which is an incredible gift” (Interviewee ID 25).

Why it was classified as a particular type(s) of innovation: The SALT and
learning lab structures are an improvement to the Campus’s practices of professional
learning and building capacity through job-embedded methods.

Impact of innovation around thematic interpretations: “They have opportunities
for horizontal planning and vertical articulation” (Interviewee ID 71). This provides
opportunities for alignment, coherence, leadership, and making connections.

Innovative rating from survey: A mean of 2.71 / 4.00.

Why it is important: “They are really developing a cohort or cadre of teachers so
even at the elementary level, teachers are specializing in certain content areas. There’s a
lot of power in the way teachers are collaborating with each other and how they are able
to look at data together and share instructional practices” (Interviewee ID 71).

Role it played in the development of the Campus: “We have common professional
development days where we have our elementary teachers talking to our middle level
teachers talking to our high school teachers and talking, not only about instructional
practices, but also talking about students – which helps support this more seamless
alignment for students” (Interviewee ID 57).

Use of Instructional Spaces, Learning Commons, and Flex Spaces. Description
of innovation: The P-20 Campus institutes multi-grade level learning labs. The students
and teachers work together in a series of connected classrooms where core instruction is
provided via digital technology, seminars, and labs. Often times the disciplines are
integrated and problem-solving, high-order thinking skills are developed via multi-
disciplinary projects. Students leave their learning labs only for exploratories or electives and food services. The facilities are organized around learning labs. Learning labs share adjacent clusters of seminar, lab and flex spaces. Learning labs allow for use of projects to integrate disciplines and to provide a structure for embedding real-world context in daily student learning. In addition to learning labs, the learning commons is an open area that includes both hard and soft seating. Large groups can meet in the learning commons for seminars (via Polycom), P-20 Campus community time, or small groups can gather in a break-out room with laptops to finalize a project.

Why it was classified as a particular type(s) of innovation: The way the building is designed dictates the overall organization of the learning and work.

Impact of innovation around thematic interpretations: “We want to have a sense of community, but we think we can create that without having to have a set, fixed space” (Interviewee ID 16). This sense of community creates opportunities and invites 21st century learning to take place.

Innovative rating from survey: A mean of 2.76 / 4.00.

Why it is important: A sense of flow, flexibility, community, and less boundaries between all age groups is apparent throughout the building.

Role it played in the development of the Campus: “They really thought about is how to use that spaces in the building and how that space will transition with the needs of the needs of the pathways” (Interviewee ID 72). “We’ve been able to create spaces that will compliment the pathways.” (Interviewee ID 63).
Remaining marketing innovations.

**P-20 Campus Brochures, Placards, and Posters.** Description of innovation: The P-20 Campus brochures, placards, and posters were designed for all of its stakeholders – especially parents, students, and its higher education and industry partners. It was the intent that the outside world view education as they view the business world from a marketing perspective.

Why it was classified as a particular type(s) of innovation: These marketing tools involve changes in product design or packaging, product placement, and product promotion. The product here is the P-20 Educational Campus.

Impact of innovation around thematic interpretations: Branding and marketing 21\textsuperscript{st} century learning is an important aspect of the Campus. Moreover, because partnerships with the business community are critical to the success of the Campus, it needed to match what the workforce sector would expect.

Innovative rating from survey: Not applicable.

Why it is important: A basic premise was to be sure to present the Campus in what it was designed for – the 21\textsuperscript{st} century and be sure to not portray in an outdated light.

Role it played in the development of the Campus: Often times, school districts have outdated means for marketing themselves and the P-20 Campus wanted to reflect its philosophy by taking its marketing and public relations to the next level. They believed that ‘putting their money where their mouth is’ they could build trust through presenting themselves in a more professional, polished manner – much like one would expect from the corporate world.
Use of Digital Signage. Description of innovation: The EPS Educational Campus currently has four digital signage units that are used to do the following:

1. Celebrate exemplary student work in a standards based system (rolling screen allows the number of student samples to be infinite)

2. Sharing images, videos, Prezis, Animotos, PowerPoints, etc. that demonstrate students 21st century skills using multi-media tools and formats

3. Provide regular an ongoing communication about events, activities, and opportunities for college prep and post-secondary workforce readiness

4. Success sharing with parents and stakeholders

5. Staff uses the Web 2.0 tool Dropbox to contribute content 24/7/365. The students participating in the after-school Broadcast and Journalism group capture examples of student and professional work via photos, digital files, video reflections, etc. The technology students organize, prepare, and create thematic work, then upload the files.

Why it was classified as a particular type(s) of innovation: This marketing tool involves changes in product design or packaging, product placement, and product promotion. The product here is what students experience on the Campus, what they learn, and how they achieve.

Impact of innovation around thematic interpretations: 21 century learning, connections, and opportunities are present within the use of digital signage.

Innovative rating from survey: A mean of 3.06 / 4.00.

Why it is important: “We have digital signage as a way to display student work and student portfolios” (Interviewee ID 57). This creates a powerful marketing technique for empowering students while positively impacting the overall culture and climate of the Campus.
Role it played in the development of the Campus: “The first thing you see when you walk into the school is a digital sign that talks about what’s happening inside the school and you can push the buttons on it, like a big iPad” (Interviewee ID 72).

**Summary**

The findings and interpretations presented in this chapter presented all innovations involved in the creation of the P-20 Campus, the most significant product, process, organizational, and marketing innovations among them, and thematic interpretations derived from the most significant innovations. This case study on the development of the P-20 Educational Campus is historically unique; therefore, the degree of generalization to be made from the findings is somewhat limited. As a result, the researcher was encouraged to draw inferences from the specific to the general in order to validate the inferences. Such inferences, through the thematic interpretations of the significant innovations, consequently allow educators to proceed from an informed perspective toward their efforts in educational alignment to establish a more connected, cooperative system of public education from preschool to the achievement of postsecondary or professional degrees as well as the critical nature of establishing partnerships between the various levels of the educational system and the workforce.

Conclusions surrounding the interpretations are made in the next chapter. The conclusions will encompass connections based on the thematic interpretations; new insights and understandings; and confirmations based on and beyond the literature. Additional contextual details critical to this case are also discussed in the following chapter. Obtained through the conclusions and further discussion, insofar as possible,
recommendations derived from this research will also be presented as well as suggestions for further research.
Chapter Five: Conclusions and Recommendations

Humans build organizations and can change them. Cultural constructions of schooling have changed over time and can change again. To do this deliberately would require intense and continual public dialogue about the ends and means of schooling, including reexamination of cultural assumptions about what a “real school” is and what sort of improved schooling could realize new aspirations. Shared beliefs could energize a broad social movement to remake the schools. To do so would require reaching beyond a cadre of committed reformers to involve the public in a broad commitment to change. This would require not only questioning what is taken for granted but also preserving what is valuable in existing practice. The cultural construction of schooling need not be a block to reform. It can be an engine of change if public discourse about education becomes searching inquiry resulting in commitment to a new sense of the common good.

(Tyack and Tobin, 1994, p. 478)

Life is change. Growth is optional. Choose wisely.

(Anonymous)

Introduction

The purpose of this case study was to tell the story of how a Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. This case study of the creation of the EPS P-20 Educational Campus was told through examination of the conception and significance of specific innovations. Understanding the important contextual conditions, such as P-20 educational reform efforts, was highly relevant to this case. The researcher believed this case would allow educators to proceed from a more informed perspective toward school reform efforts in providing more instructional alignment and coherence from preschool through postsecondary experiences. The researcher also believed that by illuminating this case, school reformers
would better understand how to create critical partnerships among P-12 and higher education, and among the community and industry. The researcher used a mixed methods approach in collecting and analyzing data which was achieved through qualitative data from a review of documents and interview responses combined with quantitative survey results. The data were categorized, coded, analyzed, and synthesized guided by the use of the conceptual framework, as depicted in Chapters 1 and 3. The three forms of data collection and analysis with the use of the conceptual framework were based on the following five research questions:

1. What are the product innovations related to the development of a P-20 educational campus?
2. What are the process innovations related to the development of a P-20 educational campus?
3. What are the organizational innovations related to the development of a P-20 educational campus?
4. What are the marketing innovations related to the development of a P-20 educational campus?
5. How significant or to what degree are the innovations involved in the development of the P-20 Campus innovative?

These five research questions were largely satisfied by the findings, analysis, and interpretations presented in Chapter 4. The prevailing findings resulted in the following most significant product, process, organizational, and marketing innovations: Seamless, Aligned P-20 Campus System, Academic and Career Pathways, Partnerships / Community Workforce Planning Team (CWPT), and World Languages. Accompanying these most prominent innovations, several additional innovations had a strong reoccurrence across the research; they were: Aspects of Postsecondary and Workforce
Readiness (PWR), Introduction of New Instructional Technologies, The Leadership Model, Fluid Movement of Students, and Plans of Study. Specific themes emerged through all of these important product, process, organizational, and marketing innovations in how each addresses P-20 reform. The themes were: Alignment and Coherence, Choice, Connections, Opportunities, Partnerships, and 21st Century Learning.

This chapter presents conclusions surrounding the significant innovations and the thematic interpretations from the results in Chapter 4. The conclusions encompass five areas: (a) role of product, process, organizational, and marketing innovations and use of the conceptual framework; (b) interdependence of significant innovations; (c) interrelationship of thematic interpretations; (d) the vital role of leadership; and (e) confirmations based on and beyond the literature. Additional contextual details were provided next through a discussion of the challenges the P-20 Campus faced and the next steps it is taking. These details are critical to this case to reveal a full historical perspective of the development of the P-20 Educational Campus. This was done to provide recommendations beyond the perspective of the conclusions. The next portion of this chapter announces recommendations for school leaders in how to provide more instructional alignment and coherence toward a seamless, educational system from preschool through postsecondary experiences; to address PWR; to create critical partnerships among P-12 education, higher education, and the community and industry. This chapter concludes with suggestions for future research on P-20 reform efforts; innovations; alignment and coherence; partnerships; academic and career pathways;
longitudinal student data; advisory committees; barriers to P-20 reform; and postsecondary and workforce readiness. A closing reflection follows this final section.

**Conclusions**

While the findings presented in Chapter 4 largely satisfied answering the questions set forth through this research, the conclusions extend beyond simply addressing each of the research questions in order to attend to the complexity of initiating P-20 educational reform. The conclusions serve as a way to synthesize the overall findings to address the conceptual and theoretical frameworks of this case study as well as move beyond the contextual nature of this study to provide deeper meaning and greater understanding of the relational approaches towards understanding complex adaptive systems. Therefore, the conclusions address five areas: (a) role of product, process, organizational, and marketing innovations and use of the conceptual framework; (b) interdependence of significant innovations; (c) interrelationship of thematic interpretations; (d) the vital role of leadership; and (e) confirmations based on and beyond the literature.

**Role of product, process, organizational, and marketing innovations and use of the conceptual framework.** The first conclusion of this study is that, on an innovation level, not one specific category of innovation played a more important role than the others in large-scale reform. Each category of innovation was necessary to take on the multitude of intricacies involving systemic reform efforts. Whether an innovation was a product, process, organizational, marketing or combination of these, the category in which it was classified had nothing to do with whether the innovation was significant or
not. Even though some innovations were deemed more significant in the development of the P-20 Educational Campus, the categories they fell in did not play a role in their significance. No specific category of innovation had a greater impact over any of the others.

Through the innovation definitions derived from the OECD’s (Organization for Economic Co-operation and Development, 2005) components which provided the framework for this study, the EPS innovations and activities surrounding them provided a practical way to understand the study data. In terms of product innovations involving improved goods and services with significant improvements in technical specifications, components, and materials; process innovations involving improved production or delivery methods with significant improvements in techniques and equipment; organizational innovations involving improved practices, organization, and external relations; and marketing innovations involving changes in product design, packaging, placement, promotion, and pricing – they all shared a close association with the other. There was an entwined, closely-knit relationship within the elemental nature of defining the types of innovations. This harmonious relationship between types of innovations was necessary to innovate around large-scale reform. One cannot say that, for example, innovations in technical specifications or techniques in delivery or organizational structures or packaging and promotional methods had a degree of importance over another when each area of innovation was required to bring about enormous change in the educational system.
The use of the OECD framework also allowed a useful and effective way in which to not only categorize innovations but also dissect the innovations. In terms of the complexity of innovations involved in the development of the P-20 Educational Campus to address P-20 reform, having the ability to place innovations through a filter in order to classify them offered efficiency and consistency in categorizing the vast amount of information throughout chronicling the journey of the creation of the Campus. Furthermore, the framework allowed for specificities to emerge around the innovations and a way to explicitly detail more of how each innovation was, in and of itself, innovative.

**Interdependence of significant innovations.** The second conclusion of this study was that, while there were innovations that were more significant than others in the development of the P-20 Campus, each was mutually dependent on the other in not just providing alignment, but overall coherence to the system. The significant innovations of: Seamless, Aligned P-20 Campus System, Academic and Career Pathways, Partnerships / Community Workforce Planning Team (CWPT), and World Languages; accompanied by the additional prominent innovations of: Aspects of Postsecondary and Workforce Readiness (PWR), Introduction of New Instructional Technologies, The Leadership Model, Fluid Movement of Students, and Plans of Study – were all instrumental separately in helping to align the P-20 system. However, in order to move toward an overall more coherent P-20 educational system, they were needed together.

These significant innovations addressed the integration of the components of the educational system toward overall systemic reform. They comprised what Rochford (2005) claims as the alignment of multiple systems and subsystems, organizations,
programs, etc. toward the common goal of graduating students from high school fully prepared to pursue and succeed in postsecondary education leading to meaningful and productive careers. What’s more, the three foundational innovations of an aligned P-20 Campus system, academic and career pathways, and partnerships were most influential in providing agreement toward the critical aspects of alignment within the educational system and alignment of education with the workforce; yet, these innovations in and of themselves were not enough to furnish a greater understanding or sense-making to the overall system. In simplest terms, these significant innovations helped to provide alignment of the system, but have not been able to provide coherence to it. A symphony of these significant innovations working harmoniously with the other will eventually lead to coherence of the educational system. If each innovation stands alone, we will continue to try to align the system without ever getting to coherence. Essentially these significant innovations must occur as a package; as one cohesive approach at addressing the colossal landscape of the overall educational system and its connection to the world of work.

Alignment alone is not enough to meet the needs that arise from increased globalization and shifting workforce demands, in order to prepare more postsecondary and workforce ready students. It will require coherence so that there is a true understanding surrounding the need for P-20 alignment to build a greater urgency for 21st century teaching and learning.

Referring to the susceptibility of organizations to the innovator’s dilemma, the larger the organization, the more difficult innovation becomes. As these significant innovations continue to piece together agreements and alignment within the educational
system, the ‘packaged nature’ of these innovations is even more essential so that the innovations truly establish themselves. Once the innovations take root, the educational system will be less vulnerable due to its own vast and complex nature. Additionally, according to Christensen, et al. (2008), society has asked schools to assign new metrics of improvement from within the existing organization which was designed to improve along the old performance metrics. Innovations stemming from P-20 reform are what Christensen refers to as disruptive innovations. Such innovations are necessary for public education to address the new performance metrics asked of them.

**Interrelationship of thematic interpretations.** The third conclusion of this study was that the themes, derived from resounding ideas which emerged from and through the significant innovations, were all interrelated. This interrelationship also established a dependency on each other in order to move beyond alignment potentially toward a coherent system. Within the thematic interpretations derived from the significant innovations, alignment and coherence, choice, connections, opportunities, partnerships, and 21st century learning presented themselves through the researcher’s revelations of the underlying ideas and notions found within the synthesis of the data in order to address large-scale P-20 educational reform. These themes did not stand alone; yet were all interconnected. Here again, as the significant innovations should be viewed as a package, so too should the themes derived from them.

There was an unmistakable web of relationships within each of these themes. Some examples of the interrelation characteristics of these themes were recognized in that alignment and coherence fostered connections. However, if the connections were not
intentional to support the overall purpose, alignment toward and coherence within a P-20 educational system will not occur. By providing choice, connections and opportunities were created. Partnerships also provided opportunities and connections, as well as choice. Moreover, partnerships were critical in efforts of aligning the system. Components of connectedness were all about creating opportunities. And, aspects of 21st century learning were inherent in providing connections, choice, and opportunities.

In order to close achievement gaps, graduate more students from high school and college, lower dropout rates, and confront the *Colorado Paradox*, the themes of alignment and coherence, choice, connections, opportunities, partnerships, and 21st century learning must come together as one package – not separate entities. As with the significant innovations that spawn these themes, if each theme stands alone, we will continue to try to align the system without ever getting to overall coherence of the system. Again, these themes must occur as a package, as one cohesive approach at addressing the enormous task of aligning the overall educational system within its own components as well as with economic and workforce development.

**The vital role of leadership.** The fourth conclusion of this study was that leadership actions and decisions were critical in creating the environment for innovation to occur and flourish as well as maintaining a ‘P-20ness’ trait to leading within the system. Both packages of the significant innovations and themes derived from them greatly required the vital role of leadership to have the vision, create the need, generate the opportunities, and allow new ideas to thrive. Leadership has to ‘push the limits’ in order to foster and encourage continuous improvements toward a fully aligned P-20
school delivery system and it is the driving force and the glue that are necessary to obtain overall coherence.

Developing a P-20 Campus system demands leaders who allow people to be innovative and foster creativity, imagination, risk-taking, and value-creation. It requires leaders and people who can take innovation and run with it and who are catalysts for creating social change through problem-based, cross-functional projects leading to higher student achievement and increased workforce readiness. A solid level of flexibility was needed as well as being able to deal with ambiguity. The Colorado Department of Education (2010b) states that it is essential to lead dynamic public education change efforts that prepare students to be school-ready, college-ready, and career-ready for a rapidly emerging global economy. This required a devoted, unwavering stance toward providing opportunities for a leadership to welcome a new sense of flow within an organization to continuously see the entire perspective from preschool through postsecondary education and into careers and the workforce.

The P-20 Campus governance structure allowed everything to flow from an instructional standpoint, from a programming standpoint, from a personnel standpoint by always thinking through leadership decisions and actions based on a P-20 system, not based on specific levels like elementary, middle, or high school. Ultimately, the leadership model provided the guidance and direction of continuous improvement in instructional practice and alignment of multiple, seamless pathways from preschool through postsecondary educational experiences.
Every opportunity must be taken to ensure leadership is observed through all levels of the P-20 system to ensure the system is not only aligned but is moving toward coherence. P-20 leaders ought to communicate a clear vision for improved student learning and model it through actions, words, and behaviors. To do so requires leadership to be viewed as a collective capacity and a shared responsibility.

Effective P-20 leadership also seeks and nurtures systemic partnerships in order to support an integrated collection of learning experiences intended to develop students’ core academic skills; and provide them with continuous education and employability credentials; in order to place them in high-demand, high-opportunity jobs. The P-20 Campus leaders reduced school isolation and became engaged in lateral, networked leadership so they can leverage as many resources from the community as possible.

**Confirmations based on and beyond the literature.** The fifth conclusion of this study was that the underlying assumption that large-scale reform efforts drive change and change often causes innovations and it requires leadership actions to innovate is not as linear as this, nor is it necessarily always in this sequence of events. The reform process presented in Chapter 2 as the theoretical framework for this study established that there is a sequential, linear manner in which innovations occur or are developed within a system due to reform efforts. While it is true that Colorado’s endeavor toward P-20 reform placed the case of the EPS P-20 Campus into the larger context of P-20 educational reform, the assumption that change follows next to create innovations driven by leadership actions (or requiring leadership actions to put innovations into practice) was only one established sequence of how such events unfold. There were, in fact, different
ways reform efforts progress and impact organizations and systems within them.

Moreover, the events were regularly not linear; there was often messiness in how such events take place. For instance, Tyack and Tobin (1994) declare that reformers believe that their innovations will change schools, but it is important to recognize that schools change reforms by over and over again selectively implementing and altering the reforms.

In its simplest form, as an innovation itself, the creation of the P-20 Educational Campus was indeed a response to Colorado’s P-20 reform efforts which caused enormous change to occur spawning numerous forms of innovations all driven by and through leadership actions and decisions. However, what followed, as described throughout this case, was a complex network of events generating a flurry of innovations, creating changes, producing further innovations, causing more and more leadership actions to occur and decisions to be made, and so on.

More often, there was a random, simultaneous nature within the relationship between innovation, change, and leadership of how each of these impacted the other. What’s more, there was not a distinguishable line between the cause and effect nature of their relationship, nor was there sometimes a clear determination of what caused the other to happen or what may be a catalyst for another. For example, one may conclude that leadership and change are systemic rather than directive. Senge (2006) states that a learning organization is a place where people are continually discovering how they create their reality and how they can change it. This implies that change lies in peoples’ beliefs, decisions, and actions. Therefore, change is created by and through people. And it is
people who create the innovations. In this light, it is not change that causes innovations. While people create change, innovations can follow in order to make the change happen – or an innovation can cause change requiring different leadership actions. Hence, the messy nature of the relationship between leadership, change, and innovation unfolds.

The EPS leadership teams were instrumental and influential in the decisions made to create the innovative P-20 Educational Campus to align its system with postsecondary institutions and workforce development. This required enormous change to be made which continues to drive even more innovations, more change, and more leadership actions. However, whether because of the inherent nature of a P-20 Campus system and the innovations needed to address the essence of P-20 reform, the Campus in its infancy is still putting the pieces together toward greater alignment. It has tried to do so within many confines of 20th century paradigms created through EPS board policies and the Eos Education Association (EES; teachers’ union) agreements. It has had to push against them to struggle to put the innovations into action in an agreeable alignment to make its overall campus system more coherent.

As the P-20 Campus is still in stages of development melding into certain initial phases of implementation, it is necessary to dive a bit deeper to take one last look into relevant details critical to this case. The next section provides an essential discussion in order to address whether or not the Campus has been able to create real change from the old ‘grammar of schooling’ and old traditions of practice.
Discussion – Facing Challenges, Taking Necessary Next Steps

Additional contextual details critical to this case are necessary to reveal at this point to fully complete the illumination of the development of the P-20 Educational Campus in order to provide recommendations beyond the perspective of the conclusions derived from this study as well as address the problem that surrounds this study.

As the P-20 Campus teams prepared to open the first school on the campus during the 2010-2011 school year, the usual, common practices a school district takes in opening a new school occurred. Such requirements as working with construction, management and operations staffs, establishing boundary and attendance areas (the Campus is considered a neighborhood school which falls under all district open enrollment policies), conducting community meetings, and ordering furniture, fixtures, equipment, and curriculum materials, are some of the common practices that were taken on. Many of the innovations detailed in Chapter 4 pertained to the innovations which lay outside the norm of what takes place in opening new schools. However, there were some new methods in which the district and P-20 leadership intentionally had to innovate around these normal aspects of opening a new school because it was not only opening a school but opening a campus system; and one that ranged the scope from preschool to postsecondary experiences. The innovations stemmed from challenges faced in developing a P-20 Campus within many policies and practices rooted in the 20th century.

Much of what provided the ingredients for the innovations to be made stemmed from pushing against the policies and beliefs in place. In the earliest stages of the development, the Campus teams had to address institutionalized mechanisms, beliefs,
guidelines and procedures surrounding such aspects as: (a) graduation requirements (which dictated many of the elective offerings students take; consequently impeding the essential electives necessary within pathways, institutes, and plans of study); (b) alignment and realignment of curriculum (such as Physics First and offering World Language across all grades); (c) providing relevant, real-world experiences which demand an integration of curriculum; (d) the technological architecture of numerous software programs and applications not interfacing with each other as well as the Information Technology and Instructional Technology departments within the district not fully collaborating with one another; (e) a lack of understanding of P-20 education and Academic and Career Pathways across the district; (f) the Campus as a hybrid of the existing EPS school system and the EPS Career and Technical College; (g) aligning K-12 coursework, postsecondary coursework, and industry credentials to industry needs; and (h) designing and implementing a new leadership model – all of which while simply trying to open a new school at the same time. Thus, many of the innovations presented in Chapter 4 were not only the result of P-20 reform; they were also a result of trying to change some outdated policies and practices within the district.

In addition to confronting board policies while maintaining alliance to what the articles within the EES Master Agreement state, challenges were taken on. Nevertheless, there were some challenges that included certain non-negotiables. There were obvious non-negotiables that stem from the Master Agreement; yet, some immediately became what seemed insurmountable. Such agreements around plan time and the number of contact hours in front of students caused inequities across the P-20 system. Additionally,
transportation dictated the Campus bell schedule which caused more challenges around the concept of time and offering equitable plan time and also having the ability for teachers to supervise students. Moreover, there were abundant district policies dictating professional learning structures and required professional development activities, instructional models, instructional minutes for specific contents at specific grade levels, required conferences, special education policies and practices, the Response to Intervention model, instructional constructs, extracurricular activities, curricula, and required English Language Development blocks for English language learners.

Within the first several months of the Campus’s existence, the district leadership, the Campus leadership, and the Campus staff soon realized that certain policies and requirements established for traditional models of education were creating barriers toward actualizing the unique nature of a P-20 Educational Campus. The challenges were centered on: (a) time for collaborative and individual planning, and content planning causing a lack of clarity in professional learning and content alignment while not nurturing the distinctive opportunity for both horizontal and vertical planning, and a refinement of the professional learning structures that nurture a P-20 approach; (b) students were still being labeled and placed into ‘boxes’ according to abilities, grade level, and age which impeded the unique prospect of fluidly moving students and regrouping them based on needs to provide more equitable access across all aspects of the Campus – this also causes teachers to remain in boxes; (c) the preschool portion of the P-20 system was not in alignment with bell times, contact days, and professional learning; (d) a standards-based instructional resource core was not based on Colorado’s ‘common
core’ standards; (e) time for extended learning opportunities to provide intervention and enrichment opportunities for students; (f) lack of opportunities to integrate curriculum to offer a multidisciplinary approach toward educational experiences; and (g) having no wiggle room for bursting class sizes at certain grade levels in order to hire additional staff and/or more freely move students and teachers around.

Also, within the first quarter of the school year, a grievance from the EES teacher’s union was filed against the district. The district was being grieved based on plan time and teacher: student contact time; specifically under the contractual language that the Campus should meet all K-8 requirements. Essentially, the union saw the Campus as a K-8 school. Through the Campus’s vision, its coalition based on SB 212 – CAP4K, CDE’s Forward Thinking, and the EPS Strategic Plan, the extensive 18-month planning that went into developing the Campus which involved key groups of people, the hours of professional learning for staff prior to opening, the Campus’s leadership model, and several additional factors, the district determined that:

Since the inception of the P-20 educational model in EPS, we have communicated clearly, consistently and intentionally to staff, students and parents that the P-20 Campus is a system – not separate schools.

The Exploratory P-8 and the Preparatory 9-12 are two current buildings that make up this P-20 system. While there are different buildings to house students and staff in order to offer the array of educational experiences from preschool through postsecondary, the P-20 Campus is one educational system. The Campus master schedule is built to provide and ensure movement of staff and students between buildings to support a P-20 aligned educational system.

The P-20 Educational Campus is not an elementary, not a K-8, not a middle school, and not a high school…it is a seamless P-20 system.

A participant stated,
They are P-20 teachers out there – where the lines have to be blurry…they aren’t elementary, middle school, etc and we are bumping against structures in board policies and master agreement articles which are ways in which we’ve created boundaries and boxes that continue to make the lines more distinct…and we’re still trying to get the state to recognize K8’s in their reporting and assessment structures – much less recognize a P-20…the Campus was intended to be an engine for innovation and represent how we can transform the rest of the school district around some specific areas of aligning the overall system (Interviewee ID 25).

With such impediments and challenges, it is fair to wonder if the P-20 Campus is truly able to reshape the “grammar of schooling (p. 453).” It is simply too soon to tell. While it certainly has made noble efforts in establishing and implementing new product, process, organizational, and marketing innovations to reconceptualize how it “does school,” the barriers stemming from certain board and district policies and union agreements have caused it to make a sluggish start toward truly innovating the overall system. Throughout the numerous innovations presented in Chapter 4, it is certain that the Campus has made good progress, in a relatively short period of time, toward putting the right pieces in place to align its education system with college and careers to better meet the demands of a 21st century global economy. However, the P-20 Campus is a microcosm of the larger educational system in how it continues to initiate systemic reform in order to fundamentally redesign a 20th century, obsolete education system; a.k.a. “the grammar of schooling (p. 453).” Moreover, the Campus was certainly trying to accomplish what educational innovators have tried to do in the past as they challenge the structures and rules that constitute the grammar of schooling. Tyack and Tobin (1994) assert that past innovations around ungraded schools; flexible use of time, space, and resources; merging of subjects into core courses; and grouping teachers in teams are
examples of innovations that have not lasted long. To further demonstrate this, the P-20 Campus is within a critical transition as it tries to move beyond a 20th century model of education while it continues to have shades of Education 2.0 in a world requiring Education 3.0. According to GETideas.org (2011), Education 2.0 is the factory model of education that matched the industrialism of most of the 20th century; however, Education 3.0 must reflect a world where 21st century skills and learning take place. GETideas.org (2011) shares that classroom practice calls for the integration of innovative pedagogy, curriculum, and student assessment strategies across whole systems—accommodating learner differences, linking to the real world, and setting high yet realistic expectations for every student. With an emphasis on learning by doing, today’s systems must integrate 21st-century skills and content across the curriculum, help students develop a full range of knowledge and capabilities, and assess learners appropriately to prepare them for the challenges of today’s society. The P-20 Educational Campus’s vision and philosophy statement certainly support the notion of Education 3.0.

As a result of its tenacity toward staying true to the unique nature of the P-20 campus’s vision and philosophy in order to confront the challenges it has faced in its inaugural year, the EPS P-20 Educational Campus is investigating the potential opportunities that could be gained through applying for what is referred to as “innovation status” with the Colorado Department of Education. According to the Colorado Department of Education (2011), in 2008, the Colorado legislature created a new category of autonomous schools – Innovation Schools. Senate Bill 08-130, the Innovation Schools Act, creates a process by which a school, zone of schools, or an entire
school district may obtain waivers from district policies, state policies, and collective bargaining agreement provisions. Because the Innovation Schools Act seeks to encourage innovations of all kinds, there is no one package of waivers associated with becoming an Innovation School. Instead, the statute contains a list of “suggested innovations,” which range from innovations in the curriculum to innovations in teacher compensation and school governance and is intended to provide inspiration rather than boundaries as schools think about how to innovate. The school community develops its own proposal, along with the identification of the waivers it requires to achieve its goals. Upon approval by majorities of the school’s accountability committee, teachers, and administrators, the proposal is submitted to the local board of education. According to the statute, 60 percent of covered employees must approve the waivers for them to become effective. The Innovation Schools Act presents tremendous opportunities for both schools and districts. To the extent that the district is the final decision maker on Innovation Plans, it can proactively shape Innovation School applications to meet student needs.

Designation as an Innovation School will allow the appropriate autonomies to augment the unique nature of a 21st century P-20 Campus system. Innovation status will ensure that the P-20 Campus fully supports the vast range of learning environments for students and staff to become a model of successful P-20 educational reform efforts in the district, state, and nation. Hence, allowing it to make continued progress toward truly reshaping the “grammar of schooling.”
Recommendations

A portion of the conclusions of this study brought forth the distilled concept of a package of significant innovations which generated a package of interpreted themes that surfaced through the development of the Eos Public Schools P-20 Educational Campus. Through the findings and results of this study, these “packages” had the most impact on how EPS approached P-20 reform. Recall the interdependence of the significant innovations and the interrelationships of the thematic interpretations. The recommendations presented here specifically address aspects of these innovations and the themes within them such as academic and career pathways, alignment, partnerships, postsecondary and workforce readiness, choice, 21st century learning, leadership actions, and so on.

Given that there are a multitude of factors and numerous ways in which to respond to P-20 educational reform, the recommendations put forth here for school districts should be considered for their appropriateness on an individual basis. At the same time, it should be noted that districts across the state and nation continue to make great strides in their efforts in educational alignment to establish a more connected, cooperative system of public education from preschool to the achievement of college degrees and foster students who are ready for the 21st century workforce.

Redefine educational innovation. Innovations in education have taken on many forms. Through this study, it is apparent that innovations surrounding programs, resources, policies, models, constructs, practices, and so on are some of the ways in which our education system is trying to break free of Education 2.0 methods,
philosophies, and designs. However, we still remain deeply connected to the rules and structures that organize how we do instruction. These remain inside ‘boxes’ such as time, subjects or content areas, grade levels, labels, schedules, etc. – all done to standardize education perpetuating an overall 20th century factory approach to education.

Yet, in order to move beyond Education 2.0 beliefs and practices, innovations in education are necessary. However, innovations cannot be produced in a piecemeal fashion on a technical level only. Innovation must be accomplished systemically. The nature of Education 3.0 is complex and in order for education to truly match Workplace 3.0 innovations must drive reform that is able to replicate successful practices and systematize great teaching to make it available throughout the system. Innovation must occur systemically to induce a holistic transformation of Education 2.0 to truly achieve 21st century learning, teaching, and skills necessary within Education 3.0. This must be achieved from levels of government to district and school leaders to classroom teachers.

This study employed a definition of innovation as “the implementation of a new or significantly improved product, process, organizational method, or marketing method.” While this definition was appropriate to provide usefulness as the conceptual framework for this study, categorizing educational innovations in this manner complements a 20th century perspective of education. The dissection of innovation in this manner supports an Education 2.0 factory model of education rather than a systemic innovation definition needed for a 21st century model. In order to define innovations in education, it is necessary to consider an aggregate of the products, processes, organizational and marketing methods of innovations to meet the systemic, catalytic type
of reform necessary to bring the current education system into the 21st century. Therefore, a new definition of educational innovation must embrace how holistic transformation is taking place throughout the entire system; not just specific technical categories within the system. Through this redefinition of educational innovation, it will be necessary to bring in diverse stakeholders to provide a larger systemic view. All groups outside education are needed to provide systemic innovation to match the 21st century workplace.

**Create opportunities for innovation to occur.** Quite simply, innovation is necessary as school districts seek to make the necessary changes for students in an environment heavy in reform and accountability while funding for education continues to dwindle. In many ways, education has to do more with less. Smith and Morgan (2010) assert that it is important for school leaders to build a culture and infrastructure so that innovation can flourish. Innovation requires focusing on results and experiment to try new things. It is also critical to be able to replicate and scale results. Environments where ideas can be generated, tested, refined, and replicated at scale are just as important for educators as it is in the business world. Creating such environments can be done through creating more autonomy, more incentives, and less isolation. Innovation happens in and through collaboration with others.

**Navigate the system to anticipate potential systemic barriers.** District leaders must make every effort to systematically uncover institutionalized methods, beliefs, policies, practices, guidelines, collective bargaining agreements, etc. that may impede moving away from an industrial model of education. To do so requires a shift toward
higher level thinking skills needed for the 21st century. Taking into consideration that we must embrace a new digital reality, individualize learning, and make connections between instruction and world outside the classroom, school districts must create different schools and different systems to accommodate them. By navigating the current system to anticipate barriers in designing new educational opportunities for students, school leaders can start by asking the right questions. Asking questions around specific topics such transportation, aspects of time, budgeting, curricula, instructional models, etc., Kelly, et al. (2009) offer: (1) start with looking at kids and learning; (2) learning must prepare students for a world of constant change; (3) learning must focus on 21st century thinking skills; (4) learning must include 21st century fluency skills; (5) learning must reflect the new digital reality; (6) learning must be interdisciplinary; (7) learning must be shaped for the individual; (8) learning must engage 21st century digital kids; (9) learning must be connected to the outside world; (10) learning opportunities should be available 24 hours a day, seven days a week; (11) time, not learning, should be flexible; (12) students should assume responsibility for their own learning; (13) every student should have close working relationship with at least one adult in the school; (14) students should have their own personal place to work as well spaces to collaborate with others; (15) assessment must encompass both knowledge and higher order thinking skills; and (16) all students must be prepared to go on to some form of postsecondary studies. By using these topics to ask questions about the specific engrained board policies or collective bargaining agreements, school leaders are more apt to anticipate outdated rules of engagement that are barriers to systemic reform efforts.
Be fearless in removing systemic barriers when leading change. Hess (2010, p. 65) states it best:

More fundamental change requires addressing the norm, culture, behaviors, and expectations that are intertwined with, but distinct from, formal policy. Risk-averse principals, central office administrators, school boards, and superintendents have been applauded for pursuing consensus and proceeding gingerly when it comes to the rules governing personnel, procurement, and operations. With regard to such informal barriers, it is essential at the federal, state, and local levels to promote transparency regarding what bottlenecks and obstacles exist and why. Some roadblocks may be necessary to safeguard children or tax dollars, but many simply appear to be the remnants of routine, outdated technology systems, and industrial-age collective bargaining agreements. In particular, state and district leaders must become more insistent on negotiating flexible bargaining agreements, striking down practices that protect mediocre teachers or vendors, developing crucial management metrics, and putting their attorneys to work figuring out what might be done rather than what might be risky.

It is also important that leadership aligns its organization around its initiatives, clearly identify roles and responsibilities, think on a systems level, and put into action procedures to streamline internal and external communication. Leaders must remember that implementing large-scale reform efforts is a process, not an event. Being fearless also requires leaders to shift from thinking of an industrial economy to innovations based on the “knowledge economy.” In other words, it is essential that leaders shift toward the production and distribution of knowledge and information rather than the production and distribution of things. Investing in human capital and valuing intellectual property are key to helping eliminate systemic barriers to drive change.

Align and integrate P-20 curricula, coursework, and learning experiences toward postsecondary and workforce readiness. It is essential to remain focused on taking advantage of every opportunity to make connections and integrate experiences
across all content areas in all grades. This should be a fundamental goal in all schools’ improvement planning processes to increase student achievement. One significant vehicle for aligning and integrating the overall educational experience for students is through academic and career pathways. It is important that content and contextual learning experiences are linked to economic and workforce development as well as linked vertically within the individual “feeder” systems to provide opportunities for elementary students to access to the world of college and careers, middle school students to explore them more deeply, and high school students to prepare for postsecondary and workforce readiness (PWR). These linkages promote change through the intersections of the systems. Gaps between these different levels must be eliminated. Articulation agreements or memorandums of understanding between the P-12 system and postsecondary institutions must be achieved and should demonstrate a seamless alignment of the curriculum within specific postsecondary and career-based programs of study as well as provide opportunities to earn college credit in high school and industry certificates. The 21st century world requires students to become specialists; not remain as generalists as in the 20th century. High schools – especially – will need to move away from the large comprehensive factory approach that has governed their structure and program offerings for almost a century in order to streamline their operations to better align and integrate curricula and course work. Furthermore, students must have opportunities of choice based on specific academic and career goals in order to continuously see the meaning and relevancy in their learning to connect with real-world experiences. Alignment and integration should also include opportunities for
intervention and enrichment. Furthermore, such alignment and integration of curricula, coursework, and contextual learning experiences must also remain focused on employer expectations, experience and expertise for 21st century skills and learning; such as: academic content knowledge, civic responsibility, collaboration, communication, creativity and innovation, critical thinking and problem solving, use of information technology, global and cultural awareness, personal responsibility, and work ethic. Additionally, job-embedded professional learning within the instructional core must support data driven, research-based instruction, to include the pathway context and embedded PWR skills.

**Strive for sustainability of academic and career pathways.** Due to their significance in providing a powerful way in which they help align the different levels of a P-20 educational system toward the common goal of graduating students from high school fully prepared to pursue and succeed in postsecondary education leading to meaningful and productive careers, pathway sustainment must be given serious consideration. Methods of building their long-term capacity within a P-20 system are necessary through consistent monitoring and evaluation of their impact within and on the system.

We need to create a system of career-focused pathways that span [minimally] the last years of high school and at least one year of postsecondary education or training and lead to industry-recognized credentials….this will require engaging governmental leaders, educators, and employers in building the infrastructure needed to support a system in which work-linked learning becomes an essential element in a strategy to increase both high school and postsecondary completion rates (Harvard Graduate School of Education, 2011).
It is important to briefly highlight that creating and sustaining Academic and Career Pathways for students is not about tracking. Wolk (2011. p.116) offers, “First, a specific pathway is not mandated; second, they are not based on race or IQ or ‘probable destinies’; every pathway is intended to improve students proficiency in basic skills and help them learn to reason and solve problems; and fourth, pathways give students a say in their own education and a chance to discover and pursue their passions.”

Pathways have an enormous presence across a school system and require districts to make certain that program viability, costs, student enrollment and completion rates, resources and equipment, and scheduling are visible at all times. In order to provide equitable access for all students, building in accountability, developing ownership, acknowledging competing interests, ensuring teacher qualifications are some ways to be proactive toward sustaining and growing pathways. Districts are facing budget cuts, teacher equivalency (TE) reductions, and increasing teacher: student ratios; therefore, it is even more critical that creative funding sources through partnerships, volunteers, donations, in-kind resources, and grants are secured through program visibility and community involvement. However, sustainability isn’t just about money; it requires building relationships, finding a niche or specialization, and maintaining flexibility. A key ingredient for pathway success is the collaboration of industry, education, and community organizations.

**Establish and institutionalize partnerships with higher education and industry.** Partnerships are established by connecting resources from industry and preschool through postsecondary education to ensure a seamless, dependable and
replicable pathway for all students that engages them so they secure superior academic and employment advancement in their chosen careers as well as meet the workforce needs of the community at-large. Partnerships help motivate students to attain a superior academic foundation as well as valuable, marketable skill sets for the workforce and higher education through alignment of curriculum and opportunities for training to meet the needs of local industries/career sectors. Local dynamic workforce/career sectors gain access to a valuable, locally developed and certified talent pool, reducing recruitment and training costs, increasing the productivity of their workforce, and meeting the demands of business and industry. Partnerships also strengthen connections with the P-12 system and workforce/career sectors through articulation agreements and postsecondary and career-based programs of study.

Partnerships are essential in connecting school districts with postsecondary, community, economic, and workforce institutions. They are, in essence, the glue that binds the system together to eliminate gaps while providing relevancy. Districts must strive for symbiotic relationships with partners. To do so, a “return on investment” is an approach that should be considered. However, assets between education and economic entities are often not tangible. To demonstrate working partnerships with higher education and industry, it is necessary to consider human capital, intellectual equity and/or physical assets such as facilities and equipment. Regarding human capital, partners can, for example, provide high-quality instructors with career/subject matter expertise, give input into curriculum modifications aligned with careers, provide guest speakers and career mentoring. Intellectual capital can be gained through such things as
industry certificates, PWR skills, and research programs. Through collaboration with CWPT members, EPS recently created a framework based on different version of a return on investment model. It created a Return on Innovation Framework derived from Karl-Erik Sveiby’s original work monitoring intangible assets management. This framework is presented in Appendix FF. Partnerships can become institutionalized by looking at them through external capital (public), internal capital (systems), and human capital (personnel) and gauging each of these categories through indicators of growth, innovation, efficiency/utilization, and sustainability.

**Establish and institutionalize advisory committees.** Partnerships are expanded and strengthened, become well-established in order to blur the hard line between education and the workforce, and ultimately become more symbiotic through the work of advisory committees. Advisory groups made up of higher education, economic development, and workforce development should continuously identify trends and changes within the industry and provide advice on curriculum advisement specific to the pathway experiences. Developing public relations, supporting job placement, coordinating recruiting strategies, identifying training resources and opportunities, connecting with leadership activities, offering legislative direction, and ensuring program evaluation are all essential responsibilities of these important groups.

**Suggestions for Future Research**

The results and findings of this study suggest further research to be conducted to develop a more comprehensive understanding of P-20 reform efforts; innovations; alignment and coherence; partnerships; academic and career pathways; longitudinal
In light of these, the researcher suggests the following studies to be considered:

1. Apply the District Management Council’s Innovation Matrix (Smith and Morgan, 2010) as a conceptual framework to investigate the degree of change and impact/scalability of innovations on the P-20 Campus as it moved into a full implementation/refinement stage in its existence.

2. A further similar study on what innovations have become institutionalized and last longest (sustained) in the P-20 campus system could be conducted within the context of what has truly helped align the overall system toward coherence.

3. Create a conceptual framework for 21st century learning through Education 3.0 (GETideas.org), the Grammar of Schooling (Tyack and Tobin, 1994), Greenfield Schooling (Hess, 2010), and Teaching the Digital Generation (Kelly, et al., 2009), to investigate if the P-20 Educational Campus was able to create systemic 21st century learning.

4. A further similar study or extension of this could be done by looking through the lens of eliminating barriers surrounding time, budgeting, hiring, curriculum and instruction, professional learning structures, etc., through the autonomies granted by Colorado SB-130 Innovation status, was the P-20 campus ultimately able to create systemic 21st century learning.

5. An additional study or different slant to this could be conducted by school districts measuring their level of management (non-negotiables) versus their level of autonomies across all systems within their organizations through the lens of barriers and/or gaps impeding their P-20 alignment.

6. Use the leadership model and governance structure of the P-20 Campus as a conceptual framework to investigate its impact in overall development of P-20 systemic structures, alignment, and effectiveness in institutionalizing the significant innovations and interpreted themes. A grounded theory of a new type of leadership model may emerge from this.

7. Use the significant product, process, organizational, and marketing innovations developed within the P-20 Campus microcosm as a framework for P-20 reform efforts and investigate its application across entire school districts.
8. Use the concepts within the Return on Innovation Framework as a conceptual framework to evaluate the efficiency and effectiveness of innovations invested by all partners and organizations that enhance each other’s overall value. This could lead to establishing a metric for assessing the level of development toward symbiotic partnerships.

9. In order to gauge whether students are postsecondary and workforce ready or P-20 alignment is actually having an impact on the Colorado Paradox, a longitudinal study of student achievement data could be conducted to include research in one or more of the following:
   a. # of students in the pathways programs/courses
   b. # of students completing pathways courses/programs
   c. High school graduation rates and dropout rates
   d. # of students entering postsecondary education
   e. # of students completing postsecondary education
   f. # students employed

Closing Reflection

As this study highlighted, innovation associated with the business sector is quite apparent in education – such as sustaining innovations, disruptive innovations, and the innovator’s dilemma. However, the notion of disruptive innovations in education merely creates innovations within portions of the educational system which do not afford the kind of acceleration across the entire system needed for transformation. Disruptive and sustaining innovations within education are merely too slow and will not allow enough of an impact for overall systemic innovation that is necessary to transform education for the 21st Century required to move beyond 20th century ideals and designs. Moreover, defining innovation in education is much more complex than simply putting innovations into product, process, organizational methods, and marketing methods categories. The
new definition of educational innovation must embrace how holistic transformation is taking place throughout the entire educational system.

The nature of innovation in education is much more suitable and appropriate to regard in the form of catalytic innovations – innovations that drive social change. This is necessary to move closer to Education 3.0. The random messy nature of inducing such wide-scale reform requires us to seriously consider the significant innovations brought forth in this study as catalysts to help us achieve Education 3.0. Moreover, the significant innovations and the themes generated from them detailed in this study are some of the means in which we can make greater progress toward an overall education system that meets the demands of a 21st century global economy. However, because of their interdependence on one another and interrelationship with each other, they are simply innovation ingredients of the larger systemic, transformative innovation necessary to truly revolutionize teaching and learning that breaks the barriers still in place remaining from 20th century structures and practices.

Just as Education 3.0 requires a level of transformative capabilities and practices for education in the 21st century so, too, should innovations in education create the level of marked change that can only come from educational systemic structures that promote the kind of catalytic innovation necessary for true social change. The move toward Education 3.0 requires genuine and massive structural transformations in the form of systemic educational innovation, not gradual, technical innovations that are superficial makeovers. Compartmentalized educational innovations won’t last because we remain deeply engrained in philosophies, beliefs, language, and practices of 20th century
education. Educational innovation must embrace a holistic transformation that impacts the entire system. If schools continue to embrace the philosophies and practices of Education 2.0, they will continuously become more and more obsolete by students that thrive in a 3.0 society.

This study revealed the development of the EPS P-20 Campus through an illumination of key innovations to provide more instructional alignment and coherence toward a seamless, educational system from preschool through postsecondary experiences; to address postsecondary and workforce readiness; and to create critical partnerships among P-12 education, higher education, and the community and industry. While it is too soon to tell if the study’s findings were enough to truly reshape the “grammar of schooling” to achieve the philosophies and practices of Education 3.0, it is certainly apparent that there is a dire need for systemic structures to promote educational innovation for the 21st Century.

As the Director for P-20 Campus, I am grateful for the experiences I have had in bringing the Campus to life. As we continue to strive to develop an exemplary model of 21st century education, I remain committed to P-20 educational reform efforts. I strongly believe that we can raise student achievement by combining the philosophies and practices of Education 3.0, the alignment of the overall educational system, and the support of business and community partnerships. If it is allowed to continue to address the dysfunctions inherent in outdated educational policies, structures, and beliefs, what has begun with the creation of the P-20 Educational Campus will enable us to overturn the status quo in order to sustain authentic, educational improvement for the 21st Century.
References


Organization for Economic Co-operation and Development. (2010b). *Centre for Educational Research and Innovation.* Retrieved from http://www.oecd.org/department/0,3355,en_2649_35845581_1_1_1_1_1,00.html


Appendix A: Interview Email Invitation

Hello,

You are invited to participate in a study that will tell the story of one way in which our district approached P-20 educational reform by developing a P-20 Educational Campus. In addition, this study is being conducted to fulfill the requirements for the completion of dissertation work on educational reform, innovation, and leadership actions. The study, *The Development of a P-20 Educational Campus: A Case Study on Innovation*, is being conducted by Researcher. Results will be used to provide a model for the national educational research community. Participation in this study should take about 30 minutes of your time. Participation will involve responding to 2 questions about educational innovations. The interview questions are: 1) What were the innovations made in the development of the P-20 Educational Campus, and 2) How were those innovations innovative? Participation in this project is strictly voluntary. If you agree to participate, you will be contacted to schedule an interview time.

My name is Interviewer, Accountability and Research Analyst, and I will be conducting the interview for this research. *Please send me a reply email if you agree to participate in this research interview.* I will then contact you to set up a time and location within the next two weeks that best fits your schedule.

Please read, print, and sign the attached Interview Consent Form. I will collect this form from you prior to your interview session.
Appendix B: Interview Informed Consent Form

The Development of a P-20 Educational Campus: A Case Study on Innovation

You are invited to participate in a study that will tell the story of how one Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. In addition, this study is being conducted to fulfill the requirements for the completion of dissertation work on educational reform, innovation, and leadership actions. The study is conducted by Researcher. Results will be used to provide a model for the national educational research community and to receive a grade in the course. Researcher can be reached at richard.r.patterson@du.edu. This project is supervised by the course instructor, Dr. Susan Korach, Educational Administration, the Morgridge College of Education, University of Denver, Denver, Colorado 80208, 303.871.2212 / skorach@du.edu.

Participation in this study should take about 30 minutes of your time. Participation will involve responding to 2 questions about educational innovations. The interview questions are: 1) What were the innovations made in the development of the P-20 Educational Campus, and 2) How were those innovations innovative? Participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the interview at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled. Additionally, while the researcher, Rich Patterson, is closely related the work of the development of the P-20 Campus, there are specific measures built into the gathering of information where he can in no way identify you or anyone else participating in the interview process.

Your responses will be identified by code number only and will be kept separate from information that could identify you. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only group averages and paraphrased wording. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. Although no questions in this interview address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the interview, please contact Susan Sadler, Chair, Institutional Review Board for the Protection of Human Subjects, at 303-871-3454, or Sylk Sotto-Santiago, Office of Research and Sponsored Programs at 303-871-4052 or write to either at the University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121. You may keep this page for your records. Please sign the next page if you understand and agree to the above. If you do not understand any part of the above statement, please ask the researcher any questions you have.

I have read and understood the foregoing descriptions of the study called The Development of a P-20 Educational Campus: A Case Study on Innovation. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I have received a copy of this consent form.

___ I agree to be audiotaped. ___ I do not agree to be audiotaped.

Signature _________________________________________ _______ Date ______________________

___I would like a summary of the results of this study to be mailed to me at the following postal or e-mail address:
Appendix C: Online Survey Questionnaire

The Development of a P-20 Educational Campus: A Case Study on

1. Project Information

You are invited to participate in a study that will tell the story of how one Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. In addition, this study is being conducted to fulfill the requirements for the completion of dissertation work on educational reform, change, innovation, and leadership actions. The study is conducted by Richard Patterson. Results will be used to provide a model for the national educational research community and to receive a grade in the course. Richard Patterson can be reached at richard.r.patterson@du.edu. This project is supervised by the course instructor, Dr. Susan Korach, Educational Administration, the Morgndale College of Education, University of Denver, Denver, CO 80208, 303.871.2212 / skorach@du.edu.

Participation in this survey should take about 15 minutes of your time. Participation will involve responding to 43 questions about educational innovations. Participation in this survey is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the survey at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled. Additionally, while the researcher, Richard Patterson, is closely related to the work of the development of the P-20 Campus, there are specific measures built into gathering of information where he can in no way identify you or anyone else participating in the survey process.

All survey responses are completely anonymous. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only aggregate data. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. Although no questions in this survey address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the survey, please contact Susan Sadler, Chair, Institutional Review Board for the Protection of Human Subjects, at 303-871-3454, or Sylke Soto-Santiago, Office of Research and Sponsored Programs at 303-871-4052 or write to either at the University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121.

I have read and understood the foregoing descriptions of the study called The Development of a P-20 Educational Campus: A Case Study on Innovation. I agree to participate in this survey, and I understand that I may discontinue the survey at any time.

This survey consent was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 06/17/2010.

This survey was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 01/19/2011.

You may print this page for your records.
The Development of a P-20 Educational Campus: A Case Study on

2. Definition of Innovation

For the purpose of this survey, innovation is defined as the implementation of a new or significantly improved product, process, organizational method, or marketing method.

It is important to note that this survey does NOT ask you to rate the progress of the implementation of an innovation. It is the belief that there are stages to the process of implementation.
### 3. Significance of Innovations

This section relates specifically to the innovations in the development of the Eos Public Schools P-20 Campus. Please rate each item accordingly. If you feel you are not familiar enough with the item to rate it, please select that response.

Please keep in mind that the following items do NOT refer to the progress of implementation of the innovation; rather they refer to the significance of the innovations or to what degree are the innovations truly innovative.

Please select one rating for each item.

<table>
<thead>
<tr>
<th>1. Academic and Career Pathways - (Arts and Communication, Business, Health Sciences, and STEM = rigorous academic and career courses; a gateway course; industry certifications; postsecondary credit; and state standards):</th>
</tr>
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<tbody>
<tr>
<td>☐ Not Innovative</td>
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<tr>
<td>☐ Somewhat Innovative</td>
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<tr>
<td>☐ Innovative</td>
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<td>☐ Highly Innovative</td>
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<td>☐ Not familiar enough to rate</td>
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<tr>
<th>2. The P-20 curriculum and coursework aligned around access, exploration, and preparation toward postsecondary and workforce readiness (PWR):</th>
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<tbody>
<tr>
<td>☐ Not Innovative</td>
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<tr>
<td>☐ Somewhat Innovative</td>
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<th>3. The use of Individual Career and Academic Plans (ICAPs):</th>
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<tr>
<td>☐ Not Innovative</td>
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<td>☐ Somewhat Innovative</td>
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<tr>
<td>☐ Highly Innovative</td>
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<tr>
<td>☐ Not familiar enough to rate</td>
</tr>
</tbody>
</table>
4. The use of online or electronic portfolios:
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

5. Physics First (beginning in 9th grade introducing the Physics - Chemistry - Biology sequence):
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

6. The Music programs (such as guitar, keyboard, integration of music software, small ensembles, and symphony orchestra):
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

7. The Health and Wellness programs (such as foundational skills, trainers, contracted weekly number of required minutes of physical fitness, yoga):
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate
The Development of a P-20 Educational Campus: A Case Study on

8. ‘Honors’ options and credit embedded into all high school core curriculum courses (English, Math, Physics, Chemistry, Biology, Geography, Humanities, US History, and Civics):

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

9. The daily offering of World Languages (Spanish and Mandarin) across all grades starting in Kindergarten:

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

10. The P-20 Campus actualizes legislation in that it is designed around the coalition of SB-212 (the Colorado Achievement Plan for Kids - CAP4K); the Colorado Department of Education’s strategic plan (Forward Thinking); and VISTA 2015:

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

11. A seamless, aligned P-20 campus system:

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate
<table>
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<tr>
<th></th>
<th>Question</th>
<th>Rating Options</th>
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<tbody>
<tr>
<td>12</td>
<td>The P-20 Plans of Study (including the Institutes and Pathways elective courses) which are linked to the Colorado Higher Education Admissions Requirements:</td>
<td>Not Innovative, Somewhat Innovative, Innovative, Highly Innovative, Not familiar enough to rate</td>
</tr>
<tr>
<td>13</td>
<td>The use of Web 2.0 tools and platforms (such as Google applications, Moodle, Prezi, Animoto, etc):</td>
<td>Not Innovative, Somewhat Innovative, Innovative, Highly Innovative, Not familiar enough to rate</td>
</tr>
<tr>
<td>14</td>
<td>The ability to fluidly move students according to academic ability across and within the P-20 campus system:</td>
<td>Not Innovative, Somewhat Innovative, Innovative, Highly Innovative, Not familiar enough to rate</td>
</tr>
<tr>
<td>15</td>
<td>The overall P-20 educational experiences for students:</td>
<td>Not Innovative, Somewhat Innovative, Innovative, Highly Innovative, Not familiar enough to rate</td>
</tr>
</tbody>
</table>
The Development of a P-20 Educational Campus: A Case Study on

16. The hiring practices (such as teacher qualifications for adjunct faculty status for postsecondary courses, Career and Technical Education licensure, industry experience, 3-tiered process):

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

17. The use of a ‘Request for Information’ proposal to institutions of higher education (to confirm a partnership between the P-20 Campus and higher education to support a variety of postsecondary programs):

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

18. The introduction of new instructional technologies (such as 1:1 computing, netbooks, Polycom, digital signage, etc):

- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate
The Development of a P-20 Educational Campus: A Case Study on

19. The use of Challenge Based Learning (a constructivist student-centered instructional strategy in which students collaboratively solve problems and reflect on their experiences):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

20. The use of the ‘Structural Tension Charting’ as a strategic planning process (desired state - current reality - actions steps):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

21. The overall physical design (internal and external features) of the building(s):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

22. The bell / master schedule:
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate
23. The work of the P-20 Advisory Committee in its support of the development of the P-20 campus system:
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

24. The work of the P-20 Design Team in the development of the P-20 campus system:
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

25. The use of P-20 Campus focus groups in the development of the P-20 campus system:
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate

26. The work of the P-20 Campus Parent Leaders Group in the development of the P-20 campus system:
   - Not Innovative
   - Somewhat Innovative
   - Innovative
   - Highly Innovative
   - Not familiar enough to rate
## The Development of a P-20 Educational Campus: A Case Study on

### 27. Increased choice offerings and access to postsecondary options linked to postsecondary and workforce readiness (PWR):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

### 28. Partnerships such as the work of the Community Workforce Planning Team (linking education and economic development to bring industry, economic development, workforce development, higher education, and EPS together):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

### 29. The P-20 Campus leadership model / overall governance structure (the separation of instructional and operational/managerial capacities; and inherent job descriptions):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate

### 30. The creation of a P-20 Campus Operational Leadership Team (OLT):
- Not Innovative
- Somewhat Innovative
- Innovative
- Highly Innovative
- Not familiar enough to rate
The Development of a P-20 Educational Campus: A Case Study on

31. The professional learning structures / opportunities such as SALTs, Learning Labs, etc:
   - [ ] Not Innovative
   - [ ] Somewhat Innovative
   - [ ] Innovative
   - [ ] Highly Innovative
   - [ ] Not familiar enough to rate

32. The use of instructional spaces (classrooms, the Learning Commons, Flex Spaces, etc):
   - [ ] Not Innovative
   - [ ] Somewhat Innovative
   - [ ] Innovative
   - [ ] Highly Innovative
   - [ ] Not familiar enough to rate

33. The branding rationale for EPS Academic and Career Pathways (alignment with the Colorado Career Cluster Model and Institutes):
   - [ ] Not Innovative
   - [ ] Somewhat Innovative
   - [ ] Innovative
   - [ ] Highly Innovative
   - [ ] Not familiar enough to rate

34. The creation of the Pathway booklets (both hard and electronic copies of these marketing materials):
   - [ ] Not Innovative
   - [ ] Somewhat Innovative
   - [ ] Innovative
   - [ ] Highly Innovative
   - [ ] Not familiar enough to rate
The Development of a P-20 Educational Campus: A Case Study on

35. The Pathway Planning Guide (used by all secondary students to provide overall secondary and postsecondary information):

☐ Not Innovative
☐ Somewhat Innovative
☐ Innovative
☐ Highly Innovative
☐ Not familiar enough to rate

36. 'Pathway Palooza' (annual event informing students and parents of the overall 9th through 12th grade requirements, experiences and opportunities):

☐ Not Innovative
☐ Somewhat Innovative
☐ Innovative
☐ Highly Innovative
☐ Not familiar enough to rate

37. The use of digital signage throughout the campus:

☐ Not Innovative
☐ Somewhat Innovative
☐ Innovative
☐ Highly Innovative
☐ Not familiar enough to rate
The Development of a P-20 Educational Campus: A Case Study on

4. Additional Innovations

1. Are there additional innovations relating to the development of the P-20 Campus you feel were missed from those listed in the previous section? If so, please enter items below.

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<thead>
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<th>Item 1</th>
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<td>Item 2</td>
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<td>Item 3</td>
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</table>
The Development of a P-20 Educational Campus: A Case Study on

5. Demographic Information I

In order to provide more descriptive analysis to the data, please answer the following five questions.

Reminder - All information received is completely anonymous.

1. Do you work in education?
   - [ ] Yes
   - [ ] No
### The Development of a P-20 Educational Campus: A Case Study on

#### 6. Demographic Information II

1. **In what area of education do you work?**
   - [ ] Preschool to 12th Grade
   - [ ] Higher Education
   - [ ] Both

2. **What is the highest level of education you have completed?**
   - [ ] High School
   - [ ] Bachelors
   - [ ] Masters
   - [ ] Doctorate

3. **Which range best matches your age?**
   - [ ] 18-19
   - [ ] 20-29
   - [ ] 30-39
   - [ ] 40-49
   - [ ] 50-59
   - [ ] 60-69
   - [ ] 70-79
   - [ ] 80-89
   - [ ] 90-99

4. **What is your race / ethnicity?**
   - [ ] American Indian or Alaskan Native
   - [ ] Asian
   - [ ] Black or African American
   - [ ] Hispanic or Latino or Spanish Origin of any race
   - [ ] Native Hawaiian or Other Pacific Islander
   - [ ] White
   - [ ] Two or more
Appendix D: Online Survey Informed Consent Form

You are invited to participate in a study that will tell the story of how one Colorado school district approached P-20 educational reform by developing a P-20 Educational Campus. In addition, this study is being conducted to fulfill the requirements for the completion of dissertation work on educational reform, innovation, and leadership actions. The study is conducted by Richard Patterson. Results will be used to provide a model for the national educational research community and to receive a grade in the course. Richard Patterson can be reached at richard.r.patterson@du.edu. This project is supervised by the course instructor, Dr. Susan Korach, Educational Administration, the Morgridge College of Education, University of Denver, Denver, Colorado 80208, 303.871.2212 / skorach@du.edu.

Participation in this survey should take about 15 minutes of your time. Participation will involve responding to 43 questions about educational innovations. Participation in this survey is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the survey at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation will involve no penalty or loss of benefits to which you are otherwise entitled. Additionally, while the researcher, Richard Patterson, is closely related the work of the development of the P-20 Campus, there are specific measures built into the gathering of information where he can in no way identify you or anyone else participating in the survey process.

All survey responses are completely anonymous. This is done to protect the confidentiality of your responses. Only the researcher will have access to your individual data and any reports generated as a result of this study will use only aggregate data. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. Although no questions in this survey address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

If you have any concerns or complaints about how you were treated during the survey, please contact Susan Sadler, Chair, Institutional Review Board for the Protection of Human Subjects, at 303-871-3454, or Sylk Sotto-Santiago, Office of Research and Sponsored Programs at 303-871-4052 or write to either at the University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, Colorado 80208-2121.

I have read and understood the foregoing descriptions of the study called The Development of a P-20 Educational Campus: A Case Study on Innovation. I agree to participate in this survey, and I understand that I may discontinue the survey at any time.

This survey consent was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 08/17/2010.

This survey was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 01/xx/2011.

You may print this page for your records.
Appendix E: Pathways Components

The overall components that Pathways must contain:

1. Specific curriculum, coursework, and experiences relative to accessing, exploring, and preparing for workforce and postsecondary readiness (PWR).
2. Industry standards and credentials linked to careers.
3. Partnerships with colleges, universities, businesses and the community.
4. A range of opportunities to master 21st century skills and knowledge.
5. Simulations and internships relevant to coursework.
6. Field experiences and Community Outreach Projects.

Each EPS Academic and Career Pathway includes:

1. Rigorous coursework and experiences that prepare students for college and careers.
2. Career clusters that are linked to Colorado industry sectors so students are prepared to find work in our state.
3. Opportunities to master the skills and knowledge needed to compete in ever-changing 21st century jobs.
4. Hands-on field experiences and community outreach projects related to coursework and career studies.
5. Partnerships with all stakeholders – students, parents, staff, universities, businesses, community organizations, and governmental agencies.

Resources
- Plans of Study
- ePortfolios
- Naviance Education 2020
- Infinite Campus
- Enrich Moodle
- Clarity College in Colorado

Curricula
- Courses
- Colorado Model Content Standards
- 21st Century and PWR Skills
- Program Approvals

Plans of Study
- Dual Credit
- Concurrent Enrollment
- Courses
- ICAPs
- Ascent

Staffing
- Staff Roles
- Adjunct Faculty
- CTE Licensure

Partnerships
- Menu of Community Businesses, Higher Education, Orgs, and Parents Partners

Experiences
- Learning for the 'whole' child
- Simulations Contextual Learning (ie.Field Experiences)
- Community Outreach Projects
- Service Learning
- Virtual Internships
- Capstones

Student Qualifications
- Diplomas
- Certifications and Endorsements
- AA and AAS Degrees

271
Appendix F: Arts and Communication Pathway Plan of Study—Visual and Design Arts Institute

The Visual and Design Arts Institute will prepare students for entry into the commercial and artistic field of 2 and 3D design and animation. Students will develop technical and critical thinking skills related to the fundamentals of design in order to implement those skills through projects character design, gaming, visual storytelling and much more. Students will use industry-based software to develop their skills and bring 3D design and animation to life.

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<th>Grade 7</th>
<th>Grade 8</th>
<th>Grade 9</th>
<th>Grade 10</th>
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<tr>
<td>Mays I Storytelling Conceptual (.5 credit each)</td>
<td>Mays II Storytelling Applied (.5 credit each)</td>
<td>Animation I Digital Animatics (.5 credit each)</td>
<td>Electives Capstone &amp; Portfolio Development (.5 credit each)</td>
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All students are invited to participate in the Visual and Design Arts Institute and it is highly recommended that students participate in honors or Advanced Placement (AP) courses. Counselors and teachers will help ensure that proper support and resources are provided so high standards are not seen as a barrier to overcome, but as a standard to be met.

Honors: Students receiving an advanced score will receive honors credit for that course.

Additional Pathway Electives could include Art History, Art Appreciation, and/or Digital Art Foundations offered through Community College for dual credit. Institute electives also include those courses that could be applied toward certifications and an Associate in Applied Science (AAS) degree in Multimedia.
Appendix G: Business Pathway Plan of Study – Business Administration Institute

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<tr>
<th>Grade 6</th>
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<td>All students are invited to participate in the Business Administration Institute where students will earn postsecondary credit through their pathway elective courses. Counselors and teachers will help ensure that proper support and resources are provided so high standards are not seen as a barrier to overcome, but as a standard to be met. Honors Students receiving an advanced score will receive honors credit for that course. Additional electives could include MAR 216 Principles of Marketing, MAR 220 Advertising and Promotion, and MAR 240 International Marketing. By adding these additional pathway electives, students can earn a CCA Business Certificate-Marketing.</td>
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Appendix H: Health Sciences Pathway Plan of Study – Diagnostic and Therapeutic Services Institute

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All students are invited to participate in the Health Sciences Pathway and it is highly recommended that students participate in honors or Advanced Placement (AP) courses. Counselors and teachers will help ensure that proper support and resources are provided so high standards are not seen as a barrier to overcome, but as a standard to be met. Honors: Students receiving an advanced score will receive honors credit for that course.

Pathway Electives could include online courses (HPR 179 Medical Terminology and/or HYE 100 Health and Wellness: Nutrition offered through Community College. Pathway Electives may also include those courses that could be applied toward certification. (See course sequence for certification.)
## Appendix I: STEM Pathway Plan of Study – Engineering Institute

### Engineering Institute [STEM]

**Recommended Seven-Year Plan of Study**

This intermediate and advanced engineering plan of study, Project Lead the Way, is a hands-on, challenging curriculum that provides students with meaningful learning experiences using math, science, and technology to solve real-world problems. It is designed for all students interested in pursuing an advanced career in the field of engineering and provides experiences that can lead to a wide range of potential careers. Students are expected to follow a sequence of courses which is linked to a post-secondary engineering program of study. Various career-based experiences such as focused job shadows, team competitions, and college-industry site visits are also required to reinforce the connection between school and work. College credit may be offered upon completion of the Engineering Program.

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<tr>
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<th>Introduction to Engineering Design</th>
<th>Principles of Engineering</th>
<th>Digital Electronics</th>
<th>Engineering Design &amp; Elect. Capstone</th>
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All students have the opportunity to earn honors credit within core academic courses of English, Mathematics, Science and Social Sciences. Students who demonstrate an advanced depth of understanding will receive an advanced score along with honors credit for that course. The determination of honors credit will be granted using a body of evidence. A body of evidence may include student portfolios, teacher recommendations, work samples, and performance based assessments. Pathway electives could include specialization courses offered in the Engineering pathway or courses that can be applied toward certifications and/or credentials (see page 3).
## Appendix J: The Eos Public Schools Individual Career and Academic Plan

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<th>MIDDLE SCHOOL MILESTONES</th>
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<th>( \text{GRADE 8} )</th>
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<tbody>
<tr>
<td>• Enroll in Naviance and GIC at 13 years old (collegeiscolorado.org)</td>
<td>• College in Colorado Career Interest Inventory (completed in September)</td>
<td>• Take the Explore Assessment (in October)</td>
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<tr>
<td>• View power point on learning styles</td>
<td>• Students will identify at least three potential careers of interest and research all three to include:</td>
<td>• Students will revise the results of the Explore Assessment and identify:</td>
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<tr>
<td>• Take My Learning Style survey</td>
<td>- educational requirement</td>
<td>• three careers of interest</td>
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<td></td>
<td>- potential salary</td>
<td>• Students will review and/or review their Career and Academic Plan (ICAP)</td>
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<td></td>
<td>- job outlook</td>
<td>• Students will review and/or review their career and academic goals</td>
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<td></td>
<td>• Initiate Career and Academic Plan (ICAP)</td>
<td>• Students will review and/or review their contextual and service learning goals (when applicable)</td>
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<tr>
<td></td>
<td>• Write career and academic goals</td>
<td>• Portfolio Check</td>
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<td></td>
<td>• Write contextual and service learning goals (when applicable)</td>
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<tr>
<td>• Write goals and five year plan (Plan of Study) + Credit Check</td>
<td>• Write/review goals and three year plan (Plan of Study) + Credit Check</td>
<td>• Write/review goals and three year plan (Plan of Study) + Credit Check</td>
<td>• Write/review goals and post grad plan</td>
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<tr>
<td>• Portfolio Check (Verify Naviance milestone completions)</td>
<td>• Portfolio Check (Verify Naviance milestone completions)</td>
<td>• Portfolio Check (Verify Naviance milestone completions)</td>
<td>• Credit Check (Plan of Study)</td>
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<tr>
<td>• Take the Explore Assessment (attach Career Inventory)</td>
<td>• Take the PLAN Assessment Use results of PLAN</td>
<td>• Prepare and take the ACT</td>
<td>• Portfolio Check (Verify Naviance milestone completions)</td>
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<td>• Use results of Explore Assessment to assist in writing/revise goals and selecting courses</td>
<td>• Assessment to assist in writing/revise goals and selecting courses</td>
<td>• Use ACT results to assist in writing/revising goals and selecting courses</td>
<td>• Complete A College Application (if applicable)</td>
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<td>• Students will review and/or revise their career and academic goals</td>
<td>• Students will review and/or revise their career and academic goals</td>
<td>• Students will review and/or revise their contextual and service learning goals (when applicable)</td>
<td>• Write College Essay (if applicable)</td>
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<td>• Students will review and/or revise their contextual and service learning goals (when applicable)</td>
<td>• Students will review and/or revise their contextual and service learning goals (when applicable)</td>
<td>• Take the Do What You Are Survey (can be completed any year prior to the end of the junior year)</td>
<td>• Become Faculty Recommendations</td>
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<td>• Students will review and/or revise their career and academic goals</td>
<td>• Students apply academic and employment readiness skills in work-based learning situations such as internships, shadowing etc. (when applicable)</td>
<td>• Complete FAFSA (if applicable)</td>
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<td>• Students apply academic and employment readiness skills in work-based learning situations such as internships, shadowing etc. (when applicable)</td>
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<td>• Submit scholarship applications (if applicable)</td>
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276
Appendix K: The Colorado Career Cluster Model

Career Cluster Models:

1. Group careers and industries based on the common academic and technical knowledge and skills required of employees in each Career Cluster.
2. Create a target for schools to organize a curricular framework for seamless transition.
3. Help with designing curriculum.
4. Offer instructional and guidance models as resources.

In Colorado, the Colorado Community College System has designed its Colorado Career Cluster Model around: six industry sectors; seventeen career clusters and; 82 occupational groupings. All of these components have the Colorado Postsecondary and Workforce Readiness (PWR) skills embedded. PWR refers to the knowledge, skills, and behaviors essential for high school graduates to be prepared to enter college and the workforce and to compete in the global economy.

Revised February 9, 2020 - www.ccs.edu
Appendix L: August 24, 2009 State of Colorado Proclamation

PROCLAMATION

WHEREAS, August 24, 2009 has been designated Eos Public Schools P-20 Campus Day by the State of Colorado; and

WHEREAS, the Eos Public Schools P-20 Campus is a cutting edge model of excellence for innovation in public education. It focuses on educational alignment for a seamless continuum from pre-school through post-graduate experiences.

WHEREAS, the 100-acre site, located at Avenue and Road, has dedicated space for preschool within a state-of-the-art P-8 school and a high school where students enroll on site in college courses to earn dual credit and prepare them to pursue a wide variety of educational choices fostering career pathways and workforce readiness.

WHEREAS, the campus fulfills community expectations by fostering partnerships with all stakeholders -- students, parents, EPS staff, universities, businesses, community organizations, and governmental agencies --to cultivate and sustain a collaborative seamless system of education.

WHEREAS, the P-20 Campus is a solid commitment to 21st century knowledge and complements the EPS portfolio of choice. The campus highlights the district's existing framework of innovation and incorporates the EPS best practices and choice options that are already in place as well as being a source for continued innovation and creativity. Students have the opportunity to access, explore, concentrate on, and prepare for career and postsecondary experiences through pathways of their choice.

WHEREAS, in addition to being a center for student learning, the P-20 Campus serves as a professional learning center for staff through internships, mentorships, courses and advanced degrees. Staff throughout the district can be involved in leadership development focused on enhancing creativity, building school culture and maximizing teaching and learning to support student achievement. The site is a center for professional excellence to provide a demonstration campus and develop cutting edge teaching skills.

WHEREAS, the P-20 Campus is a coalition of the district’s 2010 strategic plan, the Governor’s P-20 Council, the Colorado Achievement Plan 4 Kids (CAP4K), and the Colorado Department of Education’s strategic plan (Forward Thinking). The campus is a cutting edge model for education focused on small learning communities, educational alignment, collaborative partnerships and leadership development. The campus will incubate creativity and new instructional strategies and become a source for innovation that impacts P-20 reform efforts in the district, state and nation.

BE IT PROCLAIMED by the State of Colorado:

The State of Colorado congratulates Eos Public Schools P-20 Campus on groundbreaking a model of excellence of innovation in public education and proclaims August 24, 2009 as Eos Public Schools P-20 Campus Day in the State of Colorado.

ADOPTED the 24th day of August, 2009. 

SIGNATURES
Appendix M: Complementing the P-20 Spectrum of Curriculum and Coursework

To complement the P-20 spectrum of curriculum and coursework, the Campus was also sure to:

1. effectively integrate content as appropriate to extend and expand contexts for learning;

2. use core content (Reading, Writing, Math, Science, and Social Studies) to support pathway development and multidisciplinary experiences;

3. create an environment that understands and is sensitive to the developmental stages and readiness of the students;

4. emphasize design, symphony, story, play, empathy, and meaning-making;

5. allow teachers to be intentional in making connections for students across content areas;

6. provide contextual learning experiences to show connections amongst content areas;

7. offer pathways-specific curriculum and resources to enhance the existing curriculum;

8. not limit curriculum to learning the content of standards or competencies. Curriculum is multi-dimensional, with experiences and content that engage the students within particular pathways;

9. embed content of a specific course within contexts relevant to a pathway.
Appendix N: P-20 Educational Campus Expanded Definitions of Access, Explore, and Prepare

The Campus believes that:

Access:

1. Exposure to a variety of academic and career possibilities, hobbies, and vocational interests through a 21st Century learning environment.
2. Understand relationships between the world, education, and how the educational choices one makes today will impact academic and career choices tomorrow.
3. Develop an awareness of personal abilities, skills, interests, and motivation to better understand that all careers are possible regardless of gender, ethnic, or economic background.
4. Make all school experiences relevant, rigorous, and built on strong relationships.

Explore:

1. Use ongoing assessments to continually develop clear academic and career paths that are aligned with personal interests and motivation.
2. Students will remain knowledgeable of their current graduation requirements through annual review and revision of ICAP.
3. Exposing students to academic and career pathways will provide opportunities to obtain industry certificates upon graduation.
4. Students have opportunities to interact with industry experts and academic and career advisors through experiences such as, but not limited to: job shadowing, mentorships, service learning, part-time jobs, and volunteer experiences.

Prepare:

1. Develop student awareness of how market trends will influence employability and postsecondary and workforce opportunities.
2. Students maximize opportunities that will allow them to graduate with college credit and/or associate degrees and/or industry certificates and/or credentials.
3. Promote lifelong learning by applying PWR in career/community based learning opportunities such as: service learning projects, apprenticeships, internships, exchange opportunities, Capstone projects, etc.
4. Develop an ability to balance and manage school, studies, extracurricular activities, employment, leisure time, and family life.
Appendix O: P-20 Educational Campus Postsecondary and Workforce Readiness (PWR) Goals

1. Be able to leave with rigorous thinking skills and the ability to connect all skills
2. Engage in ‘accountable’ discourse
3. Self-manage their learning
4. Be self-directed, self-advocating, adaptable, socially-aware, and have time management skills
5. Be life-long learners
6. Display persistence, stamina, flexibility, thinking interdependently, and communicate with clarity and precision
7. Engage in broad and adventurous thinking (originality, creativity)
8. Have the ability to achieve on multi-dimensional assessments
9. Experience multiple ways to demonstrate proficiency in content standards & PWR skills
10. Have the opportunity to take on contracted problems from real-world situations by local businesses and leaders
11. Create a multi-dimensional life resume that captures their experiences
12. Know of legal responsibility and service
13. Be proficient in 21st century learning skills
14. Have experience in a field to increase employability (mentorships, externships, internships)
15. Leave with AA or AAS degrees and/or industry certificates
16. Upon graduation, conduct an exit portfolio presentation of their learning (relevant to career)
17. Have interviewing experience
18. Have mock experiences related to career interests (students identify needs and develop plans to address needs and implement them)
19. Know how to write goals and leave with 1-year and 5-year goals
20. Have a sense of balance (health, wellness, esteem, and fulfillment)
21. Have a sense of responsibility for global wellness (environmental consciousness and social responsibility, civic responsibility)
22. Leave with a plan for paying for post secondary opportunities
23. Be prepared to compete in a global marketplace
24. Speak, read, and write another language other than their primary language
25. Have been leaders, mentors, tutors, service providers
Appendix P: P-20 Ongoing Communication Constituencies and Feedback Loops

P-20 Ongoing Communication Constituency and Feedback
Appendix Q: P-20 Campus Instructional Priorities

The following approaches to instruction are a priority so teachers can and (when applicable) students can:

**Identify the learning**
1. Set clear learning targets
2. Identify success criteria (behaviors)
3. Communicate the learning to students
4. Keep the learning target in front of kids throughout the learning experiences (high expectations)

**Collect relevant information**
1. Monitoring during instruction
2. Collecting information that supports learning objective
3. Specific to learning outcome
4. Planning for monitoring

**Turn data into learning information**
1. Teacher can identify the gap and teach it right there
2. Relevance to lesson
3. Objective is clear and on target
4. Groupings are appropriate
5. Kids are learning
6. Materials support the learning

**Organize the learning environment**
1. Rituals and routines are understood by both teacher and student
2. Level of engagement is high (engaged vs. look busy)
3. Variety of supports for independence (time, materials, approaches)
4. Organize resources so they are accessible to all students

**Manage the learning**
1. Evidence of planning (beyond just selecting a learning objective)
2. Set individual learning targets to differentiate
3. Group students based on targets and individual needs
4. Uses resources or learning experiences to support the learning
5. Determine instructional approach and the amount of support needed

**Support the learner in their zone of proximal development**
1. Use of well developed questioning
2. Makes shifts during instruction based on student response
3. Gives explicit feedback
4. Student talk outweighs teacher talk
5. High level of engagement
6. Monitoring during group and independent work
Appendix R: P-20 Campus Support for Teachers in Instructional Priorities

1. Analyze revised state standards and rethink how they can be met from an multi-disciplinary problem based model using learning modules

2. Review the “Critical Benchmarks and Transition Points Along the Birth to Age 21 Roadmap”

3. Create a plan to foster, generate, and promote intellectual curiosity amongst staff

4. Invite staff members to engage in a “learning module” on Education 3.0 vs. 2.0

5. Engage staff members in the generation of “learning modules” based on interesting, relevant, purposeful topics/issues

6. Generate time for reflection and metacognition for all staff members

7. Support staff on how to make connections between information so then students are able to make connections to information and cognition

8. Reward and celebrate innovation and creativity

9. To be creative you have to think differently, to be innovative you have to behave differently

10. Provide professional development on age appropriate and grade appropriate curriculum

11. Reward the behaviors and actions that lead to creativity and innovation in students

12. Foster an awareness on how grade-level curriculum supports what students have learned and/or experienced in the past, what they're learning and/or experienced this year, what they'll learn and experience the next school year, and what they'll do for a profession

13. Support the generation of curriculum that takes into account the various learning styles and provide various contexts and ways to demonstrate proficiency under a given standard

14. Provide ongoing embedded support on the tools that foster creativity and innovation

15. Provide multiple avenues for global and cultural awareness

16. Provide multiple immediate access and avenues for civic service
Appendix S: Guidelines for Fluid Movement of Students

1. Teachers consistently use formative assessment data to determine where students are at based on standards
2. Once students are able to demonstrate the requirements of the standard across multiple contexts, they should be able to move forward
3. A system to monitor and report what students have accomplished and what they need to accomplish
4. Multiage classrooms must be appropriate to student developmentally
5. Sensitivity to developmental stages
6. When a student demonstrates mastery in one area and not the other, they move forward in the course they master
7. Anytime we accelerate kids, we must not leave gaps
8. Based on ICAP, if there is a need to encourage a student to move to a different pathway
9. School culture “it’s okay to move”
10. Relationships are critical – adults know kids
11. Professional learning and planning opportunities
12. School/campus is a community not just a grade level
13. Grade levels should be attaching i.e. level one instead of grade levels
14. Multi-age electives
15. Provide opportunities where students are getting to know each other at different ages based on interests
16. Increased teacher recommendation, parent input, competency, assessments (i.e. end of course assessments) (based on body of evidence)
17. Build in social skills – rituals and routines
18. Site visits - what can we decide as a group of administrators to create campus culture
19. Non negotiable (displaying context for learning in each classroom)
20. Input from SBT and all stakeholders (Student recognition)
21. How long do we wait for kids who are not getting it? (RtI)
22. We need a solid, well functioning RtI system
Appendix T: P-20 Campus Student Experiences

P20 Campus experiences should:

1. Be vertical and project-based while sharing through social interfaces that allow for authentic audiences.
2. Include practical applications of skills; i.e. artists design the work on campus and for other campuses, communications create videos for local media, health students apply the hearing tests, digital daily news, etc.
3. Include authentic engagement with technological interfaces like: Google docs, Video Teleconferencing (Polycom), social networks, Skype, etc.
4. Be connected with experts in the field and provide such opportunities as studio time.
5. Include interdisciplinary case studies on engaging topics that are applicable to pathways.
6. Provide access to and interaction with multiple streams/simultaneous interaction.
7. Be cross-cultural, cross-time zones, etc. in real time.
8. Be cross-generational interaction with the real work of professionals in a shared environment that can be virtual and experience-based.
9. Accomplish more than just "learning" something or "experiencing" something.
10. Provide access to learning anytime/anywhere.
11. Provide opportunities to evaluate information from many resources/cross references.
12. Provide clear direction, support and knowledge of the support, self-reflection, etc.
13. Personalize students’ education/interests/etc.
14. Not necessarily be linked to "grade level" expectations.
15. Include multiple entry points.
16. Provide flexibility for students related to their developmental growth and provide the extra support when needed.
17. Grow over and across time.
18. Be systematic and strategic.
19. Provide flexible scheduling (24/7/365)
20. Be “hands-on.”
21. Build students’ resumes
22. Include civic responsibility and global citizenship.
23. Provide mentorship opportunities - "How can I share my learning?" "How can I support the discoveries of others I’ve 'left behind'?
24. Provide opportunities beyond the traditional work schedule.
25. Include opportunities for students through such venues as: Simulations; Virtual conversations with different parties; Science Fairs; Robotics competitions; Internships; Externships; Museums; Webinars; Technology; An Apprentice model that takes place during summer and weekend; Saturday Academies; Mini Med schools.
Appendix U: Key Components of the EPS ‘Request for Information’

DESCRIPTION OF SERVICES

A. Program Offerings

Provide program components including, but not limited to:

1. support the P-20 Campus pathways Plans of Study and course work so students engage in relevant, real-world, innovative, connected experiences that prepare them for postsecondary and workforce readiness;
2. offer residencies, virtual learning and simulations, field experiences, community outreach projects and service learning experiences for students;
3. make available curricula and teaching strategies that are engaging and support 21st century and postsecondary and workforce readiness skills;
4. support learning that includes critical reflection, empirical reasoning, collective intelligence, and metacognition;
5. offer Associate of Arts, Bachelors, and Masters degrees across various content areas;
6. support exposure to and expertise from industry;
7. consider giving staff and students opportunities to develop their passions and be creative and inventive;
8. link courses to industry credentials and certifications.

B. Professional Learning Opportunities

Provide opportunities for professional learning including, but not limited to:

1. build in degree programs for adjunct faculty status for employees;
2. advance teacher practice towards student learning outcomes through integrated, partnered teacher learning experiences;
3. ensure ongoing professional learning around the P-20 Campus major tenets of 21st Century Skills, Academic and Career Pathways, Postsecondary and Workforce Readiness (PWR), Content Integration, Differentiation of Instruction, Standards-Based Education System, along with EPS instructional expectations.

C. Costs and Funding

Provide estimated costs and anticipated contribution of funds assumed by the partner institution and EPS including, but not limited to:

1. offer EPS employee salary advancement;
2. afford EPS employees relicensure credits;
3. solicit grants;
4. donate funds to construct site;
5. provide educational and instructional equipment.

D. Project Management

Provide project management support including, but not limited to:

1. afford staff who would be responsible for coordinating/overseeing project;
2. collaboratively plan with EPS, community, and business partners;
3. define anticipated project and program needs;
4. specify time frames for phase-in by 2010 and fully in place by 2012

REQUIRED QUALIFICATIONS

A. Accredited Institution of Higher Education

The response should clearly identify the Institution’s accreditation status.

B. Partnerships with Pathways and Pathways Development

The response should clearly identify which services the Institution of Higher Education has interest in performing as listed in Sections IIA through IID.

C. Partnerships with Pathways and Pathways Development

The response should include how the Institution of Higher Education will support the development of EPS Pathways – which are integrated collection of learning experiences intended to develop students’ core academic skills and provide them with continuous education and employability credentials; in order to place them in high-demand, high-opportunity jobs.

D. Industry credentials and Certificates

The response should describe the ways in which the Institution of Higher Education plans to collaborate and communicate in numerous settings as listed in Sections IIA through IID.

E. Program and Project Management

The response should indicate the specific industry credentials and certificates through the specific courses offered.
Appendix V: New Instructional Technologies Framework

In teaching the digital generation, what should the structure, content, and experiences look like?

1. Learning must prepare students for constant change
2. Learning must prepare students with 21st century skills
3. Learning must shaped by individuals
4. Learning must be relevant, engaging, and authentic
5. Learning opportunities must be 24/7/365
6. Students should assume responsibility for their learning
7. Student access to content is not limited to grade level material
8. Students should have collaborative spaces as well as their own place to work
9. Assessment must higher order questioning and thinking skills
10. PWR provides multiple and varied modes of learning depending on the subject and the student
11. Multidisciplinary modules focus on big ideas in society that are problem-based

When using instructional technologies to reach the outcomes of the instructional focus, how will they be used and how will they impact student learning?

1. Flexible grouping of students
2. Allow seminars, small groups, individual studies, project-based instruction, hands-on laboratories
3. Experiential opportunities that create engagement
4. Teachers and students monitor their learning
5. Tracking, analyzing, and modeling to push students forward
6. Students congregate and collaborate with technological devices to learn anytime, anywhere
7. Digital tools – such as laptops, netbooks, iPods, cell phones, PDAs – are in students’ hands

How will the P-20 Campus begin to use technologies?

1. Publishing through the use of Glogster, Animoto, Podcasting, Video, PhotoStory, and blogging
2. Students receive feedback for teachers, students, and external parties through blogging, social networking, collaborative documents such Google applications and WikiSites, student response systems, and surveys
3. Teachers provide feedback to students through email, blogging responses, micro-blogging, social networks, collaborative documents such Google applications and WikiSites, instant messaging, and text messaging
4. Teachers receive feedback from teachers, students, and external parties through email, blogging, personal response devices such as PollEverywhere, Google forms, and Survey Monkey
5. Online learning and connectivity 24/7
6. Virtual desktop and video teleconferencing and using such technologies is a mindset not a skill set
Appendix W: P-20 Campus Design Team Prioritized Items

(Repeated numbers in the sequencing denote a tie in those items’ priority)

CURRICULUM AND INSTRUCTION

1. Identify the specific curriculum, course work, and experiences relative to accessing, exploring, and preparing for PWR
2. How will we support teachers to embed critical thinking, problem solving, content, innovation into existing best practices
3. Build courses that blend high school, postsecondary, standards and competencies, ICAP's (Individual Career and Academic Plans)
4. Ensure students have a course of study to reach their postsecondary goals
5. Ensure that coursework and experiences are rigorous enough to satisfy PWR expectations
6. Determine how instruction will differ from 20th century instruction
7. Determine what kind of pathway simulations, field experiences, internships, community service projects, etc students have on the campus
8. Integrate curriculum to allow for interdisciplinary approaches to occur
9. Use Response to Intervention (RtI) process to ensure immediate intervention so students don't get behind
10. Determine what kind of PWR assessments we have on the campus
11. Ensure students graduate with PWR/ resume builder and degree builder

DESIGN AND STRUCTURE

1. Develop progression that is both vertical and horizontal for students and expectations for students
2. Ensure that P-20 Campus decisions are not piecemeal, but address the whole campus and district system
3. Identify areas for negotiation of master agreements and board policies
4. Ensure fluid movement of students
5. Create a system that considers RtI for all students, including acceleration
6. Develop a proactive model that allows us to look to the future for expansion and growth of our work
7. Determine if students should have a learner profile similar to what International Baccalaureate (IB) students have
8. What will ICAPs look like?
9. Integrate pre-school curriculum into K-8 through regular interface/interaction
10. Share/integrate P20 effective innovations throughout district
11. Develop data tracking since current Infinite Campus model doesn't track postsecondary well
12. Ensure inclusiveness in the development of P20 Campus so it is a shared vision and not dictated
13. Determine the Career and Technical Education (CTE) certifications and high academic requirements and integrate so kids can graduate with both certificate and diploma
14. Create online portfolios early on for every student on the campus

STAFF

1. Develop ideas for ensuring innovative, forward thinking staff is hired.
2. Ensure professional development of teachers that allows them to be fluid/flexible based on district constructs
3. Communicate to teachers the skills, education and professional attributes, expectations and commitments to work at P20
4. Ensure focus on absolute best practices to support pathways ongoing
5. Identify exemplary teaching practices at P20 that can create a model for district
6. Maintain flexibility and ensure licensed pre-school teachers that considers professional expectations and compensation
7. Be strategic about endorsements/credentials
8. Provide clear communication around staff expectations for concurrent enrollment, weighted grades, degree options and diploma options

PARENTS/COMMUNITY

1. Engage parents to help student be successful and have an active role
2. Develop plan to encourage parents to have a level of mastery of understanding the P20 concept
3. Encourage parental and guardian involvement so they understand/support the P-20 Campus
Appendix X: The Community Workforce Planning Team Purpose

1. Mobilize community, industry, and postsecondary leaders to identify academic and career pathways that develop students’ academic, technical and employability skills so they are prepared for high-demand, high-skill and high-paying jobs – locally, nationally and globally.

2. Demonstrate that academic and career pathways are a strategy to increase student achievement because choice plus ownership equals motivation that leads to greater student success.

3. Align academic development with economic development.

4. Respond to changing industry needs.

5. Create globally competitive students.

6. Understand the supply and demand of careers.

7. Develop the self interest for all involved – for EPS, our community, higher education, and business partners.

8. Be an active part of the district’s revised and updated strategic plan.

9. Help develop and identify support for our four pathways: Health Sciences, STEM, Business, Arts and Communication.

10. Combat the Colorado Paradox.

11. Provide students with opportunities to deeply engage in an area of study that prepares them for postsecondary Academic and Career success through:
   a. advisory committees;
   b. industry credentials/certification/education requirements;
   c. alignment of competencies;
   d. matching grants;
   e. mock interviews;
   f. internships/externships;
   g. mentors;
   h. facility usages; and
   i. equipment needs/supplies/materials/technology
Appendix Y: The Community Workforce Planning Team Vision, Mission, and Transformational Goals

CWPT’s Vision states:

Meet local workforce needs by connecting resources from industry and preschool through postsecondary education to ensure seamless, engaging and replicable pathways that prepare all EPS students for superior academic success and employment advancement in their chosen careers.

CWPT’s Mission states:

In pursuit of the vision, the Community Workforce Planning Team is dedicated to collaborative strategic development that aligns economic and educational initiatives for the benefit of students, local industries, and the entire community.

CWPT’s members collaborated and created a 5-year plan around its Transformational Goals; they are:

Identify the Community Educational and Workforce Needs

1. Assess the educational and workforce environment of Eos, the surrounding communities and the state of Colorado to determine how to positively impact local, national and global economies.

Improve Educational Outcomes

2. Oversee alignment of occupational groupings with academic and career pathways to sustain current and emerging workforce demands.
3. Provide rigorous academic foundations and opportunities that enable students to earn college degrees and workforce/career sector certificates.
4. Modify curriculum, create school-based programs and develop career training to align academic and career pathways with higher education and industry needs so all students are postsecondary and workforce ready.

Involving Industry with Education

5. Provide direction on integrating the following Postsecondary and Workforce Readiness (PWR) skill sets (knowledge, skills, values and behavior) into the curriculum to ensure alignment with employer expectations:
   - Academic Content Knowledge
   - Civic Responsibility
   - Collaboration
   - Communication
   - Creativity & Innovation
   - Critical Thinking/Problem Solving
   - Information Technology Proficiency
   - Global & Cultural Awareness
   - Personal Responsibility
   - Strong Work Ethic
6. Support the development and work of academic and career pathway advisory committees.
7. Develop active partnerships among the Community Workforce Planning Team (CWPT), schools, industry and the community that align academic and economic development and provide industry-relevant professional learning for teachers.
8. Identify the return on investment (ROI) for all partners.

Increase Employment Opportunities

9. Identify workforce needs and develop strategies that provide viable employment opportunities for students after they graduate from high school and/or enter higher education/careers.
Appendix Z: P-20 Campus Leadership Definition of Roles and Responsibilities

The Director of P-20 Campus Development Director should:

1. Provide direction, inspiration, oversight and evaluation of all campus programs, personnel and instructional elements
2. Implement 21st century educational ideals
3. Lead the development of preschool to post-graduate aligned instruction throughout the campus with multiple career pathways for students delivered in small learning communities and offering academic choice
4. Develop teachers and programs with exemplary application
5. Develop and lead campus programs
6. Establish systemic business and community partnerships that support career pathways and community workforce needs, including an on-site college with dual enrollment programs for students
7. Create a center of excellence and demonstration campus for teacher and leadership development offering internships, college credit classes and advanced degrees for teacher and administrators

The Pathway Directors’ responsibilities include:

1. Instructional Leadership-knowledge of curriculum, instruction & assessment
2. Resources-provide teachers with materials and professional development
3. Intellectual Stimulation-ensure faculty is engaged in current theories, research and best practices including early childhood through post-secondary and interdisciplinary approaches
4. Coordinate the development and implementation of the school improvement plan including pathways and existing district instructional models
5. Develop and monitor all members of the staff to build their capacity to meet the learning needs of students by monitoring student achievement in coordination with other P-20 site leader
6. Improve instructional practices, increase student achievement and ensure the ongoing development coordination of educational pathways
7. Develop collaborative professional learning model on improving instructional practice and developing pathway programs and implement/monitor various teams
8. Use data to analyze and plan for differentiated support for staff and students
9. Coordinate and facilitate processes and meetings by being instrumental in bringing people and together to build partnerships
10. Communicate and collaborate with families and community and business leaders
11. Respond to diverse interests and needs
12. Mobilize community resources

The Director of Operations and Management job description essentially includes:

1. Assure coordination and synergy of overall master plan including proper placement of students.
2. Plan, schedule and coordinate extracurricular functions and transportation including athletics, student activities and assemblies
3. Manage facility use and maintenance including grounds and security operations
4. Manage the campus budgets
5. Monitor and address student discipline, safety and welfare issues by holding meetings with parents, investigating incidents, documenting findings, contacting proper authorities
6. Conduct long-range strategic planning, review enrollments trends and budget forecasts
7. Prepare various reports relating to specific job duties
8. Lead the school’s emergency preparedness efforts and respond to crises. Develop, implement, and monitor a school-wide plan to ensure the safety of students and staff in accordance with established school policies and procedures
9. Supervise, evaluate, and build capacity of all assigned staff
Appendix AA: P-20 Educational Campus Leadership Model and Culture Matrix

(Marzano, et. al., 2005)
Appendix BB: Essence of the P-20 Campus Leadership Model

The P-20 Campus leadership vision states:

The P-20 Systemic Leadership Model ensures that leadership is distributed, lateral, and sustainable to provide the guidance and direction of continuous improvement in instructional practice and alignment of multiple, seamless pathways from preschool through postsecondary educational experiences leading to higher student achievement and increased workforce readiness.

What makes it distributed?

Campus leaders encompass the capacity and will to thoughtfully distribute instructional leadership through the P-20 system. Distributed leadership is observed through all levels on the campus and makes the direction, guidance, and support of improved teaching practice and student learning a priority focus. P-20 leaders communicate a clear vision for improved student learning and model it through actions, words, and behaviors. The P-20 Campus leadership is viewed as a collective capacity, a shared responsibility, and is distributed across the schools by matching expertise with improvements, strategies, and tasks. The leaders build and support a culture of continuous improvement by modeling systems thinking in action practiced by use of problem-solving approaches. Decisions are made based on what is good for kids, not what is good for adults. Decisions are made consistently and backed up with solid reasons and compelling data that embraces those who will be impacted.

The P-20 Campus leaders enhance the skills and knowledge of people, creating a common culture of expectations around the use of those skills and knowledge, holding the various pieces of the campus system together in a productive relationship with each other, and holding the individuals accountable for their contributions to the collective result. This distribution of leadership is about creating leadership density – building and sustaining leadership capacity throughout the campus. This is accomplished through crafting a vision, delineating expectations, identifying and selecting leaders, legitimizing the work, directing support, developing leadership skill sets, and managing and rewarding success throughout the process.

The P-20 Campus leaders further distribute leadership by aligning leaders to engage in a deeply focused and self-governed manner. Comparable to a ‘hospital model’ approach, Pathway Directors (PD) are “chiefs of instruction” and the Director of Operations and Management (DOM) is the “chief of operations”. A clear line separates management of the campus and supervision of non-instructional staff (DOM) from the administration of instructional responsibilities and supervision of instructional staff (PD).

What makes it lateral?

Through systemic partnerships that support an integrated collection of learning experiences intended to develop students’ core academic skills; and provide them with continuous education and employability credentials; in order to place them in high-demand, high-opportunity...
jobs, the P-20 Campus leaders will reduce school isolation and become engaged in lateral, networked leadership. P20 leadership will leverage as many resources from the community as possible. The P20 campus will be organized in a way that allows teachers to be successful and take leadership roles, and the atmosphere will be one of respect and professionalism for all.

The P-20 Campus leaders will increasingly lead beyond the schools, as well as within them, in order to influence the environment that influences their own work with students. By working with business and community leaders, and by becoming leaders in the community, the P-20 Campus leaders become integral citizens within the wider society. As industry changes and grows, this connectivity will allow us to change and grow in tandem with employers and higher education.

What makes it sustainable?

The P-20 Campus leaders will develop and articulate leadership efforts, capacities and learning processes across space, and connect these to the articulation of leadership actions and effects over time through effective coordination of short-term and long-range improvement efforts. Leaders on the P20 Campus will think deeply about what students need to learn and how to make sure they learn it “not for the test”, but to be productive members of a 21st Century Global Economy through the use of postsecondary opportunities and career pathways. P20 Leadership will make an assumption that all faculty and staff will need to be carefully acculturated. Professional development in our major tenants will be an ongoing piece of the culture (21st Century Skills, Career Pathways, Standards-Based Grading, and PWR, along with typical best practices).

Leadership efforts within the P-20 Campus system will also be anchored in sustaining moral purposes that promote achievement and improvement for all by developing deep learning that spreads and lasts. This is accomplished through:

Depth – sustaining what matters in terms of a clear and defensible moral purpose
Breadth – ensuring that improvements benefit the many across a system, and not just a few exceptional instances within it and that they are a shared and distributed leadership responsibility instead of being dependent on heroic individuals
Endurance – over the long term, across and beyond many leaders, not just within snapshot periods under any one leader’s tenure
Justice – avoiding harm to and promoting active benefit and assistance for others in the surrounding environment
Diversity – so that improvement efforts value, promote and create cohesion within organizational diversity, rather than developing standardized practices that do not allow cross-fertilization of learning and are neither adaptable nor resilient to change
Resourcefulness – through prudent use and deliberate renewal of people’s energy so leadership initiatives and improvement efforts do not burn them out
Conservation – which builds on and learns from the best of the past in order to create a better future

What makes it systemic?
Through distributed, lateral, and sustainable practices within and beyond the campus, leadership on the P-20 Campus engages with communities, businesses, social agencies, higher education, policymakers and other schools on a local, national, and international basis through face-to-face and virtual means, increased professional learning, enhanced improvement through mutual assistance, and greater cohesion among all those concerned with the achievement and well-being of every child. This articulation and coordination of effort and energy across individuals and institutions and amid common purposes and improvement goals, is systemic in nature.
Appendix CC: Invitation to Serve on a Pathway Advisory Committee (PAC)

You are invited to be a member of one of the Pathway Advisory Committees that will help Eos Public Schools design, develop, implement and maintain academic and career pathways throughout the district.

**What are academic and career pathways?**

Academic and career pathways will increase postsecondary options and workforce readiness of EPS graduates to support meaningful choices about their future education and careers. Academic and career pathways increase student achievement because students are motivated through practical, relevant learning in their areas of career interest. Students develop academic, technical and workforce readiness skills that prepare them for high-demand, high-skill and high-paying jobs. In addition to preparing students for college and the workforce, academic and career pathways offer students the opportunity to earn industry certificates, college credit, and even associate’s degrees while they are still in high school.

Academic and career pathways begin in elementary school and continue with postsecondary education. Currently, the CWPT has identified and confirmed four pathways:

- **Health Sciences** – Prepares students for careers and further education in medicine and allied health fields.
- **Science, Technology, Engineering and Math (STEM)** – Prepares students for careers and further education in these four areas.
- **Business** – Prepares students for careers in financial services, accounting, marketing, business administration and business support services.
- **Arts and Communication** – Prepares students for careers and further education in arts, teaching, media and communication.

**What is a Pathway Advisory Committee?**

A pathway advisory committee is a representative group of individuals whose experience and abilities represent a cross section of a particular occupational area. The primary purpose of the local pathway advisory committee is to assist educators in designing, developing, implementing and maintaining pathways which serve the needs of students, business and industry, and to provide expertise pertaining to technological change.

**How are PACs connected to the Community Workforce Planning Team (CWPT)?**

The Community Workforce Planning Team is a public/private alliance involving more than 30 community groups and organizations representing:

- Higher education
- Industry/career sectors
- Economic development
- Workforce development
- Eos Public Schools (EPS)

This pioneering alliance began meeting in May 2010 and created a five-year plan that aligns academic and career pathways with industry demands and postsecondary requirements.

In alignment with the CWPT, a goal in the EPS strategic plan is to have at least one academic and career pathway in every school by 2015. This goal is congruent with the state of Colorado’s expectations, outlined in Senate Bill 212 (CAP4K), for the development of industry-relevant postsecondary and workforce readiness in all school districts. Beginning in 2011, every sixth-grade EPS student will have an Individual Career and Academic Plan (ICAP) to guide them in setting career and academic goals.

That is why CWPT has directed the formation of PACs and charged them with:

- Assisting in curriculum modifications relevant to careers
- Developing public relations
- Supporting job placement
- Coordinating advisory committee member recruitment
- Identifying training resources and opportunities
- Offering legislative direction
- Ensuring program evaluation
- Establishing connections with existing relevant groups
- Supporting professional development that strengthens industry connections

**Why are Pathway Advisory Committees needed?**

Committees are needed:

- to provide an opportunity for discussion among people in education, business and industry
• to focus on how to improve Career and Technical Education (CTE) and make the most of the community resources that are available
• to strive to improve the relationships between CTE, business, postsecondary and industry.
• to provide expertise to the pathway by reviewing curriculum, facilities, budget, student competencies, student placement in related occupations.

What are some of the responsibilities of PACs?
PACs are action-oriented working groups that can provide expertise in each academic and career pathway. PACs can help provide access to senior management and those who control/oversee resources. These groups can help develop real world connections for students through relevant experiences such as hands-on projects, field experiences and other forms of contextual learning. PACs can provide advice and assistance to teachers and administrators of specific pathways on designing and updating curriculum so that students are learning the most current skills. In addition, PACs will coordinate the approval process for district program implementation for pathways at each school. PACs will provide regular updates on progress of their work.

The PAC submits advice and recommendations to Eos Public Schools and works cooperatively with the teachers, administrators, and CWPT to ensure high quality academic and career pathways. Annually, each PAC will submit its written plan of action that summarizes the PAC’s activities and accomplishments that year.

Who should be on PACs?
Each PAC should have eight to ten members and include:

Representatives of:
• business
• industry
• other schools’ pathways

People who:
• have recent related experience
• are available to attend
• are interested in education

Members who bring diversity in:
• gender
• ethnicity

Business, industry and postsecondary representatives should comprise the majority of the committee membership, and school representatives will attend as ex officio members. Ex-officio members would include appropriate school administrators, program coordinators, teachers in the pathway areas and a student in the program area.

What are the membership expectations?
Members should be able to meet monthly with an average term is three years.

Why is my involvement so important?
You would be part of an important collaboration that aligns economic and educational initiatives to address the Colorado Paradox. The paradox is that Colorado has the second highest percentage of adults with college degrees in the nation, yet ironically ranks 47th in the percentage of high school graduates who go on to college. Colorado imports most of its education workforce, and the CWPT, in alliance with PACs, is committed to changing this. To reverse this trend, the CWPT has created a five-year plan that aligns EPS academic and career pathways with industry demands and postsecondary requirements. Students in pathway programs learn marketable skills so they are prepared for successful entry into higher education and the workforce. Students, local industries and the entire community will benefit.
## Appendix DD: Pathways Advisory Committees and Related Groups
### Roles and Responsibilities

<table>
<thead>
<tr>
<th>Community Workforce Planning Team (CWPT)</th>
<th>Internal Pathway Planning Team (IPPT)</th>
<th>Pathway Advisory Committees (PACs)</th>
<th>Technical Advisory Committees (TACs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsibilities:</strong></td>
<td><strong>Responsibilities:</strong></td>
<td><strong>Responsibilities:</strong></td>
<td><strong>Responsibilities:</strong></td>
</tr>
<tr>
<td>• Completes identified goals and tasks within the Five-year Plan</td>
<td>• Ensures/monitors articulation and coordination across the four pathways</td>
<td>• Action-oriented working group</td>
<td>• Program specific for curriculum review and planning</td>
</tr>
<tr>
<td>• Reviews annually the progress of each Pathway Planning Committee in meeting the charge</td>
<td>• Develops checkpoints for Pathway Advisory Committees (PAC)</td>
<td>• Provides expertise in each pathway</td>
<td>• Ensures legal compliance for program</td>
</tr>
<tr>
<td>• Ensures appropriate membership on PACs</td>
<td>• Conducts/coordinates annual reviews for each pathway using the appropriate Eos Public Schools Evaluation Matrix</td>
<td>• Provides access to senior management and those who control/oversee resources</td>
<td>• Coordinates approval process for the district for program implementation for pathways at each school</td>
</tr>
<tr>
<td>• Encourages, develops, and maintains ongoing partnerships among stakeholders</td>
<td>Role: At least one member of IPPT serves on each (PAC) and Community Workforce Planning Team (CWPT)</td>
<td>• Addresses all areas of charge annually but not in the same sequence</td>
<td>• Assist school administrators and teachers in planning, conducting and evaluating each CTE program</td>
</tr>
<tr>
<td></td>
<td>• Membership/terms identified</td>
<td>• Ensures Postsecondary Workforce Readiness skills are in place</td>
<td>• Assist educators in establishing, operating, and evaluating programs which serve the needs of students, business and industry, and to provide expertise pertaining to technological change</td>
</tr>
<tr>
<td></td>
<td>• Meets monthly</td>
<td>• Develops connections to real world students through relevant experiences, projects, hands-on projects, field experiences and contextual learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Authority:</strong></td>
<td>• Provide advice and assistance to the teachers and administrators of specific programs (institutes) on designing and updating curriculum so that students are learning the most current skills</td>
<td>• Includes some members from IPPT, teachers/students as appropriate</td>
</tr>
<tr>
<td></td>
<td>• Oversees alignment and relevance across all four pathways</td>
<td>• Makes recommendation to the Superintendent for initial approval for pathway implementation at schools.</td>
<td>• Meets monthly</td>
</tr>
<tr>
<td></td>
<td>• Makes recommendations as needed for action to each of the committees (IPPT, PAC, TAC)</td>
<td></td>
<td><strong>Authority:</strong></td>
</tr>
<tr>
<td></td>
<td>• Provides recommendations to the Eos Public Schools Board of Education for pathway development and coordination</td>
<td></td>
<td>• Oversees overall district reporting and requirements and compliance within each pathway</td>
</tr>
<tr>
<td></td>
<td><strong>Role:</strong></td>
<td></td>
<td><strong>Authority:</strong></td>
</tr>
<tr>
<td></td>
<td>Serves as the coordinating body for the IPPT, PAC and TAC</td>
<td></td>
<td>• Oversees program approval, requirements and compliance within each program.</td>
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## Table 9

### Survey Demographic Data (N = 73)

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<th>% who work in education:</th>
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<tr>
<td>Yes</td>
<td>83.6</td>
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<tr>
<td>No</td>
<td>16.4</td>
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<tr>
<th>Of those who work in education, % in the area of education they work:</th>
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<tr>
<td>P – 12 Education</td>
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<tr>
<td>Higher Education</td>
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<tr>
<td>Both</td>
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<table>
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<tr>
<th>% highest level of education completed:</th>
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<td>High School</td>
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<tr>
<td>Bachelors</td>
<td>30.1</td>
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<td>Masters</td>
<td>58.9</td>
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<tr>
<td>Doctorate</td>
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<th>% Age Range:</th>
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<td>20 – 29</td>
<td>20.5</td>
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<tr>
<td>30 – 39</td>
<td>39.7</td>
</tr>
<tr>
<td>40 – 49</td>
<td>16.4</td>
</tr>
<tr>
<td>50 – 59</td>
<td>16.4</td>
</tr>
<tr>
<td>60 – 69</td>
<td>6.8</td>
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</table>

<table>
<thead>
<tr>
<th>% Race / Ethnicity</th>
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<tbody>
<tr>
<td>American Indian or Alaskan Native</td>
<td>0.0</td>
</tr>
<tr>
<td>Asian</td>
<td>1.4</td>
</tr>
<tr>
<td>Black or African American</td>
<td>6.8</td>
</tr>
<tr>
<td>Hispanic or Latino or Spanish origin of any race</td>
<td>8.2</td>
</tr>
<tr>
<td>Native Hawaiian or other Pacific Islander</td>
<td>1.4</td>
</tr>
<tr>
<td>White</td>
<td>69.9</td>
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<tr>
<td>Two or more</td>
<td>12.3</td>
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</table>
Appendix FF: Return on Innovation Framework

**Purpose:** To evaluate the efficiency and effectiveness of innovations invested by all partners and organizations that enhances its value to each other.

**Goals:**

- Implement multiple academic and career pathways in all schools.
- Provide all students access to one or more career pathways by 2015.
- Increase postsecondary options and workforce readiness of EPS graduates to support meaningful choices about their future education and careers.
- Ensure all students are postsecondary ready (without remediation).
- Ensure all students are workforce ready (completed postsecondary education and employed).

<table>
<thead>
<tr>
<th>External Capital (Partners and Public) Indicators</th>
<th>Internal Capital (Enterprise / Systems) Indicators</th>
<th>Human Capital (District Personnel) Indicators</th>
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</thead>
<tbody>
<tr>
<td><strong>Indicators of Growth of Pathways and Partnership Development</strong></td>
<td><strong>Indicators of Growth of Pathways and Partnership Development</strong></td>
<td><strong>Indicators of Growth of Pathways and Partnership Development</strong></td>
</tr>
<tr>
<td>Collaborative pathways projects, opportunities, and active partnerships</td>
<td>Systems for dissemination of information about the pathways programs.</td>
<td>All educational and administrative staff collectively promotes and implements Pathways and Partnerships</td>
</tr>
<tr>
<td>Perceptions and knowledge of community of partnerships and the pathways programs</td>
<td>Systems for dissemination of and scaling up best practices</td>
<td></td>
</tr>
<tr>
<td><strong>Indicators of Innovation of and within Pathways and Partnerships</strong></td>
<td><strong>Indicators of Innovation of and within Pathways and Partnerships</strong></td>
<td><strong>Indicators of Innovation of and within Pathways and Partnerships</strong></td>
</tr>
<tr>
<td>Partnerships’ resources to refine and create opportunities to innovate</td>
<td>Identify and support the core personal values and skills of innovation</td>
<td>People who allow people to be innovative and foster creativity, imagination, risk-taking, and value-creation</td>
</tr>
<tr>
<td>Symbiotic partnerships with mutually conceived goals, objectives, and policies</td>
<td>Offer a repeatable process to take ideas and turn them into innovations</td>
<td>People who can take innovation and run with it and who are catalysts for creating social change through problem-based, cross-functional projects</td>
</tr>
<tr>
<td>Purposeful collaboration that searches for innovation opportunities</td>
<td>Take into account the people, processes, structures and technology that have an effect on an innovation’s success or failure.</td>
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<td></td>
<td>Broad shared beliefs allowing for imbedded cultural construction of pathways and partnerships</td>
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<td></td>
<td>There is institutionalized space for risk-taking, decentralized decision-making, and strong support systems to spread</td>
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<tr>
<td>Indicators of Efficiency/Utilization within Pathways and Partnerships</td>
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<tr>
<td>• Partnerships’ resources to align and provide coherence of pathways</td>
<td>• Infrastructure that governs, leads, and manages pathways and partnerships</td>
<td>• The infrastructure should include designations and roles for innovation leaders, champions, and practitioners.</td>
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<tr>
<td>• An organic growth infrastructure also will include enabling processes for ensuring positive project ROI</td>
<td>• Staffing for pathways and developing human competencies</td>
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<table>
<thead>
<tr>
<th>Indicators of Sustainability of Pathways and Partnerships</th>
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</thead>
<tbody>
<tr>
<td>• Symbiotic partnerships with mutually conceived goals, objectives, and policies</td>
<td>• Systems for collecting data related to outcomes and program evaluation</td>
<td>• Educational and administrative staff retention and commitment</td>
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<tr>
<td>• Perceptions of community about the pathways programs</td>
<td>• Resources that are committed to sustaining pathways and partnerships</td>
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<tr>
<td>• Distributing needed information and communicating the organic growth of all stakeholders</td>
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